



# The Sizewell C Project

## 5.1 Consultation Report Appendices B.1 - B.15 Part B: Stage 1 Pre-Application Consultation

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Planning Act 2008  
Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009



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Appendix B.1 Letters consulting Suffolk Coastal District Council (SCDC) and SCC on Draft Statement of Community Consultation (SoCC) (21 September 2012) and SCDC and SCC feedback on the SoCC (19 October 2012)



Richard Mayson  
Director of Planning & External Affairs  
EDF Energy Nuclear New Build  
The Qube  
90 Whitfield Street  
London W1T 4EZ

Paul Wood  
Sizewell C Project Manager  
Suffolk Coastal District Council  
Melton Hill  
Woodbridge  
Suffolk IP12 1AU

19 October 2012

Dear Richard

## **Response to Sizewell C Consultation on the Statement of Community Consultation**

The Chief Executives of Suffolk Coastal District Council and Suffolk County Council have asked me to respond on their behalf to your draft SoCC. The response set out below provides general and specific comments on the SoCC and hopefully these points will assist you when finalising the document for publication.

### **General Points**

#### **Length of Consultation**

A key issue raised by the local authorities and town/ parish councils within the vicinity of the proposed development is the length of the Stage 1 Consultation. The proposed length of a minimum of eight weeks is viewed as too short for the following reason:

- Anything less than 12 weeks makes it very difficult to make a considered response and for this response to be taken through the democratic processes of both local authorities and other bodies
- Stage 1 consultation is due to straddle the Christmas period therefore 8 weeks effectively become 6 weeks
- Stage 1 will involve the assessment of options for the location of associated development sites whereas Stage 2 will be consulting on preferred sites. This coupled with the likelihood that a number of people will be coming to the

project 'cold' means that we believe Stage 1 should be the same length of time as Stage 2.

In the context of a 3 to 4 year pre-application phase we believe that an extension of 4 weeks is reasonable.

### **Role of the local authorities**

In order to provide the public with appropriate context it would be useful if the role of the local authorities in the consultation process was set out in the document. Our role as statutory consultees and to represent the views of local communities is a vital element of the pre-application phase and as such it warrants an explanation within the SoCC.

### **Specific Points**

#### **Off-site Emergency Planning Consultation**

There is a concern that the potential exists for consultees to confuse the terms inner zone and outer zone with emergency planning zones. In order to avoid such potential confusion it is suggested that EDF refer to their consultation geographies as inner and outer areas throughout the SoCC.

The timing of consultation on off-site emergency planning in relation to Sizewell A and B has now changed and in the light of this the following amendment to the SoCC is suggested to the end of the first paragraph on page 5:

“and the Suffolk Resilience Forum is proposing to consult on emergency planning arrangements for Sizewell A and B early in the new year”.

#### **Extension of outer consultation zone**

It is suggested that the outer consultation zone be extended to include the major settlements of Ipswich and Felixstowe. The construction of Sizewell C will have potential impacts (negative and positive) on these areas in terms of transport, environment and socio-economic issues and therefore it is reasonable that these communities, who are currently on the edge of the zone, receive adequate consultation.

Furthermore the SoCC states that community meetings will take place in Woodbridge and Ipswich but there is no reference to Kesgrave, a town with a major population situated between these two settlements. In light of this it is requested that similar engagement is afforded to the residents of Kesgrave.

It is also requested that a public exhibition takes place in the village of Wenhaston. This settlement has a younger age profile in comparison to surrounding villages and as result it would improve the robustness of EDF's public consultation to include this village particularly since young people are identified as a 'hard to reach' group.

### **Consultation for Associated Development site options**

It is likely that a number of the site options for proposed associated developments may fall outside the inner and outer consultation zones. Since these elements are significant development in their own right, we feel it is appropriate that communities that are within the influence of these structures receive the same intensity of consultation as those communities within the inner consultation zone.

### **EDF Leiston Office**

EDF have stated that their Leiston office will not be open to the public during the initial period of the Stage 1 consultation. We believe that this office should be open as soon as public consultation begins to enable members of the local community to view the proposals and discuss them with EDF staff.

### **Consultation timetable**

The SoCC states that EDF will confirm dates for public consultation at least 10 days ahead of the start of each consultation period. The local authorities consider this a very short period of time bearing mind the preparation and democratic processes involved in providing EDF with a considered consultation response. It is requested that EDF provide the local authorities with dates for public consultation at the earliest possible opportunity and significantly earlier than the 10 days stated in the SoCC.

### **Consultation with schools**

EDF are encouraged to broaden their consultation so as to include schools within the inner and outer zones. This is seen as particularly important since it will allow young people (one of the hard to reach groups) to engage with the consultation process.

### **Community Forum**

It is suggested that the proposed composition of the Community Forum should be set out within the SoCC. Local authority members are keen to understand how the forum will be representative of the local area.

### **Seeking views of wider public**

On page 7 a sentence within the second paragraph states:

“...EDF Energy will also seek the views of the wider public...”

Local authority members are keen to understand how EDF will specifically meet this commitment.

If you require clarification on any of the points listed above please do not hesitate to contact me. I look forward to receiving your comments on our response.

Yours sincerely

Paul Wood

Stephen Baker  
Chief Executive  
Suffolk Coastal District Council  
Melton Hill  
Woodbridge  
Suffolk  
IP12 1AU

21 September 2012

Dear Stephen

### **Sizewell C: Consultation on the Statement of Community Consultation**

As you are aware, EDF Energy is required by section 47 of the Planning Act 2008 to prepare a statement, known as a Statement of Community Consultation (SOCC), setting out how we intend to consult the local community about our proposals for a new nuclear power station at Sizewell and associated development. Prior to preparing the SOCC, EDF Energy is required by the Act to consult the relevant local authorities for a period of 28 days about what is to be within that SOCC.

Please find enclosed our draft SOCC. Please treat this letter as notification of the start of the formal consultation with you on the SOCC as required by the Act. We would ask that you send us your comments by **20 October 2012**.

Once we have received your comments, we will carefully consider them before finalising the SOCC. In accordance with the Act, as amended by the Localism Act 2011, we will then make the SOCC available for inspection by the local community in a way which is reasonably convenient. Our current thinking is that this could be made available at Suffolk Coastal District Council and Leiston Town Council offices selected libraries in Suffolk Coastal, as well as online at [www.edfenergyconsultation.info](http://www.edfenergyconsultation.info).

We will also publish a notice in the East Anglian Daily Times stating where and when the SOCC can be inspected.

EDF Energy will publicise each stage of the local community consultation well in advance of the start of the process in the ways set out in the enclosed draft SOCC.



Yours sincerely

Richard Mayson  
Director of Planning and External Affairs  
EDF Energy, Nuclear New Build

**Enc.**

Deborah Cadman  
Chief Executive  
Suffolk County Council  
Endeavour House  
Russell Road  
Ipswich  
IP1 2BX

21 September 2012

Dear Ms Cadman

### **Sizewell C: Consultation on the Statement of Community Consultation**

As you are aware, EDF Energy is required by section 47 of the Planning Act 2008 to prepare a statement, known as a Statement of Community Consultation (SOCC). The SOCC sets out how we intend to consult the local community about our proposals for a new nuclear power station at Sizewell and associated development. Prior to finalising the SOCC, EDF Energy is required to consult the relevant local authorities for a period of 28 days about the information contained within it.

We have been having on-going discussions with your officers in relation to drafting the SOCC since June 2012. These discussions have been extremely helpful in enabling us to prepare the draft SOCC which is now enclosed with this letter. We are now at the stage at which we would like you to treat this letter as notification of the start of the formal consultation on the draft SOCC. We would be grateful to receive your comments on the enclosed document by no later than **20 October 2012**.

Once we have received your comments, we will carefully consider them before finalising the SOCC. We will then make the SOCC available for inspection by the local community. Our current thinking is that this could be made available at Suffolk Coastal District Council and Leiston Town Council offices, selected libraries in Suffolk Coastal, as well as online at [www.edfenergyconsultation.info](http://www.edfenergyconsultation.info). We will also publish a notice in the East Anglian Daily Times stating where and when the SOCC can be inspected.

I look forward to receiving your comments.

 Richard Mayson  
Director of Planning and External Affairs  
EDF Energy, Nuclear New Build

**Enc.**



Appendix B.2 Letters from SZC Co. to SCDC and SCC enclosing table explaining how SZC Co. responded to their comments on the draft SoCC (7 November 2012)

Sent by Email

Stephen Baker  
Chief Executive  
Suffolk Coastal District Council  
Melton Hill  
Woodbridge  
Suffolk IP12 1AU

7 November 2012

Dear Stephen

### **Sizewell C: Statement of Community Consultation**

Thank you for your comments on the draft Statement of Community Consultation (SOCC), which were received on 19 October 2012. In accordance with section 47(5) of the Planning Act 2008, EDF Energy has had regard to your comments in preparing the final SOCC. The enclosed table provides EDF Energy's response to each of your comments.

Also enclosed is the final SOCC for your reference. We will make the SOCC available for inspection by the local community from 8 November 2012 by:

- Publishing it on our project website: <http://sizewell.edfenergyconsultation.info>
- Providing hard copies of it at Leiston Town Council and Suffolk Coastal District Council
- Providing hard copies of it at EDF Energy's Sizewell C Information Office in Leiston

A notice will be published on 8 November (or the closest publication date) in the East Anglian Daily Times, Ipswich Star, Eastern Daily Press, Lowestoft Journal, Beccles and Bungay Journal, and Coastal Scene stating where and when the SOCC can be inspected.

Stage 1 of the consultation is due to begin on **21 November 2012** and the consultation material will be available from that date. The deadline for responses to our Stage 1 consultation will be **6 February 2013**. These dates have been included in the above notice.

Yours sincerely

Richard Mayson  
Director of Planning and External Affairs  
EDF Energy, Nuclear New Build

- Enc. 1. Table responding to local authority comments on the draft SOCC  
2. Final SOCC to be published on 8 November 2012

cc. Mark Wilson, The Planning Inspectorate, [enquiries@infrastructure.gsi.gov.uk](mailto:enquiries@infrastructure.gsi.gov.uk)

Sent by Email

Paul Wood  
Sizewell C Project Manager  
Suffolk Coastal District Council  
Melton Hill  
Woodbridge  
Suffolk IP12 1AU

7 November 2012

Dear Paul

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Yours sincerely

Richard Mayso  
Director of Planning and External Affairs  
EDF Energy, Nuclear New Build

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cc. Mark Wilson, The Planning Inspectorate, [enquiries@infrastructure.gsi.gov.uk](mailto:enquiries@infrastructure.gsi.gov.uk)

# EDF Energy – Sizewell C

## Response to local authorities' comments on the draft Statement of Community Consultation

EDF Energy is very grateful to Suffolk Coastal District Council and Suffolk County Council for their comments on the draft Statement of Community Consultation (SOCC) for the Sizewell C pre-application consultation. In accordance with s47(5) of the Planning Act 2008, EDF Energy has had careful regard to these comments in finalising the SOCC to be made available to the public. The table below provides EDF Energy's responses to the comments received and explains the changes that have been made to the SOCC as a result.

Local authority comment	EDF Energy response	Change to SOCC
Page 1: Length of Consultation	<p>For the Sizewell C Stage 1 consultation, EDF Energy has decided to carry out its s42 consultation with statutory consultees and s47 consultation with the local community in parallel. The Planning Act 2008 requires that the s42 consultation must last for at least 28 days. EDF Energy has in fact chosen to set a deadline for receipt of consultation comments that is significantly longer than the statutory 28 days. Nevertheless, EDF Energy notes the comment that the democratic processes of the local authorities and other bodies means that it would be helpful for the consultation period to be extended beyond the eight weeks originally proposed. EDF Energy has therefore decided to set a consultation deadline for Stage 1 of eleven weeks from the start of consultation.</p> <p>EDF Energy appreciates that the Stage 1 consultation period straddles the Christmas holidays and believes that eleven weeks will provide sufficient time to allow statutory consultees and the local community to review the consultation material and submit their comments. This is longer than the Stage 1 consultation period for the</p>	SOCC to be amended to explain that the Stage 1 consultation will last for eleven weeks, rather than eight.

	<p>Hinkley Point C consultation, which took place at the same time of year.</p> <p>EDF Energy does not believe that it would be appropriate to lengthen the consultation period any further. The Government has identified an urgent need for new nuclear and EDF Energy must therefore set a responsible consultation programme that takes that into account.</p> <p>As explained in the draft SOCC, Stage 2 consultation on the preferred proposals will cover our more detailed plans (having taken into account responses received at Stage 1), meaning a longer period of 12 weeks is likely to be set for this stage of consultation. Any additional stages of focused consultation will necessarily be more limited in their scope and it is likely that these stages will be for a shorter period much closer to the statutory 28 days.</p>	
<p>Page 2: Role of the local authorities</p>	<p>EDF Energy is happy to include further information on the role of local authorities in the SOCC. EDF Energy believes that the most appropriate way of describing the role of the authorities within the legal framework of the Planning Act 2008 is by reference to the relevant guidance. The Planning Inspectorate's Advice Note One, published in April 2012, provides an explanation of the role played by local authorities and EDF Energy has included a summary of that guidance in the SOCC.</p>	<p>The following paragraph has been added into the SOCC at the end of the section entitled 'The Planning Process':</p> <p><i>"Local authorities also have an important role in this process. In addition to considering this SOCC, Suffolk Coastal District Council and Suffolk County Council will act as statutory consultees, they may comment upon the quality of EDF Energy's consultation, make their own representations on the application once submitted, produce a local impact report and work with EDF Energy to produce a statement of common ground."</i></p>

<p>Page 2: Off-site Emergency Planning Consultation</p>	<p>EDF Energy agrees with the relabelling of the zones and the proposed amendments regarding the Suffolk Resilience Forum's consultation.</p>	<p>The terms 'inner zone' and 'outer zone' have been re-labelled as 'inner area' and 'outer area'.</p> <p>The proposed reference to the Suffolk Resilience Forum's consultation has been added to the end of the first paragraph on page 5.</p>
<p>Page 2: Extension of outer consultation zone</p>	<p>EDF Energy agrees that the outer consultation area should include Ipswich and Felixstowe and notes that this was already included in the draft SOCC (page 7), which defined the outer zone (now re-labelled as outer area) as "<i>stretching around Ipswich and Felixstowe to the south and into Mid Suffolk to the west and Lowestoft to the north (a 20-mile radius)</i>".</p> <p>EDF Energy is happy to add Kesgrave as a town in shorter exhibitions or community meetings may be held.</p> <p>As explained in the draft SOCC, EDF Energy has carefully chosen the locations in which public exhibitions and events will be held so that the majority of people living within the 10-mile inner area will be no more than five miles from a Sizewell C consultation exhibition or event. Wenhaston already falls within the five-mile radius of the existing planned exhibitions and EDF Energy does not, therefore, think it is necessary to hold a further exhibition in Wenhaston itself. However, EDF Energy will ensure that the exhibitions are well publicised in Wenhaston and we will engage with local schools and youth clubs in the area as part of its commitment to work with hard to reach groups. If, during the consultation period, it is considered necessary and appropriate to do so, EDF Energy will be happy to arrange an event, such as a drop-in session, with residents of Wenhaston.</p>	<p>Kesgrave has been added to the list of towns in which EDF Energy may hold shorter exhibitions or community meetings.</p>

<p>Page 3: Consultation for Associated Development site options</p>	<p>The inner zone (re-labelled as area) was already defined so as to include within in it "<i>the vicinity of proposed associated development sites (this includes any potential associated development sites beyond the 10-mile radius of Sizewell)</i>" (page 7).</p>	<p>No change necessary.</p>
<p>Page 3: EDF Leiston Office</p>	<p>EDF Energy has revised the SOCC so that it is clear that the Leiston office will be open during the initial period of the Stage 1 consultation.</p>	<p>The section entitled 'Contact Information' now includes the following paragraph:</p> <p>"Subject to the closure over the Christmas period mentioned below, during the Stage One consultation, EDF Energy's Leiston office will be open Monday to Friday from 09:30 to 17:00 (excluding public holidays), and from 15 December 2012 until 23 January 2013 the office will also be open on Saturdays 09:00 to 12:00. During the period when public exhibitions are taking place, the office will be open to provide consultation literature only. The office will close at 12:00 on 22 December 2012 and re-open at 09:30 on 2 January 2013. Information on the opening hours of the Leiston office during later stages of consultation will be publicised in advance of those stages."</p>
<p>Page 3: Consultation timetable</p>	<p>EDF Energy proposes to advertise the start of each stage of consultation at least ten days, and in any event as early as practicable, in advance of each stage of consultation. EDF Energy believes that this is a sufficient notice period. There will be no</p>	<p>No change necessary.</p>

	<p>material for the consultees to review during this time and it is simply advance warning that the consultation will begin and consultation materials be made available on a particular day. This is the same notice period used for the Hinkley Point C consultation.</p>	
<p>Page 3: Consultation with schools</p>	<p>EDF Energy agrees that it is important to engage with schools as part of the consultation process. EDF Energy will therefore send the consultation material to the headteachers of all of the local high schools in the vicinity of the proposed development sites to ensure that they are aware of the consultation and the implications for their schools. EDF Energy does not believe that it is appropriate to contact the school children directly and considers it more appropriate to do so via the headteachers who can decide how best to make the information available to the school children. Children are, of course, welcome to come along to the Sizewell C public events with their parents.</p> <p>It is important to note that EDF Energy is working with the local authorities and education providers to promote science, technology, engineering and maths and to deliver a skills and education strategy which will provide local people with the best opportunity to work on the project. This initiative is an ongoing commitment and while the public will have the opportunity to comment on all of the proposals for enhancing skills and education locally, it is separate to the activity EDF Energy will be undertaking during the formal stages of consultation.</p>	<p>No change necessary.</p>
<p>Page 3: Community Forum</p>	<p>The SOCC is intended to be a concise document and EDF Energy does not think that it would be appropriate to provide further information about the Community Forum within the SOCC.</p>	<p>No change necessary.</p>

<p>Page 4: Seeking views of wider public</p>	<p>The reference to the wider public was intended to capture EDF Energy's statutory duty under s48 of the Planning Act 2008 to publicise the proposed application to the wider public in national and local newspapers. EDF Energy currently intends to carry out this s48 publicity at Stage 2 of the consultation, when more information is available about the proposals. As the SOCC is a statement dealing with the s47 consultation with the local community, EDF Energy does not believe that it is necessary to include further information on the s48 publicity in this document.</p>	<p>No change necessary.</p>
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Sent by Email

Deborah Cadman  
Chief Executive  
Suffolk County Council  
Endeavour House  
Russell Road  
Ipswich IP1 2BX

7 November 2012

Dear Ms Cadman

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Stage 1 of the consultation is due to begin on **21 November 2012** and the consultation material will be available from that date. The deadline for responses to our Stage 1 consultation will be **6 February 2013**. These dates have been included in the above notice.

Yours sincerely

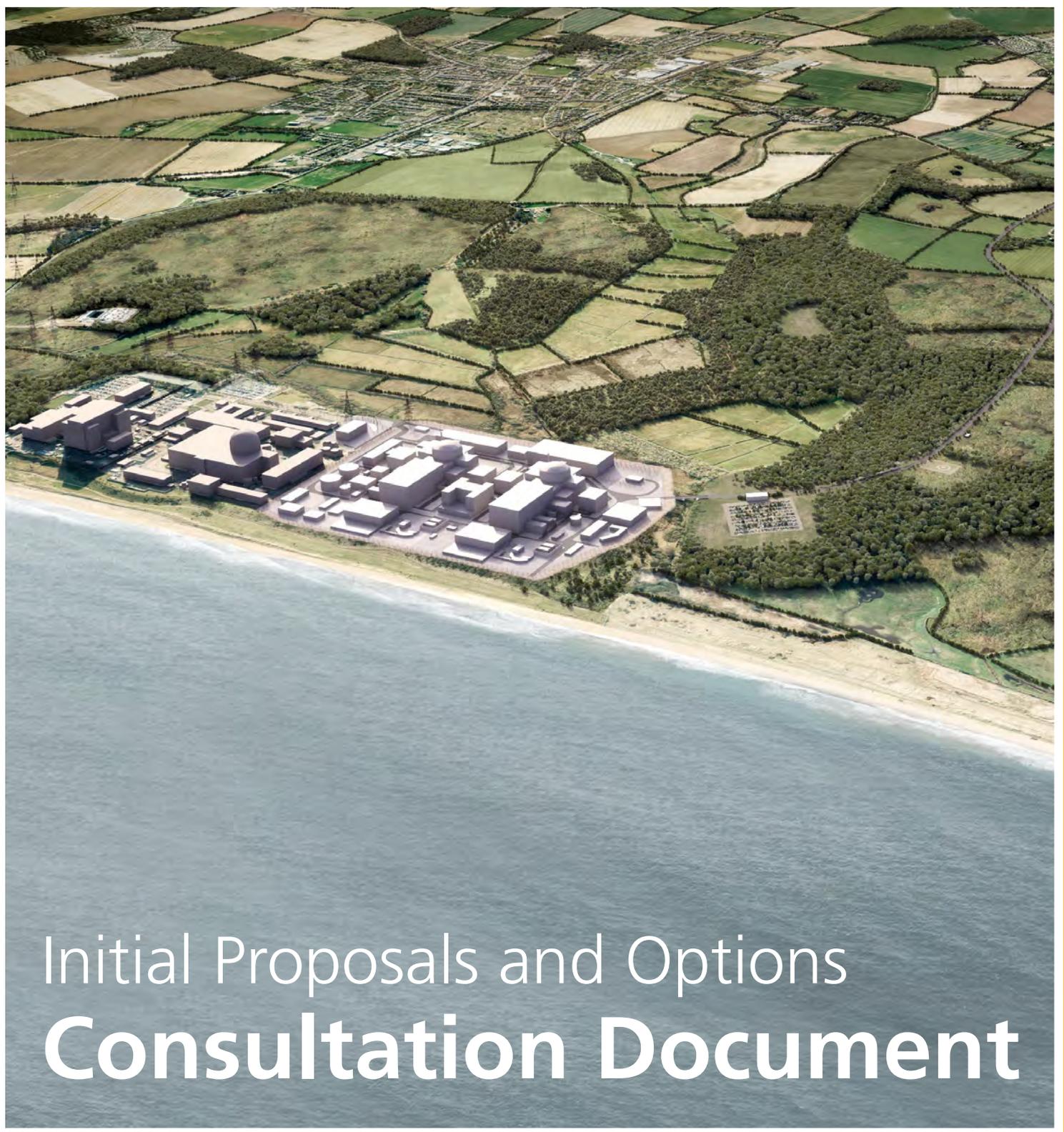
Richard Mayson  
Director of Planning and External Affairs  
EDF Energy, Nuclear New Build

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cc. Mark Wilson, The Planning Inspectorate, [enquiries@infrastructure.gsi.gov.uk](mailto:enquiries@infrastructure.gsi.gov.uk)



Appendix B.3 Consultation Document (Stage 1) (November 2012)



# Initial Proposals and Options Consultation Document

**Sizewell C** | Proposed  
Nuclear  
Development  
Stage 1 Pre-Application Consultation

*November 2012*





# Foreword

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EDF Energy is delighted to begin the formal consultation for our proposed new nuclear power station, Sizewell C. We look forward to discussing our plans with local communities in Suffolk and with other stakeholders.

Sizewell C would generate enough electricity to supply one in five homes in Britain. It would make an important contribution to the UK's future needs for low carbon, secure and affordable energy.

It would also create significant business, training and employment opportunities locally, regionally and throughout the UK.

I urge you to play an active role in this consultation process and encourage you to visit one of our consultation events (see **Chapter 7** for dates and locations). The Sizewell C project team will be available at these events to help you understand the proposals and answer your questions.

We will undertake to consider your feedback and to take it into account as we prepare detailed plans for Sizewell C.

**Richard Mayson**

**Director of Planning and External Affairs  
Nuclear New Build, EDF Energy**

# 1 Sizewell C Project Overview

- › 1.1 Introduction
- › 1.2 Project aims
- › 1.3 Project description
- › 1.4 Project Q&A



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- › 3.4 Construction and temporary development
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- › 5.2 Campus accommodation
- › 5.3 Campus site options
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# 1 Sizewell C Project Overview

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- › 1.1 Introduction
- › 1.2 Project aims
- › 1.3 Project description
- › 1.4 Project Q&A

EDF Energy is now beginning consultation on plans for a new nuclear power station at Sizewell in Suffolk. This chapter summarises the Sizewell C Project and our current proposals. It includes answers to questions you may have about the Project and directs you to the parts of the document where you can find more information on these questions.

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## 1.1 Introduction

- 1.1.1 The Government has decided that new nuclear power stations should play a significant role in the future generation of electricity in the UK.
- 1.1.2 The National Policy Statement for Nuclear Power Generation (EN-6), designated in July 2011, concluded that there is a need for new nuclear power stations and identified Sizewell as a potentially suitable site for a new nuclear power station.
- 1.1.3 EDF Energy<sup>1</sup> is proposing to build and operate a new nuclear power station, Sizewell C, on land immediately to the north of the existing station Sizewell B. Once operational it would be able to generate enough electricity to supply approximately five million, about 20%, of Britain's homes.
- 1.1.4 Once we<sup>2</sup> have completed pre-application consultation, EDF Energy intends to submit an application to the Secretary of State for development consent to construct and operate Sizewell C and its associated development.

### The purpose of this document

- 1.1.5 We are currently in Stage 1 of our pre-application consultation. This document sets out our broad plans for the new power station and the associated development - such as park and ride facilities and an accommodation campus - which would be necessary to support its construction and operation. This is your first opportunity to obtain information on our initial proposals and options and to give us feedback on our work so far. A summary document is also available.
- 1.1.6 In addition, we are publishing an **Environmental Report** and a **Transport Strategy and Supporting Information** document that provide further information on these aspects of our proposals.

### Scope of consultation

- 1.1.7 We welcome comments from all those with an interest in the development. Your feedback is important and it will help inform our decisions about the Sizewell C Project.
- 1.1.8 The Stage 1 proposals fall into two broad groups. There are those where we set out proposals unlikely to change (for example the location of the power station or the design of the reactors). Then there are those where the proposals could be changed as a result of responses to our consultation or further technical or environmental studies.
- 1.1.9 The principle of the need for new nuclear power stations and the choice of Sizewell as a potentially suitable site have already been determined and voted on by Parliament, following public consultation and debate. These are outside the scope of this consultation.
- 1.1.10 While some details of the Sizewell C design are still to be decided, the power station layout is largely fixed. The UK EPR design is going through a rigorous safety assessment (see **Chapter 2** – Generic Design Assessment).
- 1.1.11 There are some areas where we propose a number of options for the location of associated development and we encourage you to comment and share your views on these throughout the consultation process.
- 1.1.12 At this stage, we are seeking views on:
- › our overall proposals for Sizewell C;
  - › options for associated development needed to support the construction and/or operation of the power station; and
  - › the potential effects on the local community, both positive and negative.
- 1.1.13 This first stage of consultation will run from 21 November 2012 to 6 February 2013.
- 1.1.14 Following Stage 1 of the consultation we will consider all responses and feedback we have received and use it to inform the development of our plans. We will then publish our preferred options in a Stage 2 consultation. Stages 1 and 2 may be supplemented by limited, focused stages of further consultation where necessary.

<sup>1</sup> NNB Generation Company Limited, whose registered office is at 40 Grosvenor Place, London, SW1X 7EN (referred to in this document as "EDF Energy")

<sup>2</sup> Please note: throughout this report all uses of 'we', 'us', 'our', and 'the company' refer to EDF Energy



## How to respond to this consultation

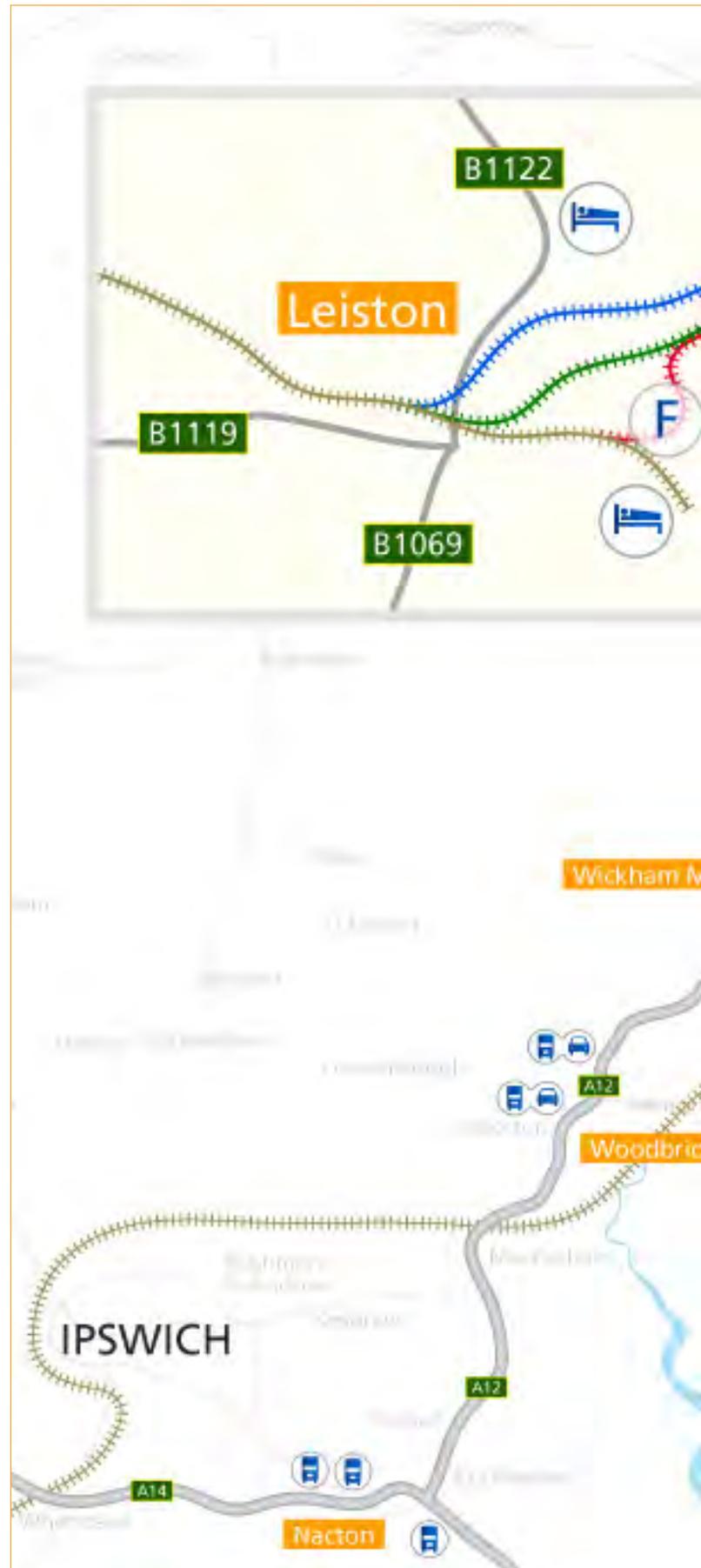
- 1.1.15 We are inviting comments from the local community, including all those living in, working in or otherwise using the local area around the Sizewell C and associated development sites.
- 1.1.16 We also welcome feedback from all relevant organisations, as well as from landowners who may be affected by the proposals.
- 1.1.17 Comments must be received by 6 February 2013 and can be submitted in any of the following ways:
- › a public questionnaire can be found in the **Consultation Document: Summary** and online at: <http://sizewell.edfenergyconsultation.info>
  - › you can email your comments on this document to: [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
  - › written responses can be posted to Sizewell Nuclear New Build, FREEPOST LON20574, London, W1E 3EZ; and
  - › you can also submit your comments via our freephone number 0800 197 6102 (9.30am-5.30pm Monday-Friday - excluding bank holidays).
- 1.1.18 Hard copies of all the documents are available to view at the Sizewell C Information office (48-50 High Street, Leiston, IP16 4EW); in the offices of Suffolk County, Suffolk Coastal District, Waveney District and Ipswich Borough Councils; and at the public exhibitions and events that will be held during the consultation period. Documents will also be available in a number of local public libraries, on disc and to download by visiting the Project website:  
<http://sizewell.edfenergyconsultation.info>.

## 1.2 Project aims

- 1.2.1 We plan to build a nuclear power station, Sizewell C, on land to the north of Sizewell B power station in Suffolk. It would make a substantial contribution to the nation's energy needs in a reliable and sustainable way. This would help the UK to meet its climate change targets by supporting the transition to a low carbon economy.
- 1.2.2 We would work closely with our stakeholders and partner organisations to ensure that the benefits of our investment in Sizewell C, as far as practicable, are realised within the local and regional economy.
- 1.2.3 The planning, construction, operation and ultimate decommissioning of the power station would be undertaken efficiently and in a manner which respects the sensitivities of the local environment and of local communities. At Sizewell C, as in all our activities, safety would be our overriding priority.
- 1.2.4 Therefore our objectives are to:
- › Provide information on our proposals, respond to questions and listen to suggestions, then take what we hear into account as we prepare our application.
  - › Comply with regulatory requirements and apply company standards of safety, reliability and sustainability over the whole life of the Sizewell C Project.
  - › Make the most of the social and economic benefits of the Project for the local and regional community through, for example, training, employment and the supply chain, where practicable.
  - › Avoid significant adverse environmental effects from the Project where practicable, and where these are unavoidable, work to mitigate them.

## 1.3 Project description

- 1.3.1 Sizewell is on the Suffolk coast, roughly halfway between Felixstowe and Lowestoft. The site already contains two nuclear power stations, Sizewell A and Sizewell B. Sizewell A, owned by the Nuclear Decommissioning Authority and managed by Magnox Limited, is currently being decommissioned. Sizewell B is owned and operated by EDF Energy and has been in operation since 1995.
- 1.3.2 Once completed the permanent Sizewell C site within the perimeter fenced area, including two reactors known as UK EPRs, would occupy approximately 32 hectares of land immediately to the north of Sizewell B. There would also be some buildings located off-site.
- 1.3.3 The design of the UK EPR is based on technology used successfully and safely around the world for many years. It includes innovations to enhance performance and safety. It is the same reactor design we are adopting for our proposed power station at Hinkley Point in Somerset. EDF is also currently constructing an EPR in France and is involved in other international projects.
- 1.3.4 The principal access to Sizewell C would be via a new road linking the site to the B1122. It would be the primary means of bringing workers and materials into the site during construction and provide the main access to Sizewell C once construction is complete and the station operational. The existing access to Sizewell B would be the secondary access for Sizewell C during operation.
- 1.3.5 In order to build and operate Sizewell C we would also need to carry out some associated development – mostly temporary – in the surrounding area. For example we would need to develop accommodation for the construction workers and manage transport impacts. In advance of the main development, we would also need to relocate some Sizewell B supporting facilities to clear the construction site for Sizewell C (see **Chapter 3** – Clearing and preparing the site).
- 1.3.6 The approximate site locations of the various options we are proposing are shown in **Figure 1.1**. Details of the proposals are provided in **Chapters 2 to 6** of this document and in the **Environmental Report** and **Transport Strategy and Supporting Information** document.



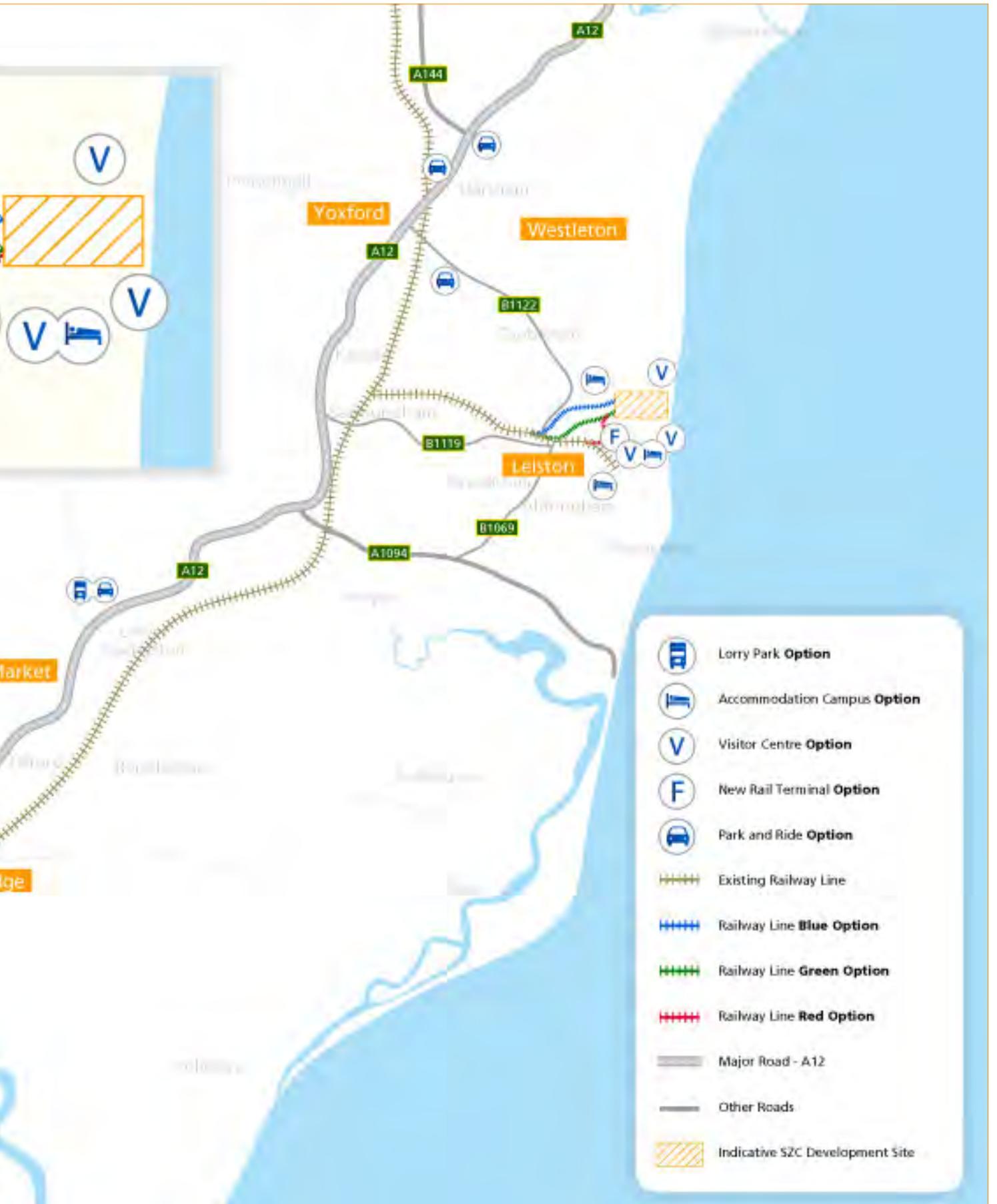


Figure 1.1: Indicative proposed site locations

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## 1.4 Project Q&A

### Q: Why does the UK need new nuclear power stations?

- 1.4.1 **A:** By the end of this decade several of Britain's existing power stations, producing about a quarter of total electricity output, will need to close. This comes at a time when demand for electricity is expected to rise as Britain makes the transition to becoming a low-carbon economy. The Government has decided that new nuclear power stations will help maintain security of energy supply while also helping to meet the UK's climate change targets.

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For more information on [Background](#) go to page



### Q: What about spent fuel and radioactive waste?

- 1.4.4 **A:** We would ensure that the spent fuel and radioactive waste produced at Sizewell C is managed in a manner that protects people and the environment and is in accordance with the relevant UK policy and legislation. The UK EPR design optimises use of fuel, while both design and operation/maintenance best practices help to reduce the amount of radioactive waste produced.

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For more information on [Background](#) go to page



### Q: Why has Sizewell been chosen for a new nuclear power station?

- 1.4.2 **A:** Sizewell has been designated by the Government as one of eight sites considered potentially suitable for the deployment of new nuclear power stations before the end of 2025. In developing its policy, the Government looked in some detail at a wide range of factors before deciding that Sizewell could potentially be suitable as the site for a new nuclear power station.

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For more information on [Background](#) go to page



### Q: When will the new power station be operational?

- 1.4.5 **A:** At this early stage of the development and consultation process, it is not possible to say with certainty when generation of electricity would start. Should we receive the necessary consents and once the site has been prepared we expect that construction of the power station would take approximately seven to nine years. Feedback from this stage of consultation will help to inform our decision making as we develop detailed proposals for future consultation and our development consent order application.

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For more information on [Background](#) go to page



### Q: What about safety at Sizewell C?

- 1.4.3 **A:** We make safety our overriding priority. This is part of the company's ambition for a 'zero harm' safety record. Nuclear power is one of the most rigorously regulated industries in the UK. In order to operate the proposed new nuclear power station we would require a nuclear site licence from the Office for Nuclear Regulation and environmental permits from the Environment Agency.

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For more information on [Background](#) go to page



### Q: What is the consultation process?

- 1.4.6 **A:** We will consider all responses and feedback gathered from Stage 1 and use this to inform the development of our plans. **Figure 1.2** opposite provides an indicative chart of the process.

- 1.4.7 We are keen to hear your views on the Sizewell C Project and we encourage your feedback. Details of how to respond to this Stage 1 consultation are on **page 3**.

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For more information on [Background](#) go to page



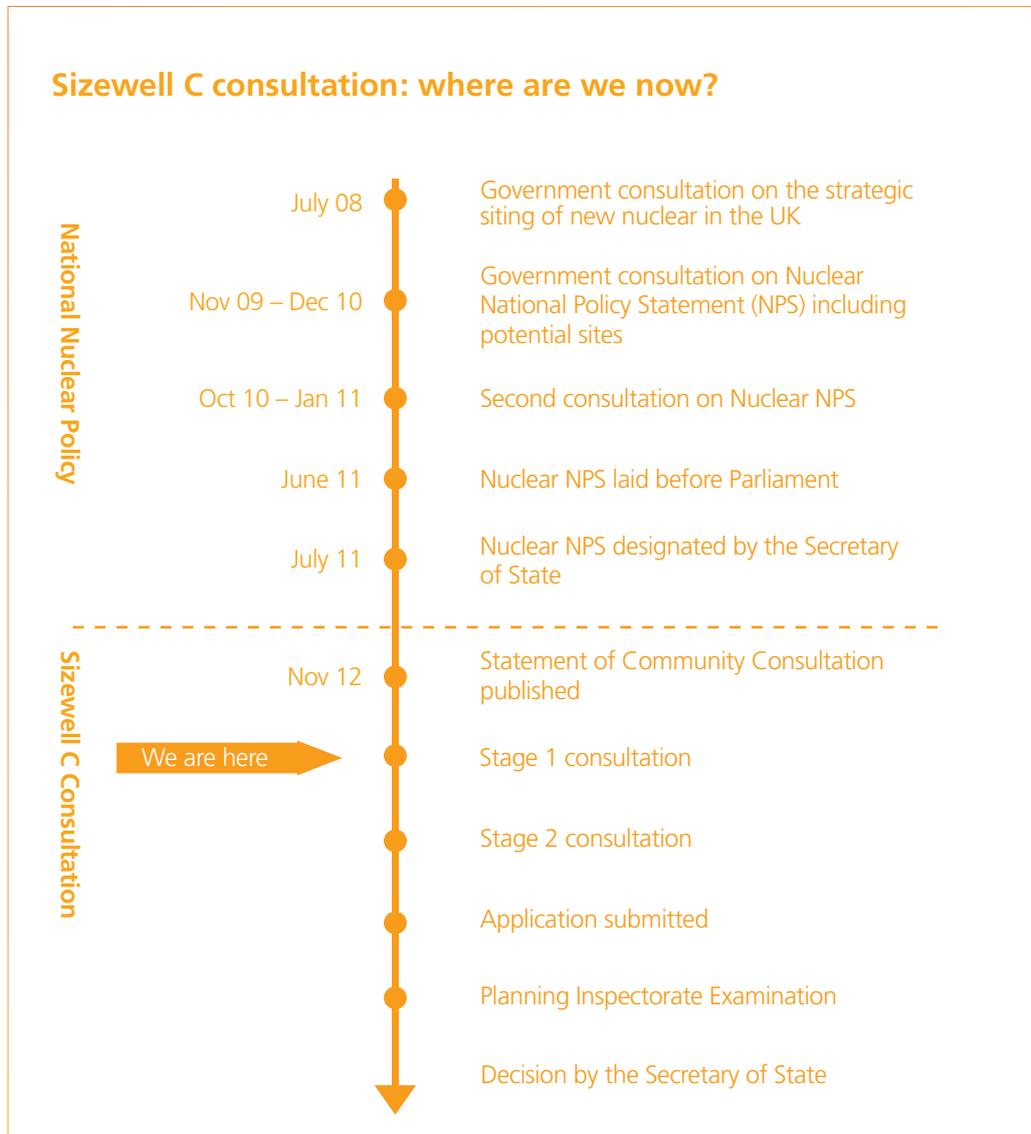


Figure 1.2: Consultation flowchart

### Q: What about the impact of Sizewell C on the environment and the landscape?

1.4.8 **A:** The area around Sizewell is environmentally sensitive. The site lies within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) and there are a number of European, national and local ecologically designated sites which are close to, or partly within, the proposed Development Site.

1.4.9 We have been carrying out a series of studies of the local environment to gain further knowledge of the site characteristics, understand its sensitivities and the current environmental conditions of the site. This will enable us to assess the potential environmental impact of Sizewell C and design appropriate mitigation. We are also preparing a landscape strategy for the areas to be restored and enhanced. This strategy would also cover the wider EDF Energy estate.

For more information on [The Sizewell C Site](#) go to page

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## Q: Will you be building on the Sizewell Marshes?

- 1.4.10 **A:** Our proposals include using a part of the Sizewell Marshes Site of Special Scientific Interest (SSSI). We would seek to use as little SSSI land as practicable and to protect the integrity of the remaining marshes and the wetland corridor that connects this part of the marshes to Minsmere to the north. We are actively exploring opportunities to provide replacement land nearby.

For more information on [The Sizewell C Site](#) go to page

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## Q: What about historic buildings and archaeological remains?

- 1.4.11 **A:** There are a number of heritage assets, such as Leiston Abbey, in the vicinity of the site and there may be buried archaeology within the site. We are working closely with the local authorities and English Heritage to identify these features and develop a comprehensive plan for managing any impacts, including recording and preserving key findings.

For more information on [The Sizewell C Site](#) go to page

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## Q: Will there be any impact on public footpaths and access to the beach?

- 1.4.12 **A:** Some public footpaths, including a small section of the Suffolk Coast Path, would be closed or diverted during the construction phase. We recognise that footpaths and access to the beach are important and would aim to restrict access only when absolutely necessary to ensure public safety during essential engineering works. Any closures of public footpaths would be agreed with the local authorities, and the public would be given advance notice.

For more information on [The Sizewell C Site](#) go to page

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## Q: How many jobs will Sizewell C create?

- 1.4.13 **A:** Around 5,600 people would be working on-site at the peak of construction of Sizewell C. Over the lifetime of the construction, we estimate that 25,000 on-site roles would be created. In addition, significant employment would also be created by businesses supplying goods and services to the Project.
- 1.4.14 Once the construction phase is over, about 900 people would be employed in operating Sizewell C. Many of the skills needed to develop Sizewell C would be transferable and should enable Sizewell C workers to find employment once construction is complete.

For more information on [People and Economy](#) go to page

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## Q: Will there be job opportunities for people from the surrounding area?

- 1.4.15 **A:** We are keen that local people are able to take advantage of the opportunities available as a result of Sizewell C. We will work closely with schools, colleges and training providers to help ensure that people from the surrounding area have the right skills to give them the best chance of securing the available jobs.

For more information on [People and Economy](#) go to page

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## Q: Will there be opportunities for local businesses?

- 1.4.16 **A:** We will work with businesses in the area and with the Suffolk and Norfolk Chambers of Commerce and the New Anglia Local Enterprise Partnership to help them make the best use of the opportunities to supply the Sizewell C Project with goods and services.

For more information on [People and Economy](#) go to page

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### Q: What other developments are needed for the construction of the power station itself?

- 1.4.17 **A:** To support the construction of Sizewell C we would need some additional facilities near the power station site called associated development. This may include a temporary accommodation campus; enhancements to rail infrastructure; two temporary park and ride sites; a temporary lorry park; and road or junction improvements in the local area.
- 1.4.18 We have been through a robust process to identify potentially suitable sites and to consider their advantages and disadvantages in terms of their location, size and technical and environmental considerations. On the basis of this work, we are presenting a number of site options.

For more information on [Associated development](#) go to page



### Q: What is being done to reduce pressure from construction traffic on local roads?

- 1.4.20 **A:** We are developing a comprehensive and sustainable transport strategy for Sizewell C. Further details of this can be found in the **Transport Strategy and Supporting Information** document published as part of Stage 1 consultation.
- 1.4.21 Our proposed accommodation campus would significantly reduce commuter traffic from construction workers. We would also run bus services from selected locations, encourage people to walk or cycle to and from the site. We are also proposing temporary park and ride facilities as a further way to reduce worker commuter traffic on local roads during peak construction.
- 1.4.22 Our transport strategy envisages that both sea and rail would play major roles in the delivery of construction materials to the site – helping to relieve pressure on the road network. The proposed jetty would allow large loads and bulk materials to be shipped in and out. Our proposed upgrade and extension of parts of the local rail network would increase its potential capacity for carrying freight.

For more information on [Transport](#) go to page



### Q: Where will all the construction workers live?

- 1.4.19 **A:** While we will make every reasonable effort to recruit from the local area, during the peak construction period we would expect about 3,700 workers to be non-local and hence need temporary accommodation. We are therefore proposing to build an accommodation campus for between about 2,000 and 3,000 people. There would also be opportunities for private rental, owner occupation, caravan and tourist accommodation to be used by Sizewell C workers.

For more information on [Accommodation](#) go to page



# 25,000

on-site roles created over construction period

# 5m or 20%

of Britain's homes will be powered by Sizewell C

# 900

# people employed

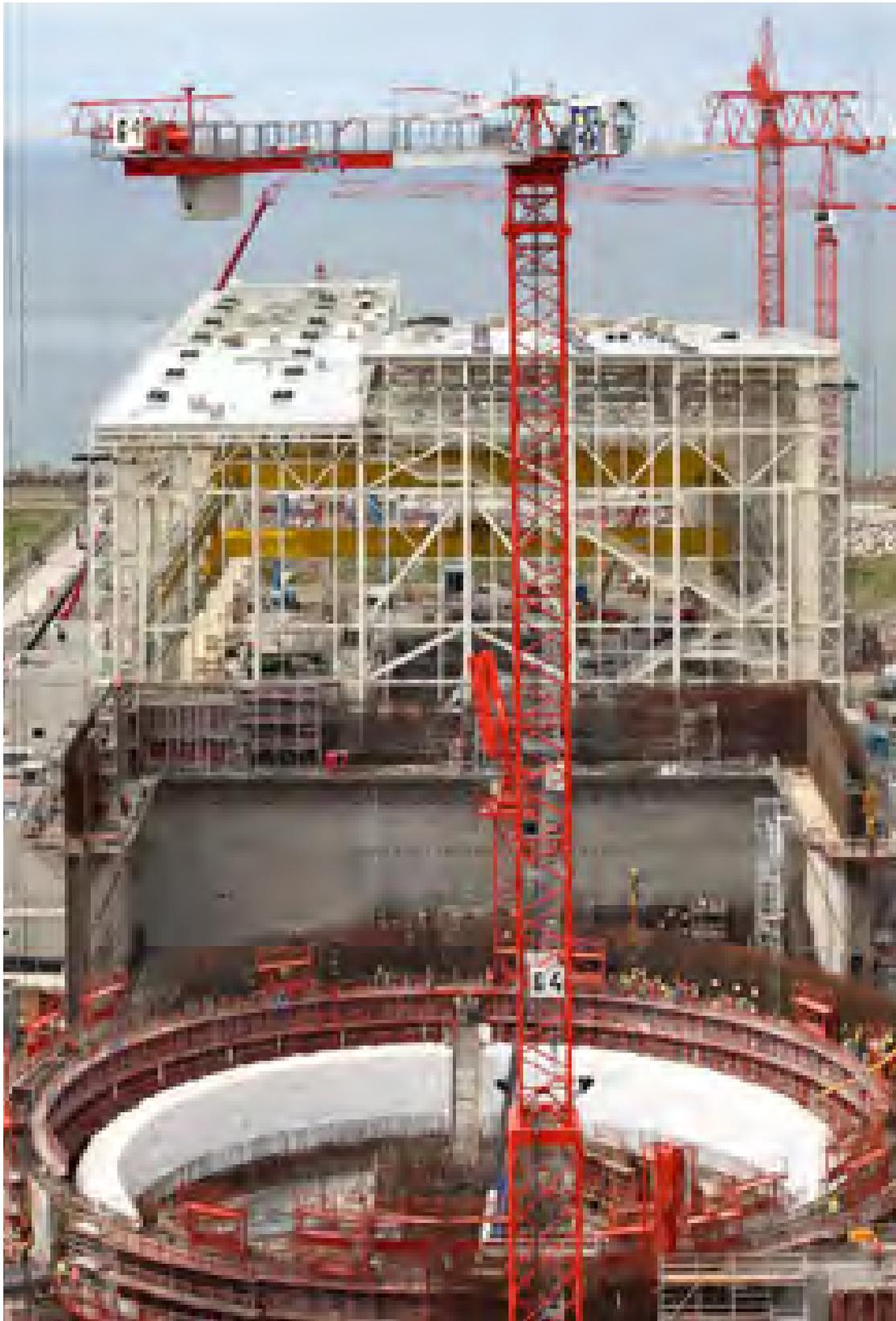
in operating Sizewell C

# 3000

companies involved in building Sizewell B

# 50m

hours used to build Sizewell C



Flamanville, Normandy

## 2 Background

- › 2.1 The need for new nuclear
- › 2.2 Wider framework
- › 2.3 Planning and public consultation



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## 2.1 The need for new nuclear

- 2.1.1 By the end of this decade several existing power stations producing about a quarter of Britain's electricity will close, while the Government estimates that demand for electricity could double by 2050 as more of our transport and heating systems become electrified.
- 2.1.2 Without low carbon sources, Britain will not be able to produce all the electricity it needs in sustainable ways to enable the nation to meet its climate change targets.
- 2.1.3 The Government has decided that new nuclear will help:
  - › the UK meet its carbon reduction commitments;
  - › ensure that the UK has secure, clean and affordable energy to meet rising demand in the future; and
  - › strengthen the UK's energy security.

### The policy context

- 2.1.4 In 2011 the Government published its plans for maintaining security of energy supply as Britain moves to a low carbon economy<sup>3</sup>. The proposals identified an urgent need for new nuclear power stations to be built.
- 2.1.5 The Government's National Policy Statement for Nuclear Power Generation (EN-6) identified eight sites considered potentially suitable for the deployment of new nuclear power stations before the end of 2025. This includes Sizewell in Suffolk.
- 2.1.6 The Government took sustainability factors into account before deciding to include Sizewell as a potentially suitable site. It did this through an Appraisal of Sustainability. This assessed the potential high-level environmental, social and economic impacts of building a new nuclear power station at Sizewell.
- 2.1.7 The Appraisal of Sustainability noted that there could be positive and negative impacts of a new nuclear power station in this location. Positive impacts could include new jobs and making local economies more viable. Negatives could include impacts on biodiversity and on the surrounding Area of Outstanding Natural Beauty (AONB).
- 2.1.8 However, the Government concluded that none of the potentially adverse factors should rule out Sizewell as a potentially suitable site for a new nuclear power station.

### EDF Energy's role

- 2.1.9 We are working hard to help Britain achieve energy security at the same time as it reduces greenhouse gas emissions. In the UK, EDF Energy already operates two coal-fired power stations, eight nuclear power stations and 20 wind farms. We also own and operate one gas-fired power station and are in the process of commissioning a second.
- 2.1.10 We plan to build two new nuclear power stations – Sizewell C and Hinkley Point C (for which a separate development consent application was submitted in October 2011). Each would have two reactors. We are confident that we can build these new nuclear plants safely and economically. By doing so we believe we can help Britain improve the security, availability and affordability of energy in a sustainable way.
- 2.1.11 Sizewell C should bring some very significant economic benefits to the local area, including:
  - › Thousands of construction and engineering jobs created over the years it would take to build Sizewell C.
  - › Significant job opportunities for the companies supplying the Project – everything from small and medium-sized engineering firms, to taxis and security guards, catering and accounting services.
  - › An estimated 50 million hours to build Sizewell C, involving up to 25,000 on-site employment opportunities.
  - › Opportunities for local businesses.
  - › Helping to build up the skills and expertise of the local workforce and our suppliers.
  - › Once construction has been completed, 900 staff would operate the new power station.
  - › There would also be wider economic benefits from increased demand for local goods and services, during both construction and operation.

<sup>3</sup> *Overarching National Policy Statement for Energy (EN-1)*, Department of Energy and Climate Change, 2011



## 2.2 The wider context

### Safety and security

- 2.2.1 Nuclear power is one of the most strictly regulated industries in the UK. Specific laws govern the handling, transport and use of nuclear materials.
- 2.2.2 The independent nuclear regulators for safety, security and environmental issues at UK nuclear sites in England are the Office for Nuclear Regulation and the Environment Agency. Together they issue, and monitor, compliance with the licences and permits that are necessary for the construction and operation of nuclear facilities.
- 2.2.3 We place a very high priority on ensuring the security of our nuclear installations.
- 2.2.4 Operators of licensed nuclear sites must have site security plans approved by the Office for Nuclear Regulation. These confidential plans detail the security arrangements for the protection of nuclear sites, nuclear and other radioactive material and sensitive nuclear information on such sites.

### Generic Design Assessment

- 2.2.5 The design of the UK EPRs (**Figure 2.1**) we would use at Sizewell C is currently undergoing a Generic Design Assessment process. Generic Design Assessments are carried out by the Office for Nuclear Regulation and the Environment Agency in order to assess the safety, security and environmental aspects of proposed reactor designs.

- 2.2.6 The Generic Design Assessment process for the UK EPR design began in 2007 and is now nearing its conclusion.

- 2.2.7 Progress with the Generic Design Assessment process is reported on a quarterly basis by the Office for Nuclear Regulation and the Environment Agency. These reports are accessible via the Health and Safety Executive website: [www.hse.gov.uk/newreactors](http://www.hse.gov.uk/newreactors).

### Nuclear site licence

- 2.2.8 A nuclear site licence must be granted before a new reactor can be built and operated on a specific site. This is done through a system of regulatory control under the Nuclear Installations Act 1965 (as amended).
- 2.2.9 Under this Act the Office for Nuclear Regulation, on behalf of the Health and Safety Executive, has the power to regulate the design, construction, operation and decommissioning of any nuclear installation. The Office for Nuclear Regulation sets out a series of licence conditions and assesses licensees against them. More information on the Health and Safety Executive and the Office for Nuclear Regulation can be found at [www.hse.gov.uk/nuclear](http://www.hse.gov.uk/nuclear).
- 2.2.10 Legislation is proposed in the Energy Bill published in May 2012 to enable the Office for Nuclear Regulation to become a new independent statutory body, outside the Health and Safety Executive, to regulate the nuclear power industry.

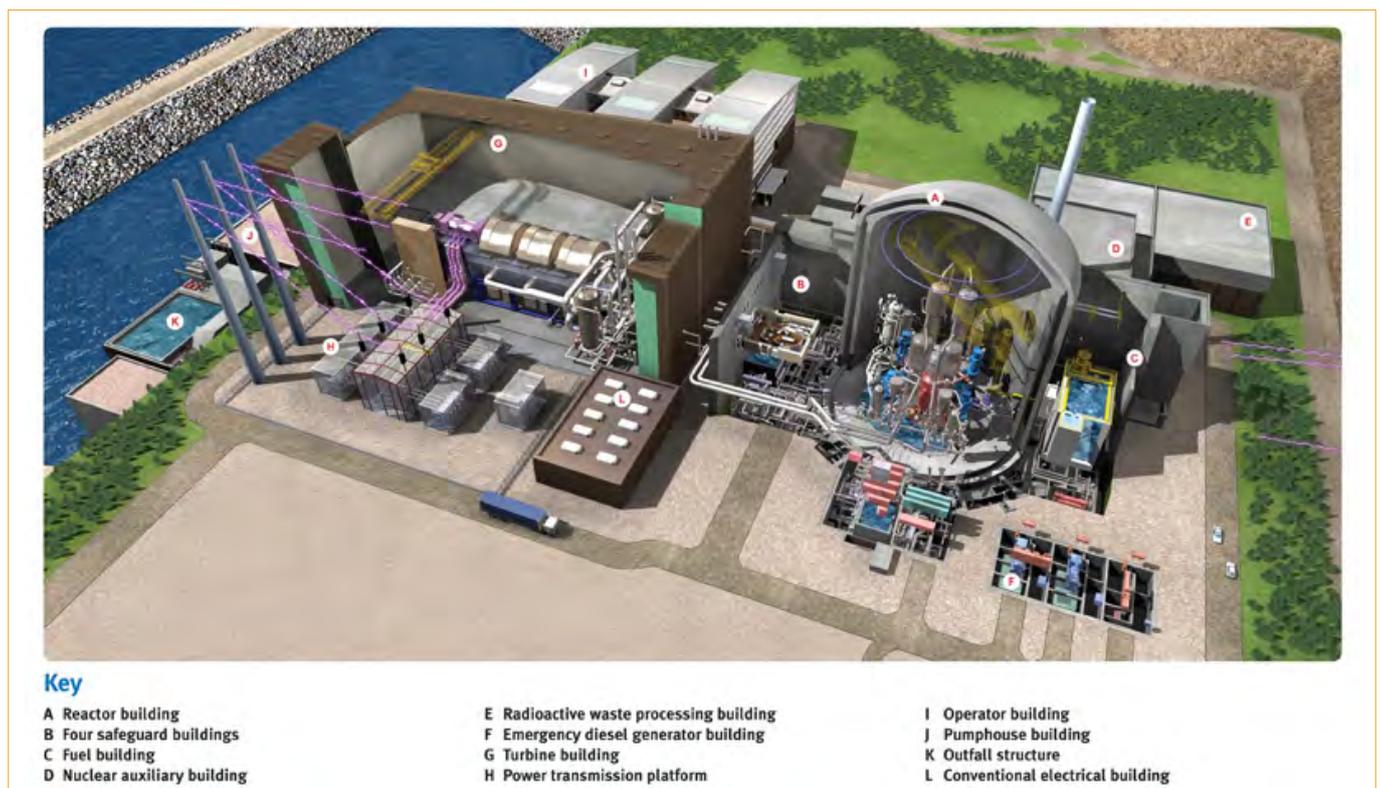


Figure 2.1: Illustrative UK EPR Reactor Unit Layout

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## Sustainability

- 2.2.11 Many definitions of sustainable development exist. The common objective is to strike a balance between social, economic and environmental objectives to meet the needs and aspirations of people today, without compromising the ability to meet those of future generations.
- 2.2.12 This is captured within EDF Energy's sustainability commitments progress report (spring 2012), which states:
- 'Sustainability leadership means responding courageously and constructively to the world's most critical social, ecological and economic challenges. It means enhancing life today without compromising life tomorrow. It means operating our business in a genuinely sustainable way'.*
- 2.2.13 New nuclear build is sustainable because of its low carbon emissions and because it would provide secure electricity supply at a stable, affordable cost. Building on these inherent benefits, we would work to enhance the sustainability of the Project through its design, construction and operation.
- 2.2.14 In defining our approach we would have full regard to:
- › our own corporate sustainability ambitions;
  - › experience from Hinkley Point C in Somerset, where we have already brought forward proposals for a new nuclear power station;
  - › relevant planning policy and best practice to influence the sustainability of the Project;
  - › local stakeholders' needs and expectations; and
  - › the impact of climate change.

## Spent fuel and radioactive waste

- 2.2.15 We would ensure that the management of spent fuel and radioactive waste generated at Sizewell C protects both people and the environment and is consistent with UK policy and legislation.
- 2.2.16 The UK EPR design generates less spent fuel than other nuclear reactors in the UK per unit of electricity generated. It optimises fuel use which, when coupled with fuel design and manufacture, ensures that less radioactive spent fuel is created.
- 2.2.17 Spent fuel removed from the reactor would initially be stored underwater in a reactor fuel pool. Following this initial storage period, the spent fuel assemblies would be transferred to the separate on-site Interim Spent Fuel Store (ISFS) where they would be safely stored until a UK Geological Disposal Facility is available and the spent fuel is suitable for final disposal.
- 2.2.18 The ISFS would be designed for a life of at least 100 years, which could be extended if necessary. The ISFS would be designed to be capable of operating independently of other parts of the power station in recognition that its lifetime would, under current assumptions, extend beyond the operational life and decommissioning of the other facilities on-site.
- 2.2.19 The design of the UK EPR planned for Sizewell C includes a number of measures aimed at limiting the amount of radioactive waste generated. Radioactive waste generated at Sizewell C would fall into two categories – Low Level Waste (LLW) or Intermediate Level Waste (ILW).
- 2.2.20 LLW would be disposed of as soon as reasonably practicable, following treatment to limit its volume and then appropriate conditioning or packaging.
- 2.2.21 ILW would be conditioned and packaged on-site throughout the operational phase. The packages would be safely stored in the ILW Interim Storage Facility until a UK Geological Disposal Facility is available to accept waste from Sizewell C for disposal.
- 2.2.22 As with the ISFS, the ILW Interim Storage facility would be capable of life extension if necessary.

## Emergency preparedness

- 2.2.23 We make the safety of our nuclear power stations our overriding priority. At all of our operating power stations we have well-developed plans to deal with emergencies, including contingency plans in the extremely unlikely event of an unplanned release of radioactive material off-site. These plans are underpinned by our legal obligation to demonstrate that the risks are as low as reasonably practicable.
- 2.2.24 We would work with the local authorities to ensure there would be appropriate off-site emergency plans to cover Sizewell C (including its workers during the construction phase), in order to comply with the relevant provisions of the Radiation (Emergency Preparedness and Public Information) Regulations 2001. These emergency arrangements would be regularly reviewed, practised and updated, and assessed by our regulator, the Office for Nuclear Regulation.
- 2.2.25 Information and advice on the existing power stations' off-site plans can be found at:  
[www.suffolkresilienceforum.onesuffolk.net/information-and-advice/sizewell](http://www.suffolkresilienceforum.onesuffolk.net/information-and-advice/sizewell).



## Decommissioning

- 2.2.26 At the end of electricity generation at Sizewell C the site would be decommissioned. The process of decommissioning would be divided into a number of activities leading to the clearance and de-licensing of the site and ultimately its release for re-use.
- 2.2.27 The UK EPR has been designed with decommissioning in mind, enabling radioactive waste quantities to be limited when decommissioning takes place.
- 2.2.28 The decommissioning strategy to be employed for Sizewell C would be “early site clearance”. Decommissioning would begin as soon as practicable after the end of electricity generation at the site. The decommissioning of Sizewell C, with the exception of the ISFS, could be achieved within approximately 20 years of the end of generation.
- 2.2.29 The ISFS would continue to operate until a UK Geological Disposal Facility is available and the spent fuel is ready for disposal.
- 2.2.30 Before decommissioning could take place, we would need to obtain separate consent from the Office for Nuclear Regulation under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999. This requires the submission of an Environmental Statement following an Environmental Impact Assessment and a period of public consultation.

## Funding of decommissioning and waste disposal

- 2.2.31 The Energy Act 2008 requires that the operator of a new nuclear power station has a Funded Decommissioning Programme (FDP), approved by the Secretary of State, in place before construction work on buildings with nuclear safety significance commences.
- 2.2.32 The costs of decommissioning, waste and spent fuel management (after the end of electricity generation) and disposal of all ILW and spent fuel waste would be funded through the FDP. Under these arrangements, we would ensure that funds are set aside over the operating life of the power station to cover these costs in full.
- 2.2.33 In parallel with the FDP arrangements, it is proposed that there would be a waste transfer contract with the Government. Under this, the Government would ultimately take title to - and liability for - the ILW and spent fuel in exchange for a payment to cover the costs of management, storage and disposal post-decommissioning.

- 2.2.34 The Government has created the independent Nuclear Liabilities Financing Assurance Board (NLFAB) to provide impartial scrutiny and advice on the suitability of the FDP submitted by operators of new nuclear power stations. NLFAB would advise the Secretary of State on the financial arrangements that operators submit for approval.

## Acquiring land

- 2.2.35 We currently own the proposed Sizewell C operational site, which forms part of the EDF Energy estate<sup>4</sup>. However, we would need to acquire further land to enable some of the necessary construction activities and associated development to take place.
- 2.2.36 We are committed to acquiring the land necessary for the development through private agreement with the land owners. However, as part of the development consent application, we would apply for powers of compulsory purchase. If granted, we would only use these powers as a last resort.

## Hinkley Point C, Somerset

- 2.2.37 After completing extensive pre-application consultation, we submitted an application for development consent for our proposals for a new nuclear power station at Hinkley Point in October 2011. These proposals were examined by the Planning Inspectorate which will submit its recommendations to the Secretary of State by 21 December 2012, after which the Secretary of State will announce his decision within three months. More information can be found at:  
<http://infrastructure.planningportal.gov.uk/projects/south-west/hinkley-point-c-new-nuclear-power-station>.

## Other local development proposals

- 2.2.38 Galloper Wind Farm Limited (GWFL) have submitted a development consent order application for a new offshore wind farm off the Suffolk coast. The electrical export cables are planned to come ashore at Sizewell and connect to the national electricity transmission network at a new substation adjacent to the Greater Gabbard Wind Farm substation to the west of Pillbox field. Agreement has been reached between GWFL and EDF Energy on how the two projects can co-exist satisfactorily.

<sup>4</sup> The EDF Energy estate means all the land EDF Energy owns in the area - some 650 hectares in all.

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## 2.3 Planning and public consultation

- 2.3.1 We are still in the early stages of the planning and consultation process for Sizewell C. Many key decisions are still to be made, following this Stage 1 consultation, and this consultation is your first opportunity to obtain information about the plans and give us formal feedback on our work to date. We encourage you to share your views and feedback in order to help us develop our proposals.
- 2.3.2 In applying for consent to build Sizewell C, we will follow the usual procedures for what are known as ‘nationally significant infrastructure projects’ or NSIPs. These include developments such as airports, reservoirs and power stations.
- 2.3.3 We will apply to the Secretary of State under the Planning Act 2008 for development consent to construct and operate the power station and its associated development. This application will contain details of all our development proposals, an environmental statement, and a report on our pre-application consultation activities.
- 2.3.4 The Planning Inspectorate, acting as the examining authority, will examine our application and make recommendations to the Secretary of State who will make the final decision. The Secretary of State will make his/her decision in accordance with national policy, taking into account the local impacts of the proposals.

### The consultation

- 2.3.5 Our approach to consultation is to provide information, respond to questions and listen to suggestions as we prepare the development consent application that we intend to submit to the Secretary of State. This does not mean that we undertake to agree with every comment or accept every suggestion but it does mean that we will give them proper consideration.
- 2.3.6 Planning legislation requires NSIP developers to carry out extensive consultation before submitting their development consent application. The pre-application consultation is the best time for consultees to influence a project – by indicating whether or not they support it and suggesting ways of improving it or ways to mitigate its impacts.
- 2.3.7 Your feedback is encouraged. We want to hear your views and learn from your knowledge and experience in order to develop our strategy and proposals.

### Statement of Community Consultation

- 2.3.8 Before we began the formal consultation of which this document is part, we published a Statement of Community Consultation in accordance with our statutory obligations. In preparation for this we consulted the relevant local authorities about what it should contain. For more information see <http://sizewell.edfenergyconsultation.info>.

- 2.3.9 In preparing and planning this consultation exercise we have taken account of all the relevant Government and Planning Inspectorate guidance. For more information see <http://infrastructure.planningportal.gov.uk/legislation-and-advice>.

### The formal consultation process

- 2.3.10 The consultation will be an iterative and interactive process, consisting of the following stages:
- Stage 1 consultation**
- 2.3.11 We are currently in Stage 1, consulting on our initial proposals and options and setting out our broad plans for the new nuclear power station and the associated development supporting it.
- 2.3.12 The Stage 1 proposals fall into two broad groups. There are those where we set out proposals unlikely to change (for example the location of the power station or the design of the reactors). Then there are those where the proposals could be changed as a result of responses to our consultation or further technical or environmental studies.
- 2.3.13 An **Environmental Report** has been published alongside this Stage 1 consultation document. The purpose of the **Environmental Report** is to provide preliminary environmental information as part of the Stage 1 consultation process.
- 2.3.14 A **Transport Strategy and Supporting Information** document has also been published alongside this Stage 1 consultation document. This explains that we are following a robust and evidence-based process for assessing the likely traffic impacts of Sizewell C.
- 2.3.15 We have also published a short summary document for local communities. This outlines the main proposals and key areas for feedback.
- 2.3.16 Copies of all these documents are available online at: <http://sizewell.edfenergyconsultation.info> and in hard copy at the locations listed in **Chapter 1 – How to respond to this consultation**.

### Further stages of consultation

- 2.3.17 Following Stage 1 of the consultation, we will consider all responses and feedback and take this into account to inform the development of our plans. We will then publish our preferred options in a Stage 2 consultation, where we will set out our preferred proposals taking account of the feedback received. Stages 1 and 2 may be supplemented by further limited, focused stages of consultation if necessary.

# 3 The Sizewell C Site

- › 3.1 Introduction
- › 3.2 Site character and environment
- › 3.3 Permanent development
- › 3.4 Construction and temporary development
- › 3.5 Restoration

This chapter sets out information on the Sizewell C site, its key environmental characteristics and our proposed permanent and temporary developments on the development site. We want to hear your views on the proposed development.



## 3.1 Introduction

3.1.1 The main Development Site would comprise the nuclear power station and related infrastructure, as well as construction areas to the north-west and land adjacent to Eastlands Trading Estate (**Figure 3.1**). This chapter sets out:

- › the characteristics of the site, including some key environmental considerations;
- › permanent development; and
- › temporary land use during construction.

3.1.2 The permanent development would include:

- › two UK EPR reactor units comprising reactor buildings and associated buildings (the 'Nuclear Island'), turbine halls and electrical buildings (the 'Conventional Island');
- › cooling water infrastructure including pumphouses, associated buildings, tunnels extending out to sea and headworks;
- › fuel and waste storage facilities including interim storage for nuclear waste and spent fuel;
- › external plant including bulk storage tanks;
- › operational Service Centre and ancillary, office and storage buildings;
- › transmission infrastructure including a National Grid 400kV substation, removal and relocation of one existing national grid pylon/tower and associated realignment of power lines;
- › internal roads, a bridge, car parking and a helipad;
- › access road to adjoin the B1122 and related junction improvements;
- › sea protection;
- › Simulator Building/Training Centre;
- › a Sizewell Visitor Centre; and
- › landscaping of the areas to be restored following their use during construction.

3.1.3 Temporary land use for construction purposes (development that would last for around the length of the construction period) would include:

- › construction working areas – laydown areas, workshops, storage and offices;
- › temporary structures including a concrete batching plant;
- › spoil/stockpile storage;
- › temporary bridges between the power station and associated works areas;
- › a jetty - part of which could remain permanently;
- › a temporary rail extension into the construction site (see **Chapter 6**, Freight by rail);
- › works areas on the foreshore for the installation of cooling water infrastructure and sea protection;
- › construction roads, fencing, lighting and security features;
- › site access arrangements and coach, lorry and car parking; and
- › a Development Site accommodation campus (see **Chapter 5** – Option 1: Development Site Campus).



3.1.4 Some associated development would also be needed outside of the main site to support accommodation and transport of some of the workforce and to ensure efficient movement of construction materials. Details of this associated development can be found in **Chapters 5 and 6**.

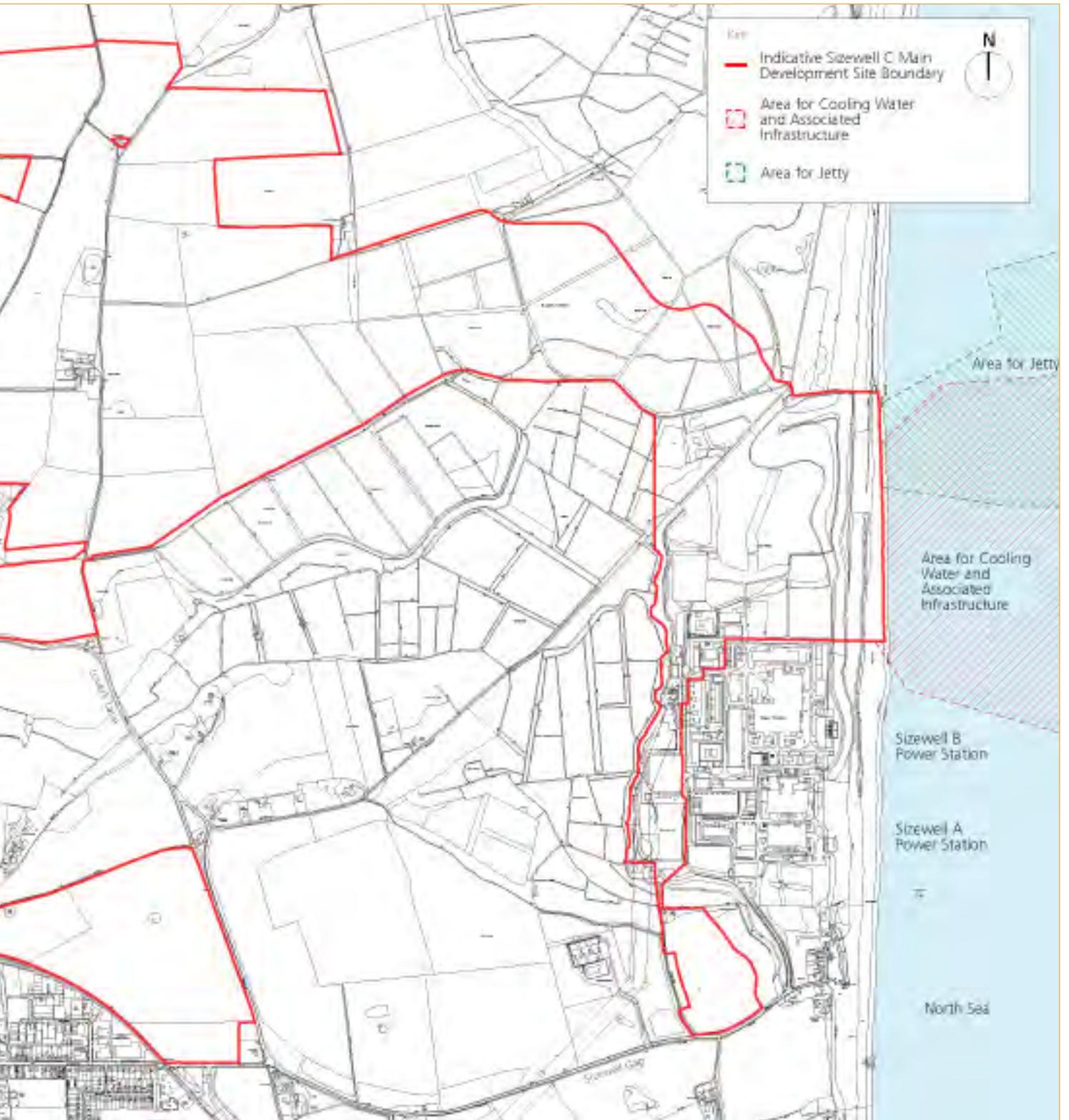


Figure 3.1: Indicative Sizewell C Development Site location plan

## 3.2 Site character and environment

- 3.2.1 The main Sizewell C site lies immediately north of the existing nuclear power station complex. The development we are proposing includes the power station itself and related infrastructure, together with areas temporarily required for construction.
- 3.2.2 The site, located in an area involved in nuclear energy generation since 1966, is in close proximity to the hamlet of Sizewell and is near to the town of Leiston. It is within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) and on the Suffolk Heritage Coast. It also borders – and lies partly within – an area of ecological sensitivity, the Sizewell Marshes Site of Special Scientific Interest (SSSI). A number of other European, national and local environmentally designated sites are close to, or partly within, the proposed Development Site.
- 3.2.3 In preparation for Sizewell C, we have been carrying out a series of studies of the environment on and around our estate. These studies have given us an understanding of what exists now and will establish a benchmark against which we can assess the potential environmental impact of Sizewell C, should it go ahead.
- 3.2.4 Details of the environmental designations and initial studies can be found in the **Environmental Report** published alongside this consultation document.
- 3.2.5 Some key environmental considerations arising from Sizewell C and outlined in this section are:
- › Landscape;
  - › Ecology;
  - › Recreation;
  - › Historic environment;
  - › Noise and vibration;
  - › Coastal processes;
  - › Marine ecology and water quality;
  - › Fisheries; and
  - › Flood risk assessment.
- 3.2.6 These and other environmental considerations are also addressed in the **Environmental Report**.

### Landscape

- 3.2.7 A key consideration for the siting of the development has been to take account of local landscape sensitivity during the phases of construction and operation.
- 3.2.8 We will consult with key stakeholders, including Natural England, the local authorities and the local AONB Partnership, as we prepare a landscape strategy for the development.
- 3.2.9 Our aim is to accommodate the power station development appropriately within the AONB, and to make long-term landscape improvements once the power station is built (see **Figure 3.2**).





Figure 3.2: Indicative operational landscape plan

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## Ecology

- 3.2.10 Our studies have identified a broad range of animal and plant species in and around the EDF Energy estate including bats, reptiles, insects, badgers, otters and water voles, as well as important breeding and wintering bird species such as the Red-throated Diver. We are committed to working to limit potential impacts on all these species and their habitats which may arise from the Sizewell C development.
- 3.2.11 Sizewell C also adjoins the Sizewell Marshes SSSI, a small part of which we propose to develop. Approximately 6.4 hectares of the SSSI would be disturbed during construction and approximately 4.6 hectares would be removed permanently.
- 3.2.12 We are actively exploring opportunities to provide replacement habitat of similar quality to the existing SSSI. Detailed proposals will be drawn up in consultation with the local authorities, Natural England and the Environment Agency.
- 3.2.13 Within the SSSI, there is an ecological and hydrological corridor between the proposed Sizewell C site and Goose Hill and other woodland north of the Sizewell marshes. The corridor connects the Sizewell Marshes SSSI to the Minsmere-Walberswick Heaths and Marshes SSSI/Special Area of Conservation (SAC) and provides a drainage channel, allowing water from the marshes to flow north to the sea at Minsmere Sluice.
- 3.2.14 The proposed development of Sizewell C includes building bridges across the Sizewell Marshes SSSI watercourses, as discussed later in this chapter. The environmental and ecological qualities of the SSSI will be taken into account in the bridge design.

## Recreation

- 3.2.15 The area around Sizewell is used for a range of recreational activities, including walking, fishing, horse-riding, cycling and bird watching. The AONB has a network of footpaths, including the long-distance Sandlings Walk and Suffolk Coast Path.
- 3.2.16 Minsmere Nature Reserve, north of the Sizewell C site, is owned by the Royal Society for the Protection of Birds (RSPB) and is home to a range of birds. Leiston Abbey, west of the Sizewell site, is an English Heritage Guardianship site. It houses and is owned and managed by the Pro Corda Music School. Other recreational resources near Sizewell include the leisure and tourist facilities of the town of Leiston.
- 3.2.17 There would be potential impacts on these recreational resources during the Project, with most occurring temporarily during the construction period. We would seek to reduce these impacts where practicable and mitigate impacts where necessary.
- 3.2.18 During the construction phase of Sizewell C, we would need to close or temporarily divert some footpaths in and around the construction site. A small section of the Suffolk Coast Path would need to be closed during the construction phase. However we would aim to close this path only when necessary during essential engineering works.
- 3.2.19 For the operational period we would look at opportunities for enhancing the footpath network in consultation with key stakeholders.

## Historic environment

- 3.2.20 We are committed to taking the historic environment – including archaeology and heritage assets such as Leiston Abbey – into full consideration in the development of the Sizewell C Project.
- 3.2.21 On the Sizewell C site, we would consider impacts on any buried archaeology (both near surface and at depth in the case of the substantial peat deposits beneath the proposed reactor site), historic landscape and submerged (offshore) remains.
- 3.2.22 A range of surveys have already been undertaken to identify potential features and these will continue in 2013. If features of archaeological interest are found, an appropriate strategy for excavation and recording will be agreed with the local authorities and English Heritage.
- 3.2.23 We will also be considering heritage assets (including listed buildings, scheduled monuments, and conservation areas) in the vicinity of the site which may have their settings impacted by the development.
- 3.2.24 We have undertaken initial baseline surveys of these heritage assets and will undertake further studies to identify the sites most affected. We will discuss measures for managing any impacts with the local authorities and with English Heritage.

## Noise and vibration

- 3.2.25 The construction of Sizewell C has the potential to cause adverse effects on background noise levels. In order to give us a better understanding of the likely scale of these impacts, initial baseline surveys have been carried out and further surveys are planned.
- 3.2.26 We are conscious that there could be off-site noise and vibration impacts from Heavy Goods Vehicle (HGV) traffic and rail movements and we will consider this carefully in developing our transport strategy (see **Chapter 6**).
- 3.2.27 Further details of these baseline surveys can be found in the **Environmental Report** published alongside this document.



## Coastal processes

- 3.2.28 We have been monitoring coastal processes in the area surrounding Sizewell C for a number of years and we play an active role in the Sizewell Shoreline Management Steering Group (SSMSG), a review body for matters of coastal significance that advises Sizewell A and Sizewell B. We have a variety of studies under way to improve our understanding of these processes and guide the development towards appropriate engineering solutions.
- 3.2.29 These studies will help us decide how best to protect Sizewell C while limiting effects on the local environment as far as practicable. The future evolution of the coastline itself and the offshore Sizewell and Dunwich Banks are being considered as part of these studies.
- 3.2.30 Minsmere Sluice is an important feature to the north of Sizewell. As described in the local Shoreline Management Plan, the seaward extension of the sluice acts as a control point on the alignment of the local shoreline.
- 3.2.31 Our studies will consider any potential long-term interactions between the Minsmere Sluice, local shores and Sizewell C. We will consult with key stakeholders, including the Environment Agency, local authorities, and the RSPB.

## Marine ecology and water quality

- 3.2.32 The construction and operation of Sizewell C would also require some offshore and cross-shore development, including a jetty (see later section) and cooling water infrastructure. During the operation of Sizewell C, water would be drawn from the sea to provide plant cooling and then returned to the sea. This process has the potential to impact marine ecology and marine water quality.
- 3.2.33 We are running an extensive programme of marine studies to develop our understanding of potential impacts on the marine environment and guide engineering design. The cumulative effects from other developments, such as Sizewell B power station and offshore wind farms, have been carefully considered. We will consult on our proposals with key stakeholders, including the Environment Agency, Natural England and the Marine Management Organisation.

## Fisheries

- 3.2.34 Commercial fishing boats from Lowestoft, Southwold, Dunwich, Aldeburgh, Orford and Felixstowe may at various times of the year fish along the 25km stretch of coastline between Thorpeness and Dunwich. This includes fishing by longline, fixed and drift nets, and the use of pots. The most important species include cod, sole, thornback ray, bass, brown crab, herring and lobster.

- 3.2.35 At both Sizewell and Dunwich a single commercial boat (less than 10m long) is operated off the sand and shingle beach. Angling charter boats use the area and there is recreational fishing along the Sizewell and Dunwich beaches.
- 3.2.36 The potential impacts on fisheries from the construction of Sizewell C relate to the likely presence of exclusion zones around offshore construction areas and vessel movements to and from the site. These could affect inshore fishing grounds and activities. During operation, potential fisheries impacts would be associated with the abstraction and discharge of cooling water.
- 3.2.37 The impacts on fisheries of other operations such as Sizewell B and offshore wind farms are also being carefully considered.

## Flood risk assessment

- 3.2.38 Our proposals for Sizewell C will take into account risks associated with flooding from the North Sea and nearby rivers and other watercourses, including any risks that may arise through climate change.
- 3.2.39 The development of the site could have the potential to increase flood risk resulting from changes to local land levels, physical works in or near existing surface watercourses and changes to surface water run-off.
- 3.2.40 To develop a flood risk assessment for Sizewell C that addresses impacts arising from its construction and operation, we will need to consider flood risk scenarios that include:
- › requirements for site safety and access;
  - › site drainage strategy;
  - › sea level rise;
  - › coastal and flood defence management;
  - › the local Shoreline Management Plan and in particular, the existing and future status of Minsmere Sluice - its drainage function and its physical impact upon coastal processes; and
  - › suitable mitigation measures and possible allowance for future flood defence adaptation.
- 3.2.41 We will work closely with the Environment Agency and other key stakeholders, including the local authorities and the local Internal Drainage Board, to develop a robust flood risk assessment and to agree suitable mitigation measures.

## 3.3 Permanent development

### Siting considerations for the power station

3.3.1 The key operational elements of the power station site lie within the approved Sizewell Strategic Siting Assessment (SSA) area included in the National Policy Statement for Nuclear Power Generation (EN-6). Furthermore, in accordance with clause 2.3.4 of EN-6, the proposals include land additional to that identified in the SSA for other elements of the power station, including for car parks, access roads and marine landing facilities, and for the construction of the power station. Our proposed location for the permanent development has also been guided by the need to:

- › limit usage of the Sizewell Marshes SSSI, including avoiding key woodland belts within the designation;
- › retain the screening and landscape value of the northern mound, a landscape feature created as part of development of Sizewell B, which provides a substantial buffer between the power station site and the Minsmere–Walberswick Special Protection Area (SPA) to the north; and
- › maintain the Sizewell A and B eastward building structure limit to maintain a general north-south alignment along the foreshore.

3.3.2 Taking these considerations into account, our proposed permanent footprint for Sizewell C would be contained within the key landscape boundary features surrounding the site (see **Figure 3.3**).

### Approach to power station layout and design

3.3.3 The layout of the key building groupings proposed for Sizewell C, including the Nuclear Island and Conventional Island, is the same as the one we are adopting for our proposed power station at Hinkley Point in Somerset.

3.3.4 While some details of the Sizewell C design are still to be decided, the essential power station layout is largely fixed. The UK EPR design is undergoing a rigorous safety assessment (see **Chapter 2** – Generic Design Assessment).

3.3.5 Our approach to the proposed design and layout of Sizewell C takes into account the sensitive nature of the surrounding environment. The amount of land needed for the permanent development on the main site would be less than that proposed for Hinkley Point C. This has been achieved mainly by locating some of the buildings and uses away from the main site including the Simulator Building/ Training Centre, the Visitor Centre and car parking.





Figure 3.3: Indicative operational masterplan

## Power station platform levels

3.3.6 We envisage that the power station would be built at a platform level similar to Sizewell B (6.4m Above Ordnance Datum). Further technical and environmental studies are required to establish the final level.

## Cooling water infrastructure

3.3.7 The development of Sizewell C would include installation of sea water intake and outfall tunnels and associated infrastructure to ensure the safe and efficient operation of the plant (see **Figure 3.4**). This would mean using an area of the foreshore for construction works. Work to determine the location for these structures is well advanced and there is a high level of certainty over the positioning of key structures including intake and outfall heads.

## Supporting infrastructure

3.3.8 Some work to the National Grid high voltage transmission system would be needed. As part of our application for development consent we will propose a new National Grid 400kV substation on land currently used by Sizewell B. This would provide the connection for Sizewell C to the transmission system.

3.3.9 One National Grid pylon would be removed and relocated to allow the overhead lines to connect to the new substation.

3.3.10 Flood defences and coastal protection would be implemented along the sea frontage of Sizewell C. Technical studies are under way to help determine the design. These studies will take into account the landscape, ecological and nature conservation needs, hydrological and coastal processes, and the recreational value of maintaining the Coast Path as an integral part of the foreshore.

## Access

- 3.3.11 Our plans include a new access road linking the proposed Sizewell C site to the B1122.
- 3.3.12 The new road would be the principal means of bringing workers and materials into the site during construction and would provide the main access for Sizewell C once construction is complete and the station is operational (see **Figure 3.3**).
- 3.3.13 The new road would meet the regulatory requirement that all new nuclear power station sites have two separate accesses. It would provide the primary access to the site, with the current route to the existing Sizewell power stations providing a secondary access.
- 3.3.14 We are proposing to build a permanent bridge (as well as two temporary bridges, see **Chapter 3** – Other requirements) across the SSSI watercourses between the main power station and the new access road and planned permanent facilities to the north such as car parking. The permanent bridge would also be used during construction to facilitate traffic movement across the SSSI.

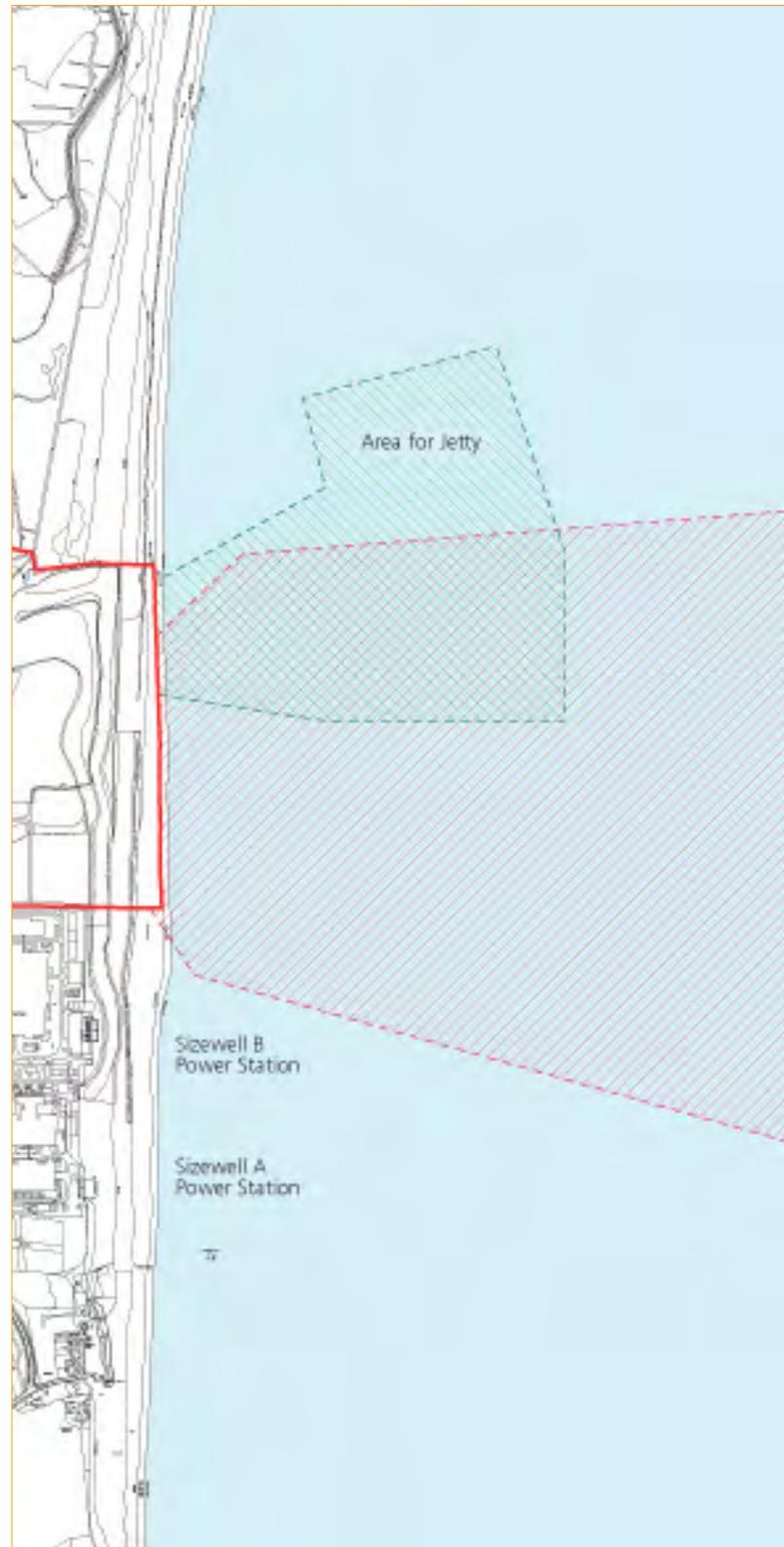




Figure 3.4: Indicative offshore works location plan

3.3.15 The bridge would be located to the north-west of the main power station. The design would take into account the environmental and technical constraints.

### Security fencing and lighting

3.3.16 Security fencing would be installed in and around the operational areas to control access to the site in accordance with regulatory requirements.

3.3.17 Lighting would be needed across the main platform area and other areas including the car park. Security lighting would also be needed at the fence lines. The design of the lighting would take account of the environmental sensitivities of the area.

### Visitor Centre

3.3.18 Our proposals include a new Visitor Centre for Sizewell. This would be shared with Sizewell B, eventually replacing the temporary Visitor Centre at the existing station. It would mostly be an education centre, although some of the site location options included in this consultation would offer views of the power stations as well.

3.3.19 We have identified potentially suitable sites for a Visitor Centre and considered their advantages and disadvantages in terms of their location, size and technical and environmental considerations.

3.3.20 We would like to hear your views on the following three options, whose general locations are shown in **Figure 3.5**:

- › Option 1: Lover's Lane;
- › Option 2: Sizewell Beach; and
- › Option 3: Goose Hill.

3.3.21 Option 1 is located north of Lover's Lane and close to the road. This site is next to one of the proposed accommodation campus options (Sizewell Gap Campus – see **Chapter 5**) and if both developments are taken forward they would share the same road access. One of the advantages of this site is that there would be distant views of the existing power stations and Sizewell C. There is also the potential to link the site with existing footpaths.

3.3.22 Option 2 is located at the end of Sizewell Gap road close to the Sizewell Beach car park and café. The advantages of this site are that it would be likely to attract wider tourist interest given its proximity to the beach. In addition, visitors would be able to view the power stations on short walks along the beach. While this site would be near to Sizewell A, there would be no direct views of either Sizewell B or C.

3.3.23 Option 3 is located in Goose Hill next to the proposed car park for Sizewell C and on the proposed new northern access road. It would provide the best view of Sizewell C of any of the options and would be well placed for visitors to walk to the beach.





Figure 3.5: Indicative Visitor Centre location options

## 3.4 Construction and temporary development

### Construction principles

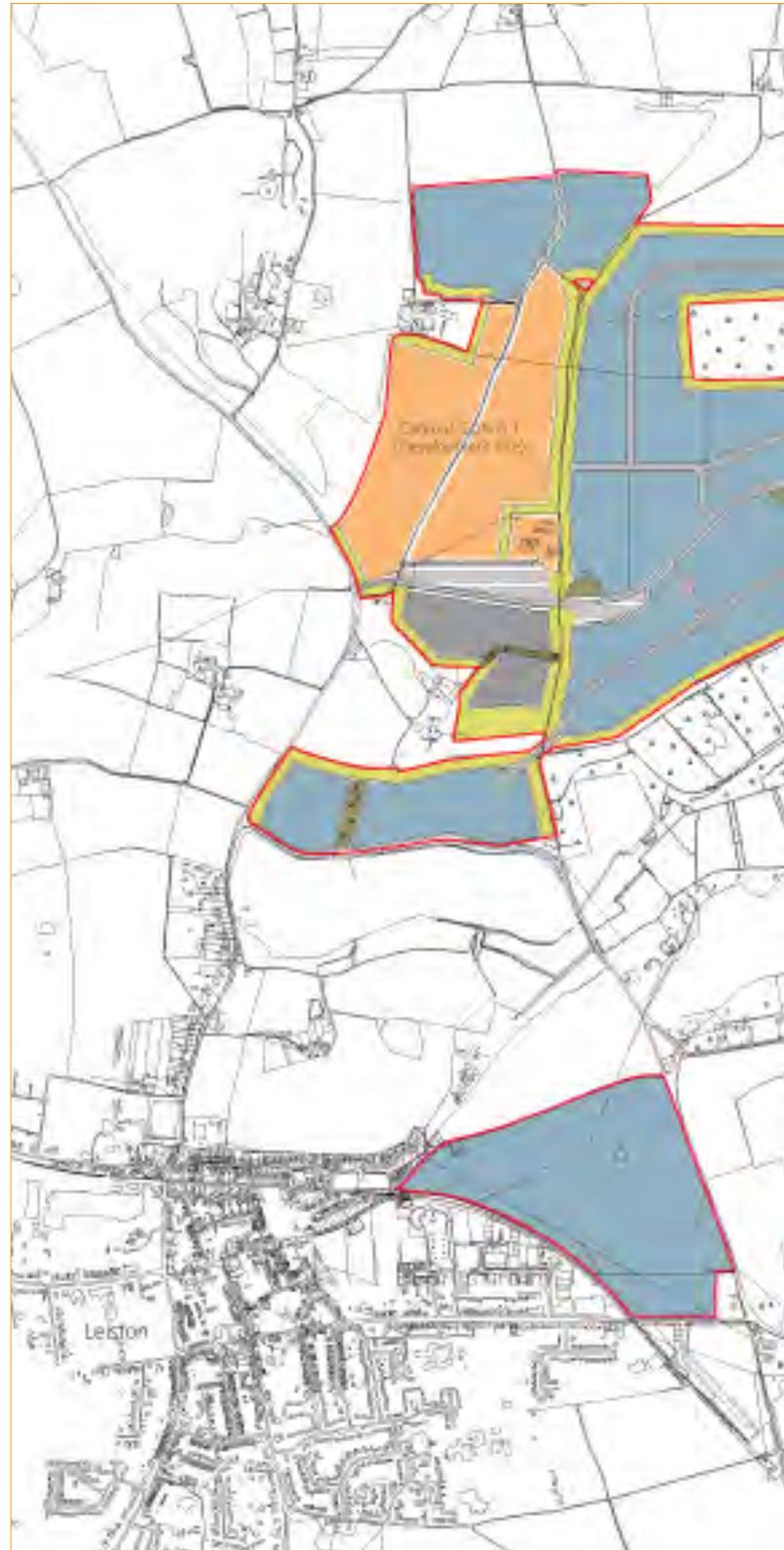
- 3.4.1 Our proposed construction would be guided by the following principles:
- › Being a good neighbour and ensuring that the needs and views of the community are taken into account.
  - › Creating long-term, sustainable opportunities for the community where practicable, for example through training, employment and support for joining our supply chain.
  - › Applying regulatory and company standards of safety, quality, sustainability and operational efficiency and construction practice.
  - › Reducing, as far as is practicable, potentially significant negative impacts and mitigating their effects.

### Clearing and preparing the site

- 3.4.2 In order to prepare the Sizewell C site for development, some works would need to take place before construction of the power station starts.
- 3.4.3 These works would include relocation of some buildings and activities at the northern end of the Sizewell B site to make space for the new power station. Areas being considered for relocation include Sizewell A, Sizewell B and part of Coronation Wood. We are also considering the potential use of part of the field known as Pillbox (see **Figure 3.6**) near the existing power station complex, for temporary purposes in connection with these early works.
- 3.4.4 We are also considering the scope and feasibility of other preparatory works which could include early site preparation activities for Sizewell C.

### Sizewell A and Sizewell B

- 3.4.5 Part of the detailed planning for Sizewell C would include ensuring that operations at Sizewell B and decommissioning of Sizewell A would not be adversely affected during the construction or operation of Sizewell C.



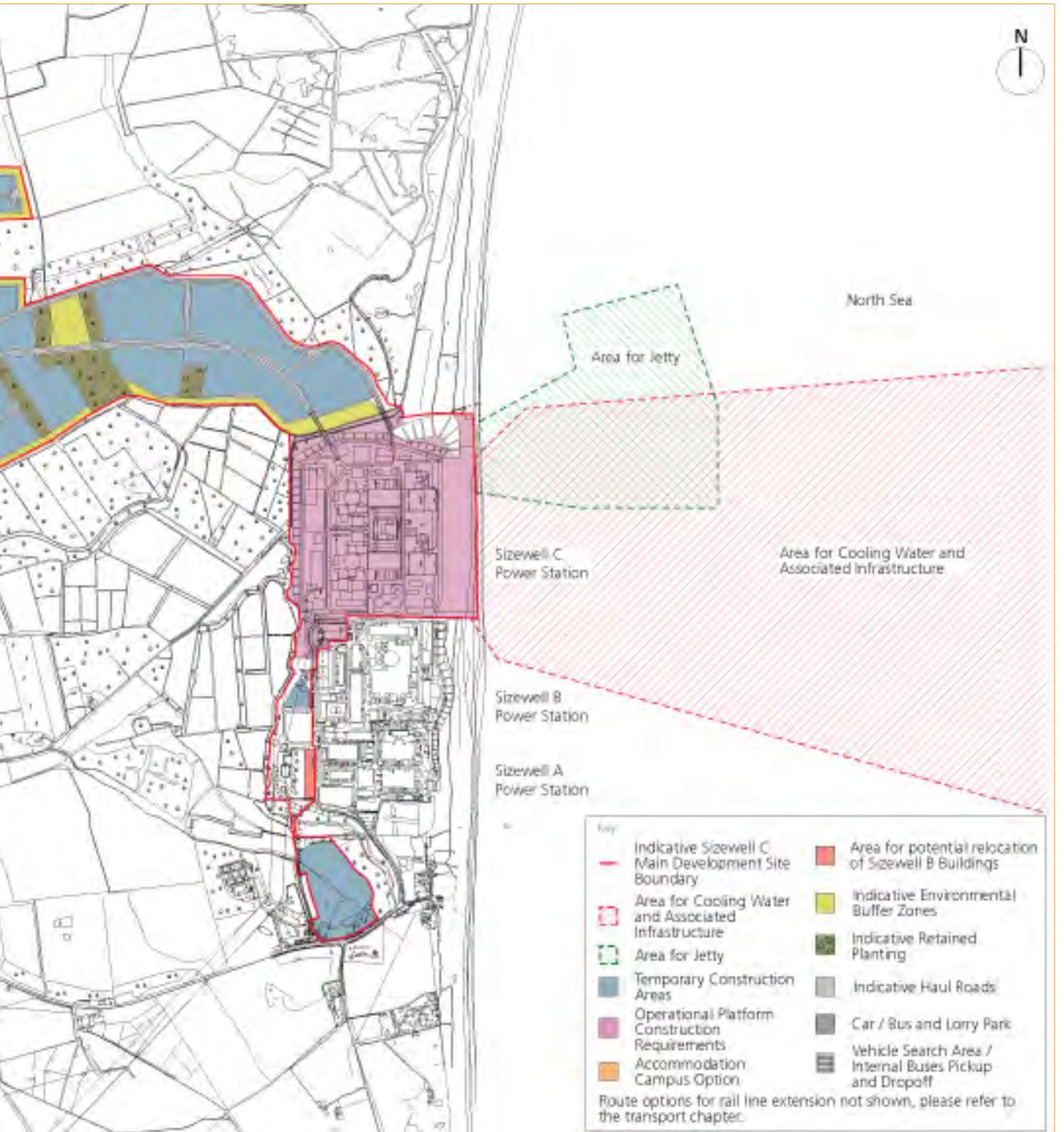


Figure 3.6: Indicative construction masterplan

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## Siting considerations for the construction area

- 3.4.6 The proposed location of land required temporarily for the construction of Sizewell C has been guided by the following considerations where practicable:
- › To locate construction activities with the potential to cause disturbance away from where people live.
  - › To avoid the most sensitive landscapes within the AONB.
  - › To limit the use of deciduous woodlands and significant hedgerows and tree belts.
  - › To avoid the non-essential use of land along the foreshore (in front of the proposed power station) that forms part of the Suffolk Heritage Coast.
  - › To be as near as possible to the power station construction site to reduce the logistical challenges of moving workers and construction materials, storing and backfilling spoil material and supporting construction activity.
  - › To locate construction areas near to the proposed new access road into the site.
  - › To use flat and well-drained land to avoid substantial regrading.
  - › To limit disturbance to bat habitats, feeding grounds and commuting corridors.
  - › To limit use of land within sites nationally designated for their nature conservation value.
  - › To give consideration to the potential for disturbance on European designated habitats, especially the Minsmere-Walberswick SPA located to the north of the power station site and the Outer Thames SPA located offshore where cooling water infrastructure is proposed to be located.
  - › To maintain access to recreation and amenity areas including public and permissive rights of way.
  - › To have regard to the setting of key heritage assets.
- 3.4.7 Given these considerations, we believe the optimum location for the majority of construction land would be an area within the Goose Hill plantation to the north-west of the construction site and, further west, farmland to the north of Kenton Hills and around Ash Wood. The land identified lies either side of the proposed route of the new access road from the B1122 to the power station site.
- 3.4.8 We recognise that our proposed area is in close proximity to some residential properties and we would work sensitively and sympathetically with those residents – with the objective of ensuring a satisfactory solution for those most affected.
- 3.4.9 There would be some loss of woodland in the Goose Hill area. However, the impact on the landscape would be limited because this area is well screened by the natural topography and by the woodland that would remain. The areas to the north of Kenton Hills and around Ash Wood are screened by the topography and by the existing woodlands and hedges.
- 3.4.10 We would retain the established woodland corridors running generally north to south, including the broad corridor of woodland and scrub from Great Mount Wood to Kenton Hills. Kenton Hills itself would be left un-developed in recognition of its ecological, landscape and local amenity value. The construction areas would be located well away from the boundary of the Minsmere-Walberswick SPA.
- 3.4.11 We propose to use land in Leiston immediately to the east of the Eastlands Trading Estate for construction purposes. This land could also be used for the potential rail extension (see **Chapter 6** – New rail terminal).
- 3.4.12 Other land proposed for construction support purposes is as follows:
- › Land either side of the public road to Eastbridge.
  - › Land to the north of Lover’s Lane and south of Leiston Old Abbey.
  - › Land next to the access road to the south of Upper Abbey Farm.
- 3.4.13 These areas are outside the AONB and generally have good field boundary screening.

## Construction requirements

### Construction working areas

- 3.4.14 Most of the land needed for construction would be occupied by the various contractors building the power station. Typical uses would include areas for storage of building materials and plant; land needed for fitting and pre-assembly of components; and more general requirements such as office and welfare facilities.
- 3.4.15 Key construction requirements that would be necessary on the power station construction site on a daily basis, such as concrete batching, would be sited as near as possible, while those requiring less interaction with the site would be located further away. Soil storage, for example, would fall into this category and would likely be located at the periphery of the Development Site. This type of use may offer opportunities to provide further physical separation between where people live and the busier elements of the construction site, and in doing so, help afford additional environmental protection.

### Spoil handling

- 3.4.16 The construction of Sizewell C would involve deep excavations in order to reach suitable foundation conditions for the power station. This would produce a large amount of spoil.



- 3.4.17 Although some of the spoil might be suitable for fill and landscaping, a significant proportion would be unsuitable and need to be removed due to its peat and clay content.
- 3.4.18 One option being examined for management of this unsuitable material would be to transport it by rail or sea to a new coastal nature reserve in the Crouch Estuary (Wallasea Island) that is being established by the RSPB.
- 3.4.19 While this and other options are being considered we have nevertheless allocated sufficient land onsite for storing and managing spoil. This could include the use of local material for backfilling purposes and a borrow pit.

#### **Bulk storage and concrete production**

- 3.4.20 Land would also be required for bulk storage of materials such as sand, aggregates and steel reinforcement bars, as well as areas for making concrete. Mechanical conveyors may also be required.

#### **Other requirements**

- 3.4.21 Two temporary bridges would be needed during the construction period to provide access between the main platform area and construction areas to the north-west across the SSSI corridor. The bridges, spanning the SSSI watercourses, would carry construction traffic, workers, construction materials and other services to the construction site.
- 3.4.22 The bridges would be located to the north-east of the main platform; positioned where they could cross the SSSI watercourses with a single span and be screened from Goose Hill to the north.
- 3.4.23 During construction, fencing would be needed along the perimeter of the construction area in order to contain the site activities and for security purposes. Fencing might also be used to protect natural features such as wildlife corridors through the construction area. Security lighting might be required at the fence line.
- 3.4.24 Lighting would also be needed during construction for the safety of work across the construction site. The design of the lighting would take into account environmental sensitivities.

## **Jetty**

- 3.4.25 We plan to build a jetty (known technically as a Marine Off-Loading Facility or MOLF) at the construction site. This would be used to deliver very large loads and bulk construction materials, and to export unusable excavated soil.
- 3.4.26 The design of the jetty would take account of the environmental and ecological properties of the foreshore. It might be necessary to retain some elements of the jetty structure on a permanent basis.
- 3.4.27 You can find more information about the overall transport issues in **Chapter 6** and the **Transport Strategy and Supporting Information** document.

## **Development Site accommodation campus**

- 3.4.28 Our strong preference is to locate an accommodation campus adjacent to the construction site. Details of this and the other possible sites are in **Chapter 5 – Campus site options**.

## **Environmental buffers and wildlife corridors**

- 3.4.29 During construction of Sizewell C, we would aim to protect important landscape and ecological features in or near the construction areas.
- 3.4.30 In particular, we would retain established broadleaf woodland belts which are corridors for bats connecting the more sensitive areas to the north and south of the site.

## **3.5 Restoration**

- 3.5.1 The land used for construction purposes would be restored once Sizewell C is operational. We are preparing a landscape strategy for the areas to be restored and enhanced. This strategy would also cover the wider EDF Energy estate.
- 3.5.2 The landscape strategy is likely to include the creation of some heathland-type habitat and reinstatement, where appropriate, of existing fields. We will be developing the strategy throughout the pre-application period. See **Figure 3.2** for an illustration of the indicative landscape proposals.



Students at Enterprise Centre opening day

# 4

## People and Economy

- › 4.1 Introduction
- › 4.2 Workforce profile
- › 4.3 Skills, education and training
- › 4.4 Local business opportunities



This chapter sets out the employment, education, training and long-lasting opportunities arising from the construction and operation of the Sizewell C Project. We would like to hear your views on these opportunities and would welcome your feedback on our proposals for working with the local communities.

## 4.1 Introduction

4.1.1 The Sizewell power station complex has been a major employer in the area for more than half a century, ever since the construction of Sizewell A began. Sizewell B currently employs about 750 people (and many more during its regular routine maintenance periods known as outages). The construction and operation of Sizewell C would maintain and expand Sizewell's contribution to employment and to the economy of the area for many years to come.

### Creating long-lasting opportunities

4.1.2 Sizewell C would be one of the biggest and most technologically complex construction projects ever built in the UK. A key benefit for the community would be the high quality employment and training it would generate. Many of the skills needed would be transferable.

4.1.3 Our approach throughout the construction and operation of Sizewell C would be shaped by our determination to build long-term sustainable skills for future generations as well as for those who work on the Project itself.

4.1.4 Sizewell C would also create many opportunities for businesses to supply their goods and services while the power station is being built and once it is operational.

4.1.5 We are committed to working with businesses in and around the Sizewell area to ensure they are in a strong position to make the most of these opportunities.

4.1.6 Some of the development associated with Sizewell C could also generate lasting and sustainable benefits for the community.

4.1.7 We are interested in hearing views from local people on how they think their communities could benefit from Sizewell C. This will help us as we work on the detailed proposals which would be presented at our Stage 2 consultation.

## 4.2 Workforce profile

4.2.1 The size of the Sizewell C workforce would vary over the course of the construction. At its peak the construction workforce would be about 5,600 people, see **Figure 4.1**.

4.2.2 Altogether, approximately 25,000 on-site roles would be created during construction of Sizewell C, and further opportunities would be created off-site via the supply chain and through increased economic activity (see later section on local business opportunities).

4.2.3 Individuals' careers at Sizewell C would be developed by moving from one role to another over the course of the Project.

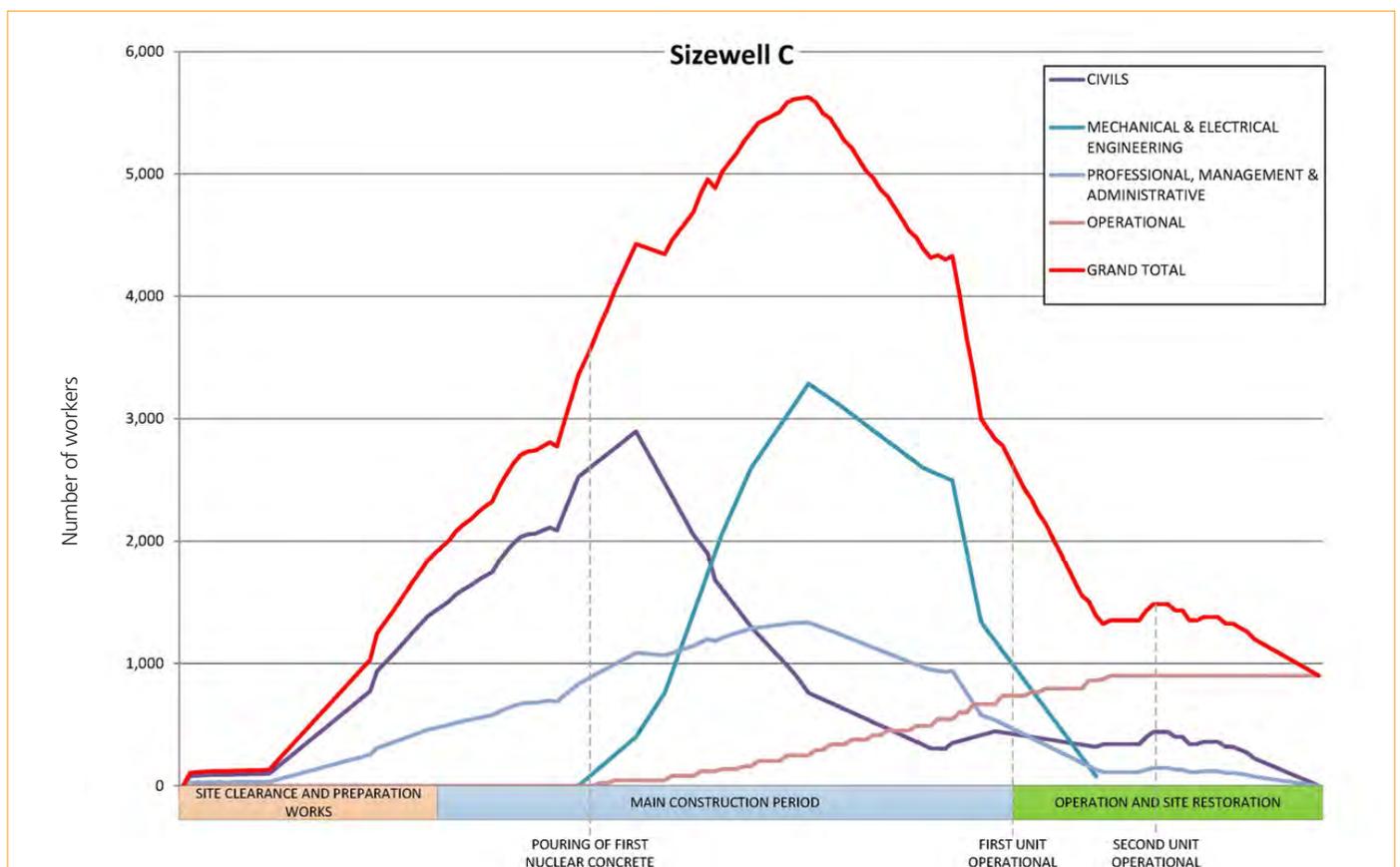


Figure 4.1: Indicative workforce profile



4.2.4 Employment at Sizewell C during construction falls into five main groups:

- › civil construction;
- › mechanical and electrical;
- › professional;
- › managerial; and
- › administrative and others.

4.2.5 Many other kinds of employees would be needed, in addition to construction workers, including canteen staff, secretaries and transport operatives, as well as professional and managerial staff. Jobs would also be created at the associated development sites, for example at the accommodation campus.

4.2.6 During the operation of the power station there would be about 900 roles available. Further employment would come during planned 'outages' – when, for four to six weeks every 18 months, each reactor would be shut down for routine maintenance. Around a further 1,000 people would be employed during each reactor outage, boosting spending in the area and expanding the demand for local accommodation.

### Shift patterns

4.2.7 Our current proposals are for a range of shift patterns to operate on the Sizewell C Project. These include 'double shift' arrangements, where we anticipate a first construction shift starting between 0600 and 0730, and a second construction shift finishing between 2200 and midnight. Shift handover would generally happen between 1330 and 1600, while there would be other arrangements for office personnel and construction workers on a single day shift. Some night working would also be required, which would involve smaller numbers of workers.

4.2.8 These shift patterns would aim to ensure efficient working while spreading movement of workers across the day and reducing travel during peak hours.

4.2.9 Different shift patterns would apply at weekends. Some construction staff might work a Saturday morning shift and others an alternating pattern – working one weekend and being off the following weekend. These arrangements would give non-home-based workers regular opportunities to return home.

## Sizewell C workers in the local community

4.2.10 We are committed to ensuring our workers integrate properly with the local community. We would put in place a code of conduct to which they would be expected to adhere, and there would be a robust and responsive system to investigate any complaints.

4.2.11 We recognise that the construction workforce would have an impact on local services, such as health and education, and therefore plans would be developed to support these services and help manage demand. We will work closely with the local authorities to find the most appropriate solutions.

4.2.12 Our plans will be informed by studies that are currently being undertaken to give us a good understanding of the services that currently exist.

## 4.3 Skills, education and training

4.3.1 In order to ensure people would be able to take up jobs on Sizewell C, it is important that we work in close partnership with local schools, colleges, businesses and other agencies to encourage and enable people to acquire the necessary skills.

4.3.2 We would also create an employment brokerage service to support local people seeking employment at Sizewell C.

4.3.3 A particular emphasis would be placed on helping people who are currently unemployed or economically inactive, or who need new skills or their current skills upgraded (see **Figure 4.2** for the employment pipeline).

### Education and skills for employment

4.3.4 We will work in partnership with schools, colleges, businesses, training providers, local authorities and central government to help build education programmes and skills appropriate for the area. We will seek to do this by:

- › raising awareness of the opportunities which will be available to people during the construction and operation phases of the development;
- › investing in people and resources to support the education, skills and employment programmes;
- › working with providers to develop timely interventions;
- › facilitating 'entry to the workforce' through apprenticeships, graduate schemes and skills development programmes focussing on developing access for the economically inactive and unemployed via up- and re-skilling;
- › ensuring workers at Sizewell C are able to develop a career and be involved in a number of different roles over the construction period; and
- › giving workers the transferable skills which can be used in other professions and industries in the future.

4.3.5 Our aim would be to find ways to bring the best out of the education and training available in the area by acting as a catalyst and an enabler. This could be through funding education and skills programmes, or by bringing together organisations to get the best out of the available opportunities.

4.3.6 Skills in science and technology will be in high demand. For example apprenticeships would be offered to those people with qualifications in the STEM subjects – science, technology, engineering and maths. Skills would also be needed in many other areas, ranging from business administration to carpentry, hospitality and catering.

4.3.7 Wherever practicable, we would also seek to collaborate with other organisations within the energy and construction sector in developing our education and skills proposals.

## 4.4 Local business opportunities

4.4.1 In addition to equipping local people with the skills and training they will need to make the most of the benefits provided by Sizewell C, we are also establishing the necessary supply chain for Sizewell C – and setting out the steps businesses can take to be considered as potential suppliers.

4.4.2 There would be a wide variety of commercial opportunities for a broad range of businesses, large and small. When Sizewell B was built, more than 3,000 UK companies were involved, nearly 700 of them based in East Anglia.

4.4.3 Some of the supply-chain opportunities would be highly specialised – for example supplying critical nuclear parts for the reactors. However, around 80% of the value of all the contracts for Sizewell C would relate to non-nuclear activities.

4.4.4 Suppliers should consider what is in their existing capacities as some work will have long lead-times and demand significant investment by the supplier.

4.4.5 It is worth noting that Sizewell C would be a large and complex project taking years to complete. While some supply-chain opportunities would be available from day one, others would not emerge until the Project had been under way for some time.

4.4.6 We have appointed Suffolk Chamber of Commerce to work with us, in partnership with Norfolk Chamber of Commerce. They have set up a website where businesses can register their interest in becoming suppliers: [www.sizewellsupplychain.co.uk](http://www.sizewellsupplychain.co.uk).

4.4.7 Other organisations will also be able to provide specialist help and guidance to businesses as the Project progresses.

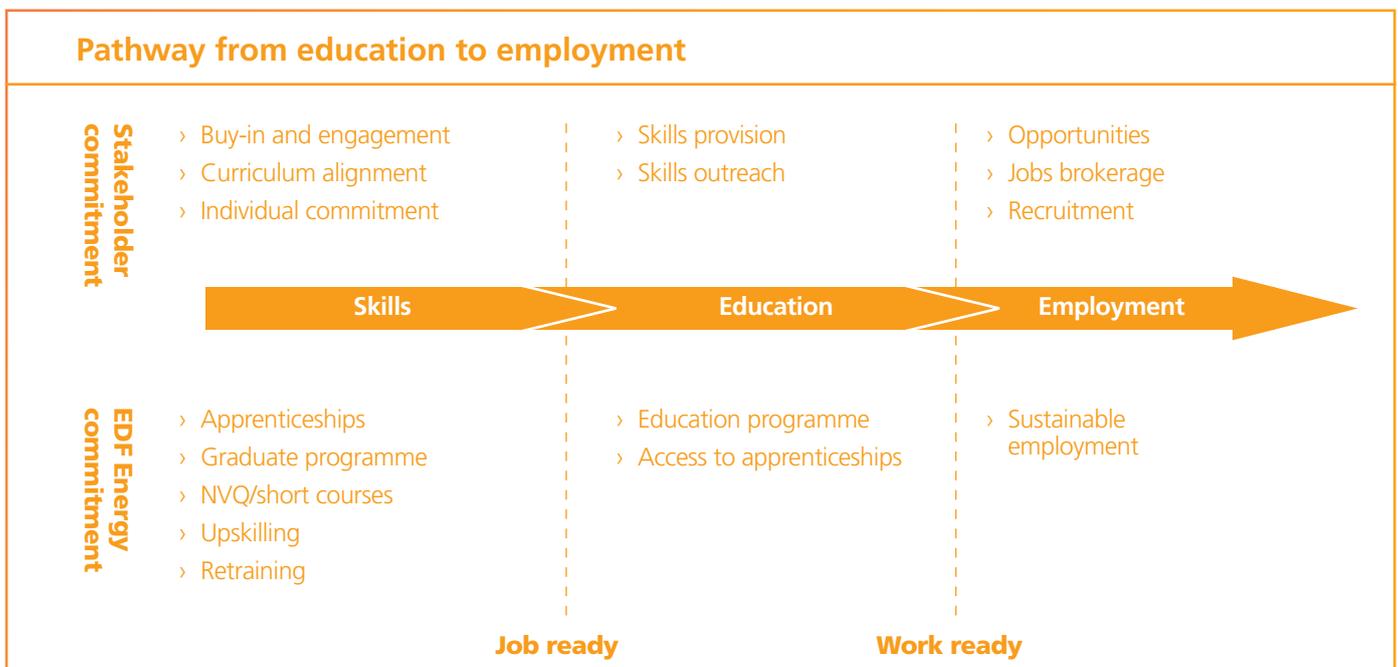


Figure 4.2: Employment pipeline

# 5 Accommodation

- › 5.1 Accommodating the workforce
- › 5.2 Campus accommodation
- › 5.3 Campus site options
- › 5.4 Other types of accommodation
- › 5.5 Accommodation office



This chapter sets out our plans for accommodating the large number of people who would build Sizewell C and who would not commute from home. We would like to hear your views on our approach to housing our workers and on the potential locations for our proposed accommodation campus.

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## 5.1. Need for accommodation

- 5.1.1 At the start of the construction phase, we would expect the majority of the construction workforce to be recruited locally and to live at home. This proportion would then fall as the size of the workforce grows and more specialised skills are required (see **Chapter 4** – Workforce profile). As construction moves towards completion, we would expect the proportion living at home to rise once again.
- 5.1.2 When construction is at its peak, we estimate that about 34% of the construction workforce would live at home and commute to work on a daily basis. The remaining 66% would live in temporary accommodation in the area.
- 5.1.3 We propose to provide a substantial proportion of this temporary accommodation in a specially-built campus for between about 2,000 and 3,000 people.
- 5.1.4 The remaining non-home-based construction workforce would live in a variety of different types of accommodation, including owner-occupation, privately-rented housing, tourist accommodation and caravans.

## 5.2 Campus accommodation

- 5.2.1 We believe our campus proposal offers significant benefits for our workers and for nearby local communities, as well as benefits for the Project:
  - › The campus would benefit surrounding communities by significantly reducing the amount of travel by construction workers going to and from Sizewell C.
  - › We know from experience it would be likely to be popular with Sizewell C construction workers – a similar, smaller, campus created for the construction of Sizewell B had a waiting list of people wanting to stay in it.
  - › It would also reduce the pressure on other local accommodation.
  - › Housing our construction workers close to the site would also bring efficiency and productivity gains for the Project - for example, it would facilitate flexible shift working to meet particular construction needs.
  - › Workers' response times would be shorter with key personnel nearby.
  - › A single large campus would make it easier to ensure that the codes of behaviour for our workers are adhered to.
- 5.2.2 The campus would consist of three or four storey accommodation buildings, plus indoor and outdoor recreation and leisure facilities, car parking and building services (including waste and utilities).
- 5.2.3 The accommodation would be similar to modern student accommodation, with self-contained rooms and en-suite facilities. The campus would be finished to a high standard.
- 5.2.4 The environmental sensitivities of the chosen site and the surrounding area would be taken into account in decisions on the layout of the campus, especially the design and siting of the buildings.
- 5.2.5 All car parking for workers and staff would be on the campus site, both dispersed among the buildings and in car parks.
- 5.2.6 Indoor facilities close to the sleeping accommodation would include a canteen, TV lounge, bar and games room, gym, shop and laundry.
- 5.2.7 Wherever practicable, outdoor recreational facilities would be sited to allow for potential public use.
- 5.2.8 The accommodation and indoor facilities would be in secure, fenced areas, lit during the hours of darkness. Where practicable, fencing would be erected behind existing or new landscape screening, and the design of the lighting would take into account the need to reduce its impact outside the site, especially along sensitive boundaries.
- 5.2.9 We would work to avoid and reduce (as far as practicable) the potential adverse environmental effects of the campus on the surrounding area.



Views across the Sizewell C Development Site

## 5.3 Campus site options

5.3.1 We have identified three possible sites for the proposed campus. These are described below. Further details on their potential environmental effects can be found in the **Environmental Report**.

5.3.2 Our strong preference is for the campus to be located adjacent to the Development Site. However two alternative near-site locations – selected after consideration of a large number of potential sites within a study area defined to the north by Theberton and to the south by Leiston – are also proposed.

5.3.3 We believe that the three campus options strike the best balance between meeting our strategic need and having the least potential for adverse environmental effects.

5.3.4 **Figure 5.1** shows the site options we are considering for the temporary accommodation campus. We would like to hear your feedback on these options:

- › Option 1: Development Site Campus (preferred option)
- › Option 2: Sizewell Gap Campus
- › Option 3: Leiston East Campus





Figure 5.1: Campus site options map

# Option 1: Development Site Campus

## Location & surroundings

- 5.3.5 We have a strong preference for this option. Its location next to the proposed construction site entrance (see **Figure 5.2**) would mean that workers could walk to work, avoiding the need for buses and thereby improving the efficiency of the construction, while also limiting the traffic impacts.
- 5.3.6 The 34 hectare site is currently farmland. It is split by a minor road that runs between the B1122 road and Eastbridge and would be kept open during construction and operation of the campus.
- 5.3.7 There are a small number of properties close to the site, some of which are listed buildings. The design of the campus would take careful account of the amenity and setting of these properties.
- 5.3.8 The site lies outside the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) and is further away from designated ecological sites than the other two campus options. The site's eastern boundary forms an important wildlife corridor, especially for bats.
- 5.3.9 Upper Abbey - including the Grade II listed farmhouse and barn - is located in the site's south-eastern corner. We would consider ways of bringing these buildings into productive use within the campus. The campus design would also take account of the nearby Leiston Abbey, for example through sensitive siting and the provision of screening.
- 5.3.10 The site lies outside the 2.4km Detailed Emergency Planning Zone (DEPZ) for Sizewell. The DEPZ is an area surrounding a nuclear licensed site for which detailed plans for emergencies have been prepared (see **Chapter 2** – Emergency preparedness).

## Indicative layout

- 5.3.11 We envisage that the built development (see **Figure 5.3**), including the accommodation, would be located on the eastern side of the site. The western side would mainly be used for outdoor recreational areas, additional car parking, and soil stockpiles which would be grassed over.
- 5.3.12 The accommodation would be grouped into two main areas around centrally located indoor facilities. This would limit the distance residents would have to walk between their accommodation and the other facilities, avoiding the need for duplication of services and buildings within the site.
- 5.3.13 Access to the campus would be via the proposed new Sizewell C northern access road. There would be two entrances. One, nearest to the B1122, would lead to the recreation facilities. The second, further to the east, would be the main entrance to the accommodation area.
- 5.3.14 We envisage that once Sizewell C had been built, we would remove the campus and restore the site to farmland, leaving the restored Upper Abbey.





Figure 5.2: Development Site Campus location plan (Option 1)



Figure 5.3: Development Site Campus zoning diagram (Option 1)

## Option 2: Sizewell Gap Campus

### Location & surroundings

- 5.3.15 This option is located south of Sandy Lane and north of Sizewell Gap, about 2.5km from the Sizewell C Development Site entrance (see **Figure 5.4**). Its location means that most workers would have to be bussed to and from the Development Site. This is a disadvantage compared with Option 1, although the journey would be relatively short.
- 5.3.16 The site covers about 45 hectares and would be accessed from Lover's Lane. The site is farmland located adjacent to the Greater Gabbard Substation and the proposed Galloper Offshore Wind Farm development, within the Suffolk Coast and Heaths AONB. There are a number of important ecological sites in the local area – to the north, the Sizewell Marshes Site of Special Scientific Interest (SSSI), and to the south, the Leiston-Aldeburgh SSSI and the Sandlings Special Protection Area (SPA).
- 5.3.17 There are a few properties to the south of the site along Sizewell Gap and others to the north of the site along Sandy Lane.
- 5.3.18 This site could be used either for our proposed campus or Visitor Centre (see **Chapter 3** – Visitor Centre), or potentially for both.
- 5.3.19 The site lies within the 2.4km DEPZ for Sizewell.

### Indicative layout

- 5.3.20 We envisage that the built development (see **Figure 5.5**), including the accommodation, would be positioned on the lower ground in the southern half of the site along Sizewell Gap. The northern half of the site would be used for soil storage (that would be grassed over) and landscape planting. This northern area would also be used for creating ecological habitats.
- 5.3.21 The indoor facilities would be located close to the site entrance, with the accommodation located next to them. The existing mature planting along Sizewell Gap would help to screen the buildings.
- 5.3.22 Most of the car-parking would be interspersed between the buildings in the accommodation area, although some additional car parking would be needed. This would be located in the south-eastern part of the site.
- 5.3.23 The campus buildings would be sited to avoid existing hedgerows and landscape planting at the perimeter of the site. In addition, building heights could be varied to reduce visual impacts from outside the site – especially when viewed from within the AONB to the north and east.
- 5.3.24 We envisage that once Sizewell C had been built, we would remove the campus and restore the site to farmland.





Figure 5.4: Sizewell Gap Campus location plan (Option 2)



Figure 5.5: Sizewell Gap Campus zoning diagram (Option 2)

## Option 3: Leiston East Campus

### Location & surroundings

- 5.3.25 This option is located to the east of Leiston, approximately 3km from the Sizewell C Development Site entrance (see **Figure 5.6**). Construction workers would have to be bussed to the Development Site as with Option 2. This is a disadvantage of this site in comparison with our preferred option, although the journey would be relatively short.
- 5.3.26 The 41 hectare site is currently farmland. It would be accessed via a new road off Sizewell Gap. The rest of the development would be located in the two fields to the south of the Sizewell Sports and Social Club. These fields are separated by a bridleway (Grimsey's Lane). If this site were to be taken forward, we would keep this bridleway open.
- 5.3.27 Since this option is closest to Leiston, it has the highest potential to benefit local shops, cafes and other businesses in the town.
- 5.3.28 The proposed new access road lies within the Suffolk Coast and Heaths AONB. It is also in close proximity to the ecologically important Leiston-Aldeburgh SSSI and Sandlings SPA.
- 5.3.29 There are numerous properties to the north-west of the site and a few scattered properties around the rest of the site. The new access road would run between two properties on Sizewell Gap.
- 5.3.30 There are a number of public rights of way within and around the site.
- 5.3.31 The site lies within the 2.4km DEPZ for Sizewell.

### Indicative layout

- 5.3.32 We envisage that the field next to the Sizewell Sports and Social Club would be used for outdoor recreation and soil storage that would be grassed over. The larger field to the south of Grimsey's Lane would be used for the built development, including the accommodation (see **Figure 5.7**).
- 5.3.33 The indoor facilities would be located in the northern part of this area close to the site entrance with the accommodation buildings located further south, set back from the existing high voltage overhead power lines. The area beneath the power lines would be used for car parking.
- 5.3.34 We would explore the possibility of building a secondary access road into the outdoor recreation area via the Sizewell Sports and Social Club in order to allow potential public use of the new sports facilities.
- 5.3.35 Once Sizewell C had been built, there may be the potential for the outdoor recreation area to remain for local community use. It is envisaged that the rest of the campus, including the new access road via Sizewell Gap, would be removed and the site returned to farmland.





Figure 5.6: Leiston East Campus location plan (Option 3)

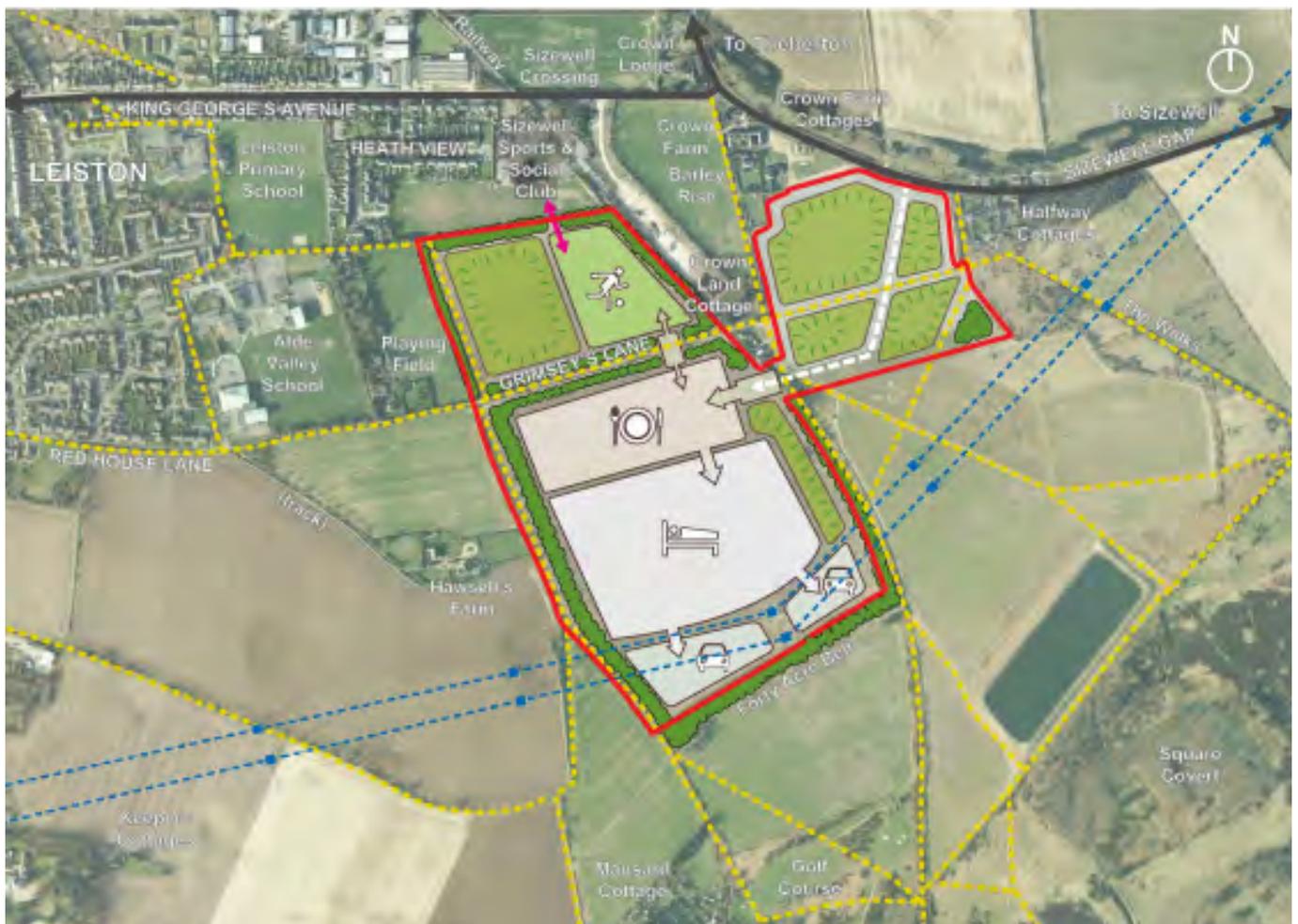


Figure 5.7: Leiston East Campus zoning diagram (Option 3)

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## 5.4 Other types of accommodation

- 5.4.1 Even with the campus, there would be a need for additional temporary accommodation for about 700 to 1,700 people during the peak construction phase.
- 5.4.2 Options include owner-occupation, privately-rented housing, caravans, and tourist accommodation. In addition, there might be opportunities for people not currently in the rental market to rent out a spare room. All in all, this represents a significant business opportunity for those people offering rental accommodation in the area.
- 5.4.3 We have carried out some preliminary studies and our assessment indicates that there is sufficient capacity within the existing provision to meet these needs while also continuing to provide capacity for tourists visiting the area.

### Demand for tourist accommodation

- 5.4.4 Providers of tourist accommodation are likely to benefit from the increased demand from Sizewell C workers seeking temporary accommodation. This could bring particular benefits in off-season periods, where occupancy of tourist accommodation can fall to around 30% of capacity according to figures from the Suffolk Choice and East of England Self Catering Accommodation Occupancy Report.
- 5.4.5 Our projections suggest that the increased demand from Sizewell C workers during the construction phase would generate a demand for around 5% of tourist accommodation in Suffolk. This would be enough to produce economic benefit for providers, but not sufficiently large to crowd out existing demand for tourist accommodation.

## 5.5 Accommodation office

- 5.5.1 In order to facilitate accommodation provision, we would set up an accommodation management office for Sizewell C. This would act as a point of entry for local providers (or potential providers) who would register their accommodation with the office.
- 5.5.2 The office would offer information to providers on, for example, safety requirements, and also provide information to workers seeking accommodation.

This chapter sets out EDF Energy's transport strategy for Sizewell C. It describes how we would move our construction workforce and our freight, and how we propose to limit the traffic impact on the local road network. We want to hear your response to these proposals and your views on the possible locations of our park and ride facilities and lorry park sites, our plans to address traffic impacts through the village of Farnham, and our proposed rail options.

# 6

## Transport

- › 6.1 Our approach
- › 6.2 Moving our workers
- › 6.3 Moving freight
- › 6.4 Traffic impacts of Sizewell C



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## 6.1 Our approach

- 6.1.1 The construction of Sizewell C would involve the transport of large numbers of construction workers and very large amounts of building materials.
- 6.1.2 We recognise that the potential transport and traffic impact of Sizewell C is of concern to local people. We will not be able to remove all of these impacts. We have, however, proposed some major associated developments to reduce and manage them. These are:
- › A jetty to facilitate sea delivery of large loads and bulk materials.
  - › A large near-site temporary accommodation campus which would substantially reduce commuter traffic during construction.
  - › Two temporary park and ride sites near the A12 to reduce pressure on the local road network from people travelling to and from the construction site. Other facilities might also be located there including a temporary workers' induction centre and a temporary postal consolidation facility.
  - › A temporary lorry park with spaces for about 50 to 100 trucks to manage traffic flow and to hold trucks if there is a problem on the network. We would prefer to co-locate this with the southern park and ride, although stand-alone sites are also being considered.
  - › Improvements to and extension of the Saxmundham – Leiston branch line to improve the capacity of the railway line to carry freight, and the efficiency of the construction of the power station.
  - › A 'passing loop' at Wickham Market Station on the East Suffolk line to increase capacity on this line.
  - › Potential road or junction improvements to alleviate transport impacts.
- 6.1.3 Further information on our transport proposals can be found in the **Transport Strategy and Supporting Information** document published alongside this document.

## 6.2 Moving our workers

- 6.2.1 A range of approaches would be adopted to bring the construction workforce to and from the site on a daily basis. The different shift patterns operating during construction (see **Chapter 4 – Shift patterns**) would help to spread movements across the day and reduce traffic impacts at peak network periods.
- 6.2.2 Our proposed accommodation campus would mean that between about 2,000 and 3,000 workers – around half the peak construction workforce – could reach the site every day on foot, by bicycle or via short bus journeys that would not go through local communities. A campus of this scale would very significantly reduce the daily traffic generated during the peak years of Sizewell C construction. It is one of the most significant practical investments we can make to reduce traffic impacts.
- 6.2.3 Transport for workers not living on the campus would include a number of options:
- › Those living close to Sizewell C would be encouraged to walk or cycle where practicable. We would look at ways to encourage cycling and walking – for example by improving footpaths and cycleways.
  - › Some workers would drive directly to the site. This would include those who, for operational reasons, need to use a car while at work on the site. It would also include people living in the towns and villages relatively close to the site and east of the A12 for whom it would not be sensible to drive away from the construction area to use the nearest park and ride site. We believe a site car park of around 1,000 spaces would cater for these people. We would encourage car-sharing to make the most effective use of the car park.
  - › The Development Site car park would also cater for car drivers in the early and later phases of the construction programme when our park and ride facilities would be under construction or being dismantled and removed.
- 6.2.4 In addition to the transport options above, during the years of peak construction we would provide a range of bus services. These would include:
- › Dedicated direct buses from a small number of locations where there are enough workers to justify regular services. These are expected to include central Ipswich and Lowestoft.
  - › Bus pick-up services from nearby railway stations on the East Suffolk line (Darsham and Saxmundham). This would encourage the use of local rail services on the East Suffolk line.
  - › Buses from park and ride sites north and south of the construction site near the A12.



## Park and ride

- 6.2.5 Park and ride facilities would significantly reduce the amount of commuter traffic on local roads during the peak years of construction when traffic levels would be at their highest.
- 6.2.6 Our assessment of where the peak construction workforce would be likely to live suggests that substantial numbers of workers would travel on the A12 from north and south of the Development Site.
- 6.2.7 We would therefore propose to build two temporary park and rides near the A12 – one for drivers approaching Sizewell from the north and the other for those approaching from the south. The northern park and ride would aim to reduce traffic through the villages of Theberton, Blythburgh, Westleton and Middleton. These park and rides would reduce construction related traffic through the towns and villages closer to the Sizewell C Development Site.
- 6.2.8 Potential site options within two study areas have been considered for the park and rides. For the northern options, the study area was the B1122/A12 corridor north of Theberton. For the southern options, the area was bounded by the A12 south of its junction with Friday Street (the A1094). The three options for each that best meet our strategic need while offering the least potential for adverse environmental effects are set out in the following sections.
- 6.2.9 The park and ride facilities would have spaces for up to approximately 1,000 cars together with space for mini-buses, motorcycles and bicycles. There would be a bus interchange with shelters and a small welfare building. The sites would have a controlled access and would be fenced and lit throughout the hours of darkness for operational and security reasons.
- 6.2.10 Where practicable, fencing would be located behind existing or new landscape screening and lighting would be designed to take account of environmental sensitivities, especially along sensitive boundaries.
- 6.2.11 We are considering co-locating other temporary facilities – including a postal consolidation facility and a construction workers’ induction centre - at one of the park and ride sites.
- 6.2.12 It is envisaged that the postal consolidation facility would be a modest single storey building where post and courier deliveries for Sizewell C would be combined to reduce the number of courier deliveries to site.
- 6.2.13 The induction centre is likely to be a two storey building where construction workers would be given health, safety and environmental training. We are also exploring other options for the induction centre, including using or refurbishing an existing facility in Ipswich or elsewhere.
- 6.2.14 **Figures 6.1 and 6.2** overleaf show the site options we are considering for the northern and southern park and rides. We would like to hear your views on these options:

Northern park and ride

- › Option 1: Yoxford Road
- › Option 2: Darsham
- › Option 3: A12/A144 Junction

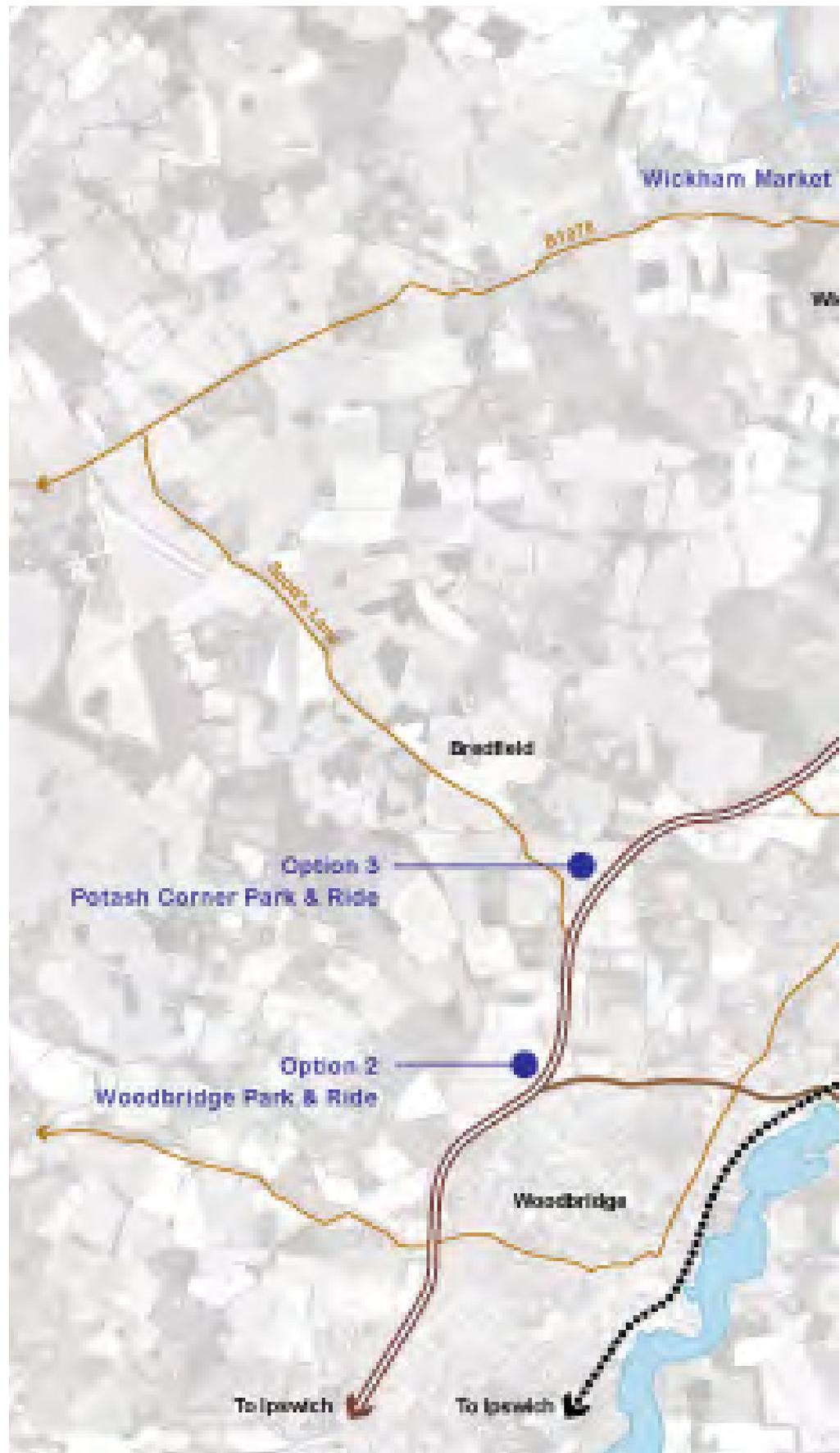




Figure 6.1: Northern park and ride site options map

Southern park and ride

- › Option 1: Wickham Market (preferred option)
- › Option 2: Woodbridge
- › Option 3: Potash Corner



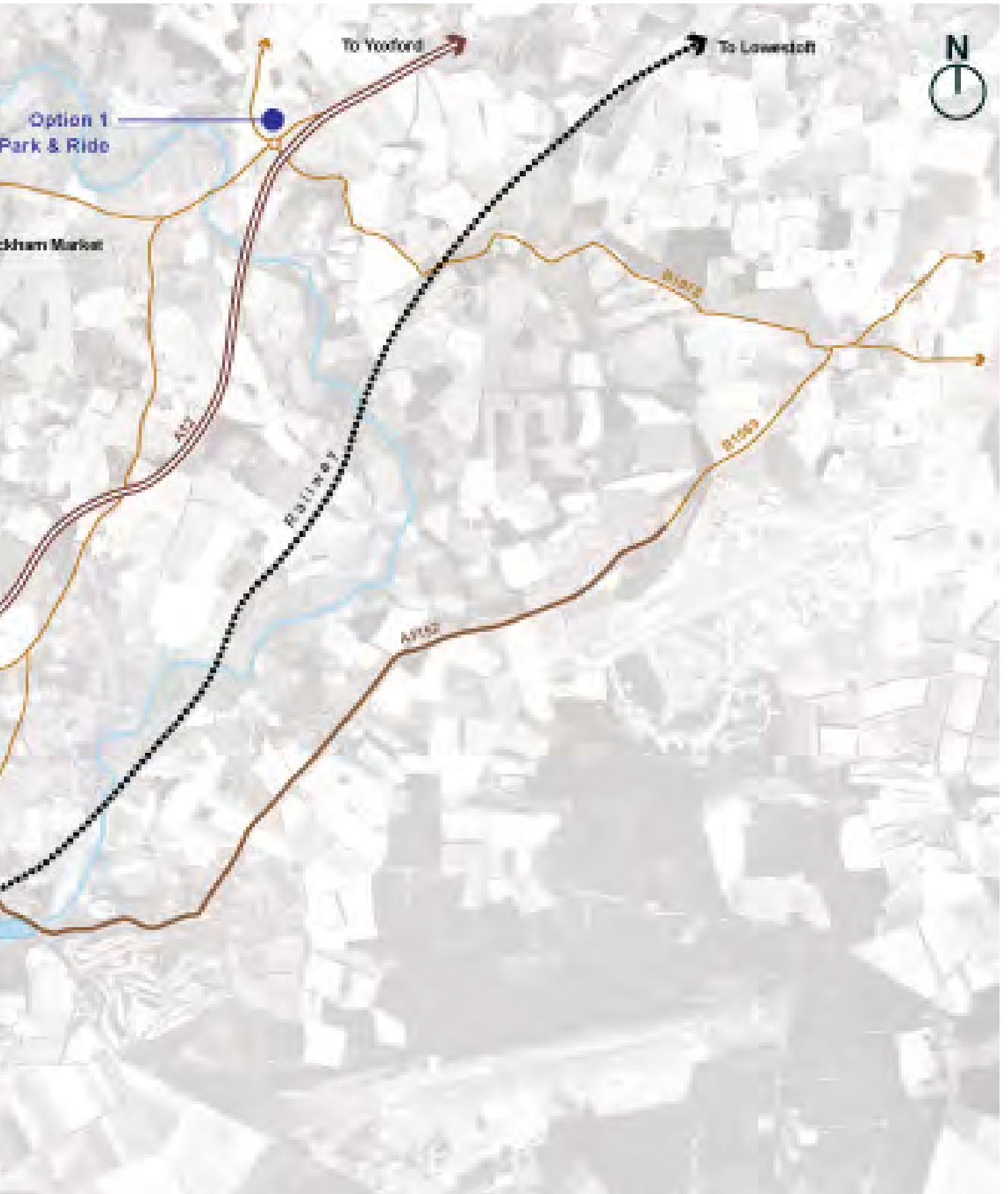


Figure 6.2: Southern park and ride site options map

# Northern Option 1: Yoxford Road

## Location & surroundings

- 6.2.15 Situated 1.5km south-east of Yoxford on the B1122, this option is ideally placed to intercept southbound commuter traffic from the A12 near Yoxford (see **Figure 6.3**). It is also well placed to intercept commuters travelling east along the A1120 without the need to divert north along the A12, as would be required with the Darsham and A12/A144 Junction proposals.
- 6.1.16 The site would reduce traffic passing through Theberton but would not have any beneficial impact on traffic flows through Yoxford.
- 6.2.17 The site covers approximately 23 hectares and is currently arable farmland. It would be accessed directly off the B1122 Yoxford Road.
- 6.2.18 A residential property and a care home are located next to the site's eastern boundary. The care home provides care for older people, including those suffering from dementia. Both properties are recognised as important constraints on any development of the site. Landscape and visual issues would also be important considerations because there are good views of the site from the open countryside to the north.

## Indicative layout

- 6.2.19 We envisage that the built development (see **Figure 6.4**) would be designed to avoid, as far as possible, the more visible central part of the site that slopes down towards the B1122. In order to reduce visual impact, development would be positioned on the flatter parts of the site.
- 6.2.20 The induction centre and the postal consolidation building would be located on the lower ground next to the B1122, away from the properties at the eastern corner of the site. These facilities would benefit from screening by the existing hedgerow along the road that would be substantially retained, where practicable.
- 6.2.21 The car park would be set back from the road behind another hedgerow that would also be retained as far as possible. Much of the rest of the site would either be used for soil storage that would be grassed over or used for landscape planting, and boundary vegetation would be reinforced.
- 6.2.22 We envisage that once Sizewell C had been built, we would remove the new infrastructure and restore the site to farmland.





Figure 6.3: Yoxford Road location plan (Option 1)



Figure 6.4: Yoxford Road zoning diagram (Option 1)

## Northern Option 2: Darsham

### Location & surroundings

- 6.2.23 This site is located next to Darsham Station and is a large, triangular arable field approximately 28 hectares in area (see **Figure 6.5**).
- 6.2.24 It is well positioned to intercept southbound traffic on the A12 as well as traffic travelling along the A144 from Halesworth. It would also reduce Sizewell C related commuter traffic through Yoxford. Its disadvantage compared with Option 1 is that workers travelling east along the A1120 would need to divert some 1.7km along the A12 from Yoxford to reach it.
- 6.2.25 This site would make a good collection point for rail commuters travelling on the East Suffolk line as it is next to the railway station.
- 6.2.26 The site would be accessed directly off the A12. This may require removal or relocation of the existing layby on the northbound carriageway and possibly the southbound layby as well.
- 6.2.27 The site is quite open in aspect, hedgerows being sparse or absent along much of the site perimeter. There are a number of properties along the site's A12 frontage which are screened from the site by mature planting. A large block of woodland extends across half of the site's western side. Surveys indicate that the woodland is an important habitat for bats.

### Indicative layout

- 6.2.28 We envisage that the postal consolidation and induction facilities would be located in the southern part of the site with the park and ride occupying the rest of the site and surrounded by grassed soil mounds around it (see **Figure 6.6**).
- 6.2.29 Additional screening would be provided around the perimeter. A new hedge would be planted along the road to the north of the site and the boundary to the A12 would be reinforced with tree and hedge planting.
- 6.2.30 We envisage that once Sizewell C had been built, we would remove most of the new infrastructure and restore the site to farmland. However, there may be scope for retention of some limited infrastructure at the southern end of the site next to the railway station.





Figure 6.5: Darsham location plan (Option 2)



Figure 6.6: Darsham zoning diagram (Option 2)

## Northern Option 3: A12 / A144 Junction

### Location & surroundings

- 6.2.31 Situated at the junction between the A12 and A144, this site extends across arable fields and covers some 15 hectares (see **Figure 6.7**). The site would be accessed off the A12 via a new junction north of the A144.
- 6.2.32 The advantages of this site are that it would intercept traffic travelling south on the A12, as well as that travelling along the A144 from Halesworth. It would also reduce commuter traffic through Yoxford.
- 6.2.33 Its main disadvantage is that workers travelling east along the A1120 would need to divert approximately 3.2km along the A12 to reach it, which is significantly longer than the diversion to reach Option 2.
- 6.2.34 The site is bounded to the west by the A12 and includes the former Little Chef (now closed) on the existing minor road junction. The site extends behind the gardens of a row of properties on the A12. These properties are screened from the site by mature woodland.
- 6.2.35 Other properties close to the site include two new residential houses adjacent to the site's northern boundary which are partially screened.
- 6.2.36 There are a number of listed buildings in the site's vicinity including one (Stone Cottage) at the junction between the A12 and the A144.

### Indicative layout

- 6.2.37 We envisage that the postal consolidation and induction facilities would be set back into the northern part of the site behind screen planting (see **Figure 6.8**). The existing hedgerow between these two areas would be retained and reinforced where appropriate. This would help screen the site during its operation as well as facilitating its ultimate restoration.
- 6.2.38 The park and ride would extend across the fields from the A12. Existing hedgerows in this area would also be retained where possible.
- 6.2.39 Soil stockpiles that would be grassed over would be located to the rear of the adjacent properties located along the A12. Additional screen planting would also be provided where appropriate along this boundary.
- 6.2.40 We would explore options to use the former Little Chef building for welfare and/or other facilities associated with the park and ride.
- 6.2.41 We envisage that once Sizewell C had been built, we would remove the new infrastructure and restore the site to farmland. Separate consideration would be given to the former Little Chef site.

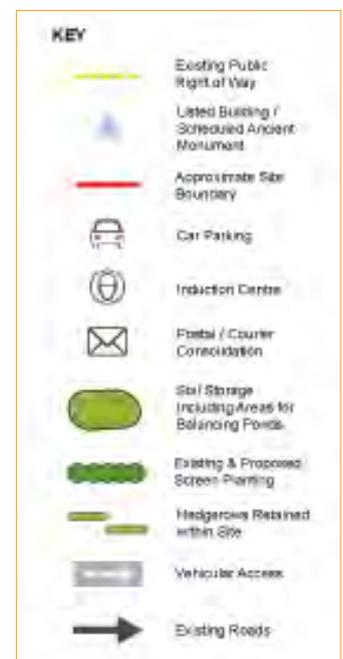




Figure 6.7: A12/A144 Junction location plan (Option 3)



Figure 6.8: A12/A144 Junction zoning diagram (Option 3)

## Southern Option 1: Wickham Market (preferred option)

### Location & surroundings

- 6.2.42 The site is located at the junction between the A12 and the B1078/B1116 to the north-east of Wickham Market (see **Figure 6.9**).
- 6.2.43 This is our preferred southern park and ride option because it is significantly closer to Sizewell C than the other two options. Journey times to site would therefore be shorter.
- 6.2.44 The site is made up of two areas - one to the north of the northbound A12 merge slip road and one between the slip road and the A12. The combined site area is approximately 25 hectares.
- 6.2.45 The site would be accessed off the existing slip road for the A12.
- 6.2.46 The larger area to the north is arable farmland. Hedgerows and woodland belts mark some field boundaries. Further woodland is present in the locally registered Glevering North Park to the west, beyond the B1116. Despite the site's relatively open aspect, it is generally not highly visible from the surrounding area because it occupies elevated ground. However there are long-distance views of the site from the south and south-west and these boundaries would need to be screened.
- 6.2.47 The site is likely to contain buried unrecorded archaeology. A Romano-British settlement (Hacheston) was partly excavated in the 1970s along the line of the A12 forming the Wickham Market Bypass. Any archaeology would need to be investigated and preserved before the park and ride is built but would not preclude development of the site.

### Indicative layout

- 6.2.48 We envisage that the lorry park could be sited in the eastern side of the site, set back from the woodland that exists along the eastern boundary (see **Figure 6.10**).
- 6.2.49 The park and ride would occupy the western half of the site with landscape screening buffering views from the west.
- 6.2.50 It is anticipated that the postal and induction facilities would be located in the south-west corner near the site entrance.
- 6.2.51 The northern part of the site – opposite Glevering North Park – would be used for soil storage, which would be grassed over. The existing recent tree planting along this frontage would be retained.
- 6.2.52 It is envisaged that the small 'tear-drop' shaped site would be used for soil storage although it could also serve other uses such as a construction compound for building the park and ride.
- 6.2.53 We envisage that once Sizewell C had been built, we would remove the new infrastructure and restore the site to farmland. However other uses might be appropriate for the small 'tear-drop' plot next to the A12, for example as an area for lorry parking, should the site be suitable.





Figure 6.9: Wickham Market location plan (Option 1)



Figure 6.10: Wickham Market zoning diagram (Option 1)

## Southern Option 2: Woodbridge

### Location & surroundings

- 6.2.54 The proposed Woodbridge site is located to the west of the A12 at the A12/A1152 Woods Lane Junction, north-west of Woodbridge (see **Figure 6.11**).
- 6.2.55 The site comprises arable fields covering approximately 34 hectares.
- 6.2.56 The site has been selected because it would be well placed to intercept Sizewell C bound traffic heading north along the A12. In addition, it can be readily accessed from the existing roundabout.
- 6.2.57 However journey times to Sizewell C would be longer than from our preferred southern park and ride option near Wickham Market.
- 6.2.58 The site falls from east to west towards the bottom of a shallow valley, with the eastern half of the site relatively flat. There are long-distance views of the site from the west that would need to be screened.
- 6.2.59 We therefore envisage that, as far as practicable, development would focus on the flatter, higher ground on the eastern half of the site.
- 6.2.60 There is a small stream running north along the valley to the west that provides an opportunity for drainage of the site. This is the only associated development site option with access to a watercourse.
- 6.2.61 There are very limited views of the site from the eastern (Woodbridge) side of the A12 owing to the intervening mature planting.
- 6.2.62 There are two public rights of way crossing the site – one running from the A12 opposite Haugh Lane along a hedgerow that marks a field boundary, and another running parallel with the stream in the north-west of the site. We would try to retain both of these along their existing alignments although temporary diversions might be needed.

### Indicative layout

- 6.2.63 We envisage that the proposed facilities would be positioned in the north-east of the site, near the A12, to limit long distance views (see **Figure 6.12**).
- 6.2.64 The postal consolidation and induction facilities would sit next to the A12 and would be screened to the east by existing hedgerows which would be reinforced with new planting where appropriate.
- 6.2.65 The park and ride would be positioned to the west of these facilities and screened to the west by grassed soil mounds and landscape planting. The lorry park could be located south of the park and ride and would be screened from the adjacent public right of way by an existing hedgerow and trees; this screening would be reinforced where appropriate.
- 6.2.66 We propose that the field to the south of the site would be used for soil storage that would be grassed to buffer views from the Manor House.
- 6.2.67 We envisage that once Sizewell C had been built, we would remove the new infrastructure and restore the site to farmland.





Figure 6.11: Woodbridge location plan (Option 2)



Figure 6.12: Woodbridge zoning diagram (Option 2)

## Option 3: Potash Corner

### Location & surroundings

- 6.2.68 The site is located at Potash Corner on Scott's Lane, to the west of the A12 close to the village of Bredfield which lies to the north (see **Figure 6.13**).
- 6.2.69 The flat site consists of farmland covering approximately 24 hectares.
- 6.2.70 The site has been selected because it would be well placed to intercept Sizewell C bound traffic heading north along the A12. However, as with Option 2, journey times to Sizewell C would be longer than from our preferred southern park and ride option near Wickham Market.
- 6.2.71 Hedgerows and woodland mark some of the site perimeter and provide some screening. There are a few residential properties near the site, including a number at Potash Corner and others to the north-west. There are also a number of listed buildings in the vicinity.
- 6.2.72 There are two public rights of way within the site boundary that would need to be accommodated within the layout and/or diverted.
- 6.2.73 There are a number of ditches within the site that contain standing water. It is possible that these ditches are of ecological interest.

### Indicative layout

- 6.2.74 We envisage that the proposed facilities would be located in the south-east of the site, close to the A12, to keep the built development as far away as possible from the residential properties located to the west (see **Figure 6.14**).
- 6.2.75 It is anticipated that access would be via a new junction on the A12 with the lorry park positioned to the north of the access and the park and ride to the south. The postal and induction facilities would be positioned to the west of the lorry park, separated from the adjacent public right of way by new screen planting. Existing hedgerows within the site would be retained where practicable. This would help screen the site during use and would help to facilitate its restoration.
- 6.2.76 The western part of the site would be used for soil storage and be grassed over. This would help buffer the facility from local properties. Extensive new planting is also proposed in this area to buffer the site.
- 6.2.77 There are buried utilities within the site, including gas mains. We do not envisage that any utility diversions would be necessary, although if this site were taken forward, we would consult with the relevant utility companies on site layout and design.
- 6.2.78 We envisage that once Sizewell C had been built, we would remove the new infrastructure and restore the site to farmland.





Figure 6.13: Potash Corner location plan (Option 3)



Figure 6.14: Potash Corner zoning diagram (Option 3)

## 6.3 Moving freight

6.3.1 Very large volumes of construction materials would be needed to build Sizewell C. The vast majority of these would be bulk materials such as sand, cement and aggregates - although a very wide variety of other types of freight would also be needed. We may also have to remove large volumes of surplus peat and clay during the earthworks stage of the Project.

6.3.2 We propose to use sea and rail to move much of these materials. This would very significantly reduce the burden on the roads. The infrastructure needed to achieve this is set out below.

### Freight by sea

6.3.3 We are proposing to build a jetty at the construction site. This facility would allow the sea delivery of very large items known as Abnormal Indivisible Loads (AILs) as well as the export by sea of surplus excavated material and the import of bulk and containerised materials.

6.3.4 The jetty would be a significant development in its own right. We are working on its detailed design to ensure that it can play a major role in the import and export of materials during the construction programme. At this stage we know that the jetty would:

- › be a partly piled structure;
- › have a number of berths;
- › be designed to allow roll-on roll-off (Ro-Ro) operations; and
- › be designed to reduce impacts on the foreshore.

6.3.5 Once Sizewell C is operational, AILs would occasionally need to be brought to site - for example to replace a major item of equipment. This might require permanent retention of some elements of the jetty structure.

6.3.6 The proposed location of the jetty is identified in **Figure 3.4**.

### Freight by rail

6.3.7 We believe that rail should play an important role in the delivery of freight during construction, offering an alternative non-road option to the jetty for delivery of many kinds of construction materials and potentially to remove some surplus excavated material. This would reduce the number of HGV movements on the local road network and provide a mode of transport unlikely to be disturbed by weather conditions.

### Existing rail infrastructure

6.3.8 There is an existing rail terminal at Leiston (south of King George's Avenue) at the end of a rail line between Saxmundham and Leiston (see **Figure 6.15**). This line is not currently part of the passenger rail network but is used for occasional movements associated with the decommissioning of Sizewell A. The rail terminal was also used to bring materials close to site during the construction of Sizewell B.



6.3.9 With a modest amount of refurbishment it would be possible to use the existing rail terminal to bring freight deliveries to the site by rail. However the capacity of this terminal and the existing local rail infrastructure is currently limited to around one freight train per day, which would be insufficient for achieving our aim of substantially reducing road freight.

6.3.10 We are therefore exploring options to enhance the scope for transporting freight by rail and are asking for feedback on the two rail options in the following pages. We have also included our proposal for a passing loop at Wickham Market Station.



Figure 6.15: Existing rail terminal

## Option 1: New rail terminal and freight laydown area north of King George's Avenue

- 6.3.11 One option would be to develop a new and larger rail terminal north of King George's Avenue (see **Figure 6.16**). This would be located on part of the land to the north-east of Leiston industrial estate.
- 6.3.12 A new rail terminal at this location would create substantial additional space for unloading and storing rail freight for onward delivery to the Sizewell C Development Site. This location would also avoid use of the level crossing on King George's Avenue and unloading operations would take place further away from residential areas of Leiston than the existing terminal.
- 6.3.13 In addition, we are also considering this land as a temporary area for freight storage, pre-fabrication and laydown during the construction phase, irrespective of whether it becomes the location for a new rail head.

KEY	
	Approximate Site Boundary
	Existing Railway Line
	Rail Extension Route





Figure 6.16 New rail terminal location plan (Option 1)

## Option 2: Temporarily extending the rail line into the Development Site

- 6.3.14 An alternative option would be a temporary extension of the rail-line into the construction area. This option would have the same advantages as Option 1 (a new rail terminal in Leiston) as well as:
- › avoiding the need for additional HGV trips on Lover's Lane;
  - › allowing rail freight to be brought directly and efficiently to its point of use in the Development Site by removing double handling and road transfer; and
  - › facilitating the potential rail export of surplus excavated material.
- 6.3.15 We consider this option would further encourage the efficient use of rail for freight deliveries over road alternatives, offering benefits for the construction programme and further reductions in HGV traffic. For these reasons it is our strongly preferred option.
- 6.3.16 We have looked at a number of route options for such an extension and a general indication of three potential routes is shown in **Figure 6.17**. The routes are referred to as the:
- › Red route;
  - › Green route; and
  - › Blue route.
- 6.3.17 Two of the routes (the blue and green) would spur off the existing track west of Leiston and run through open countryside into the Development Site. The third (red) route would spur off north of Leiston industrial estate.
- 6.3.18 Each route has potential advantages and disadvantages. The blue and green routes would avoid trains running through Leiston – which could be of particular benefit as some freight train movements may need to occur at night. However these routes would also have the greater potential landscape and visual impacts on the surrounding countryside, including potential impacts on views from Leiston Abbey. The red route is the shortest of the routes with potentially reduced visual impacts.
- 6.3.19 At the present time we favour the green or the red route option. The blue route (which is the longest) would not be preferred as it has the greatest visual impact on surrounding countryside and would need to enter the Development Site at our preferred location for campus accommodation (see **Chapter 5** – Campus site options).
- 6.3.20 The routes shown in the map are indicative at this stage and we anticipate that further work will be undertaken on the alignment and design options for the routes and how they would integrate into the construction area. This work will carefully consider issues of landscape, heritage, ecology and residential amenity and will take account of consultation feedback.



- 6.3.21 We envisage that once Sizewell C had been built, we would remove the new infrastructure and restore the land.

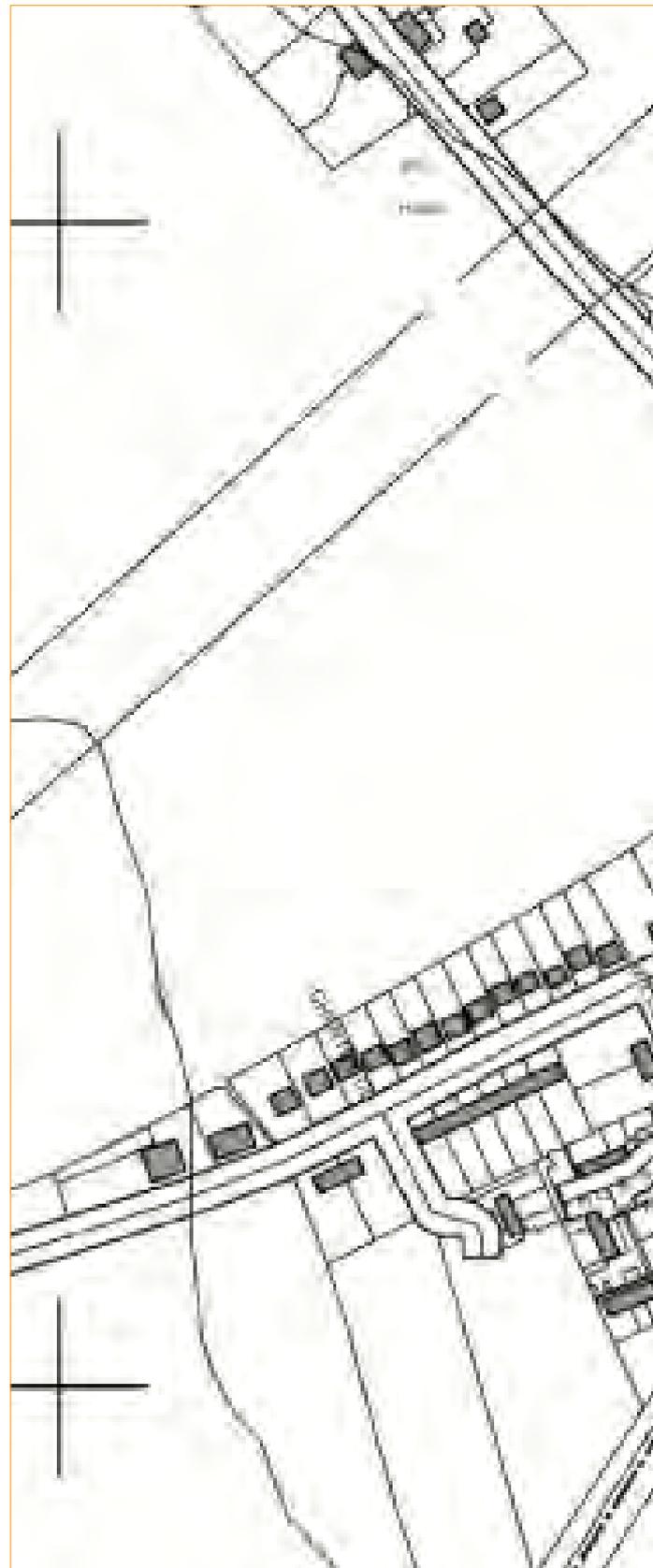


Figure 6.17: Potential route options for rail line extension (Option 2)

KEY			
	Sizewell C Development Site		Rail Extension Red Route
	Existing Railway Line		Rail Extension Green Route
			Rail Extension Blue Route

## Passing Loop at Wickham Market Station

- 6.3.22 To allow either of the two rail options to be built, we would provide support to Network Rail to help construct a 'passing loop' on the East Suffolk line between Ipswich and Lowestoft at Wickham Market Station (see **Figure 6.18**). Much of the existing East Suffolk line is single track, which significantly restricts its capacity as it can only run trains in one direction at a time.
- 6.3.23 Adding a passing loop would enable a train running in one direction to wait while another train running in the other direction goes past. This would increase the freight capacity of the East Suffolk Line to at least the levels that might be required for Sizewell C (up to around five freight trains per day). It would also offer a potential legacy benefit for passenger and freight services on the East Suffolk line.
- 6.3.24 We anticipate that all the work required to construct the passing loop would be on land already owned by Network Rail. Our initial discussions with Network Rail suggest that they would support this development.
- 6.3.25 We are also discussing further with Network Rail the need for some smaller scale refurbishment and changes to the existing branch line between Saxmundham and Leiston to ensure it is able to cope with the increased traffic.



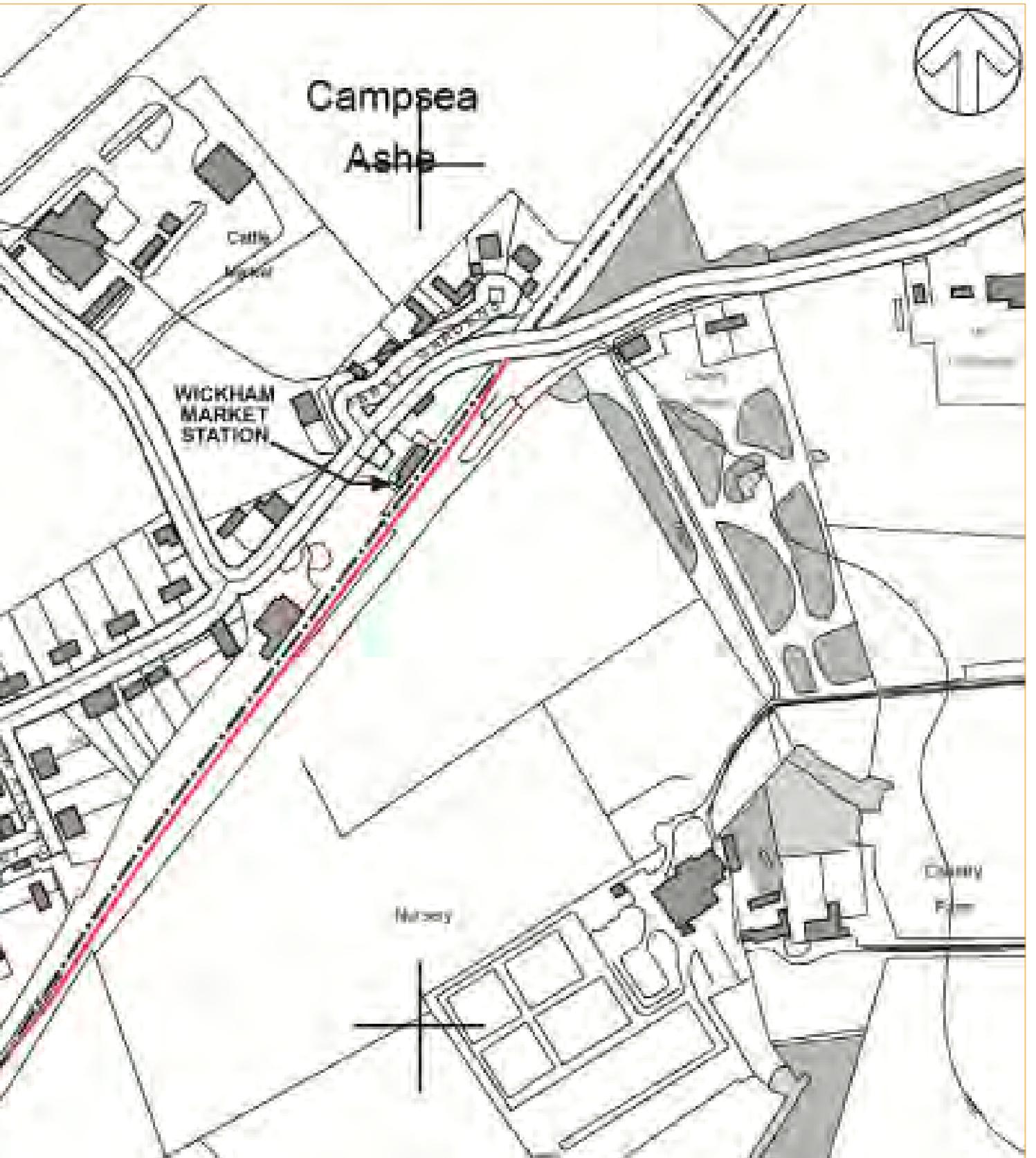


Figure 6.18: Passing loop at Wickham Market Station

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## Freight by road

- 6.3.26 Although we would plan to transport large amounts of freight by sea and rail, there would still be a certain amount of freight that could not practicably be moved other than by road.
- 6.3.27 In order to reduce the impact on local residents we would agree with Suffolk County Council approved HGV routes for all our construction traffic. These would avoid local or rural roads as far as is practicable.
- 6.3.28 We anticipate that the approved route to and from the Sizewell C site for HGV traffic would be the A12 and then the B1122 (see **Figure 6.19**). This was the approved route during the construction of Sizewell B. It avoids HGVs passing through Leiston, Saxmundham and most other local villages. We expect that the majority of HGVs would be coming from the south on the A12.
- 6.3.29 Our current work suggests that the construction of Sizewell C might require an average of between 100 and 300 deliveries per day during the peak years of construction (representing between 200 and 600 two-way movements).
- 6.3.30 We are very conscious of the strong desire to reduce HGV movements and therefore reduce the impacts on residents and communities. We will continue to pursue the objective of reducing movements where practicable.
- 6.3.31 We anticipate that controls on the number and timing of HGV movements through the local road network, to avoid or reduce movements at sensitive hours, would be agreed as part of the planning process for Sizewell C.

## Lorry Park

- 6.3.32 In order to support the management of road deliveries to the Sizewell C Development Site, we are considering the construction of a lorry park, known technically as a freight management facility (FMF).
- 6.3.33 A lorry park such as this would provide short-term parking for around 50 to 100 HGVs along with associated facilities. The lorry park would help us manage and control deliveries to the construction site – and provide a location where lorries could be held in the event of an incident on the route to the Sizewell C Development Site.
- 6.3.34 It is possible that many of these functions could be achieved via automated monitoring and communication systems. Therefore, the need for a dedicated lorry park would in part depend on the final anticipated number of HGV movements, taking account of our proposed investment in sea and rail.
- 6.3.35 If an FMF were needed, there are a number of places it could be located. Our preferred option would be to co-locate the lorry park with the southern park and ride facility (see **Chapter 6** – Park and ride). This would be relatively close to the construction site and avoid the need for an additional development with consequential environmental impacts.
- 6.3.36 Alternatively, a site to the south-east of Ipswich could potentially be found. This would control HGV movements before the A12. We are aware that a site in this location could offer potential advantages to Suffolk County Council as it could also provide a location where container lorries could be held when the Port of Felixstowe is closed (Operation Stack).

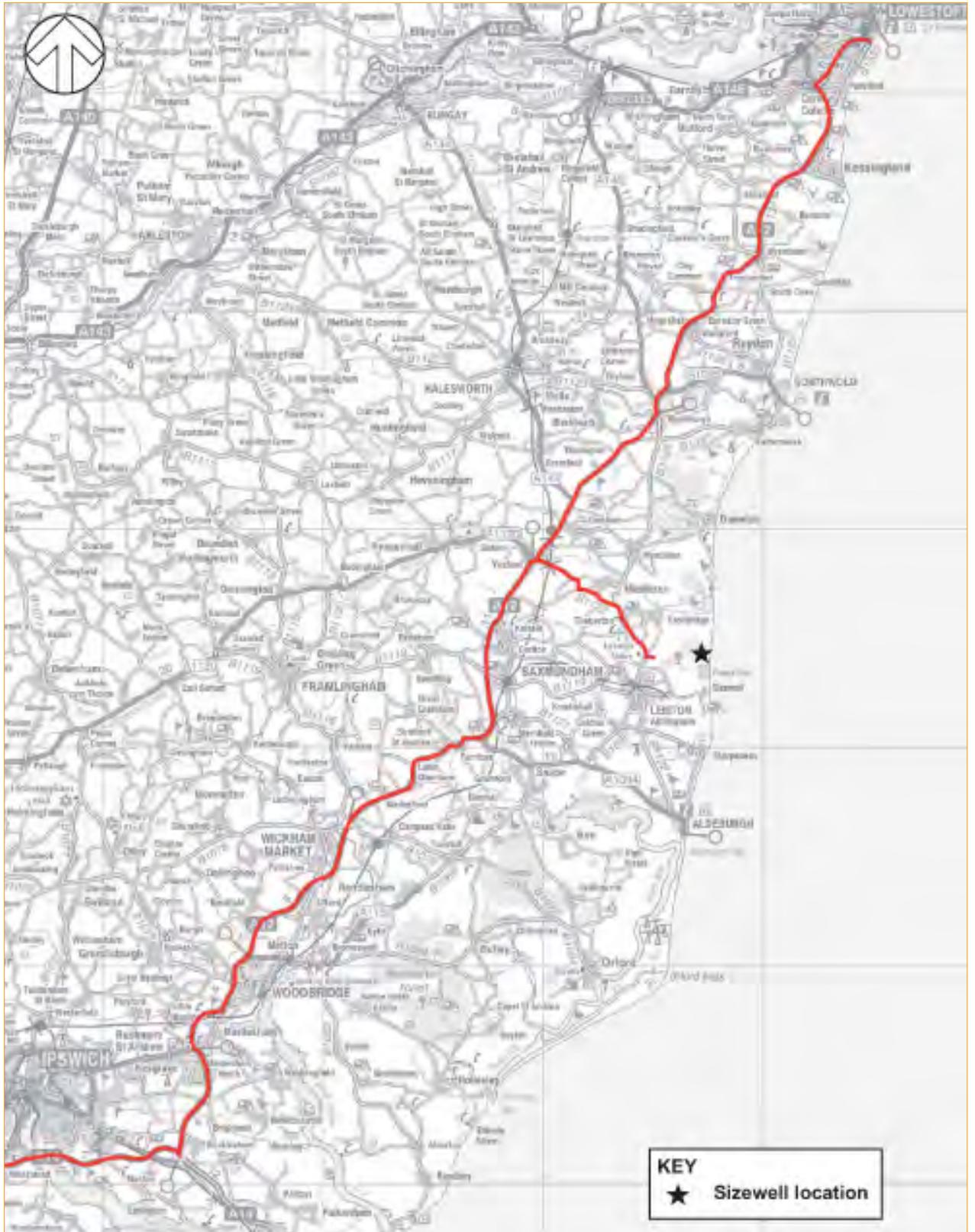
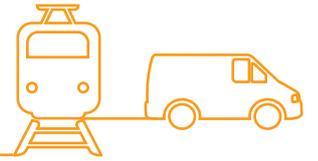
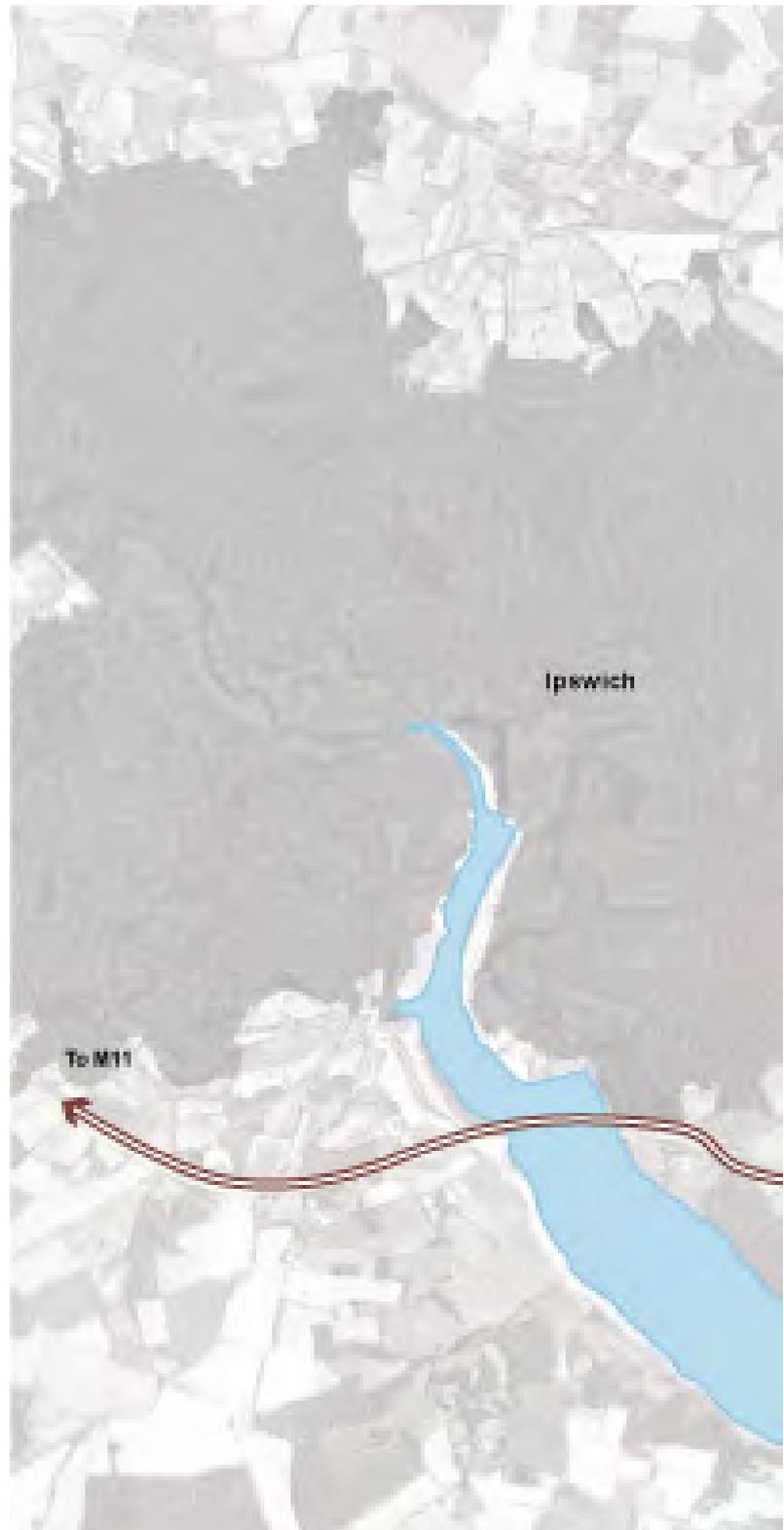


Figure 6.19: Road freight routes

6.3.37 The additional site options we are considering for freight management are shown in **Figure 6.20**. We would like to hear your views on these:

- › Option 1: A14 Orwell Lorry Park West
- › Option 2: A14 Orwell Lorry Park East
- › Option 3: A12/A14 Seven Hills Junction



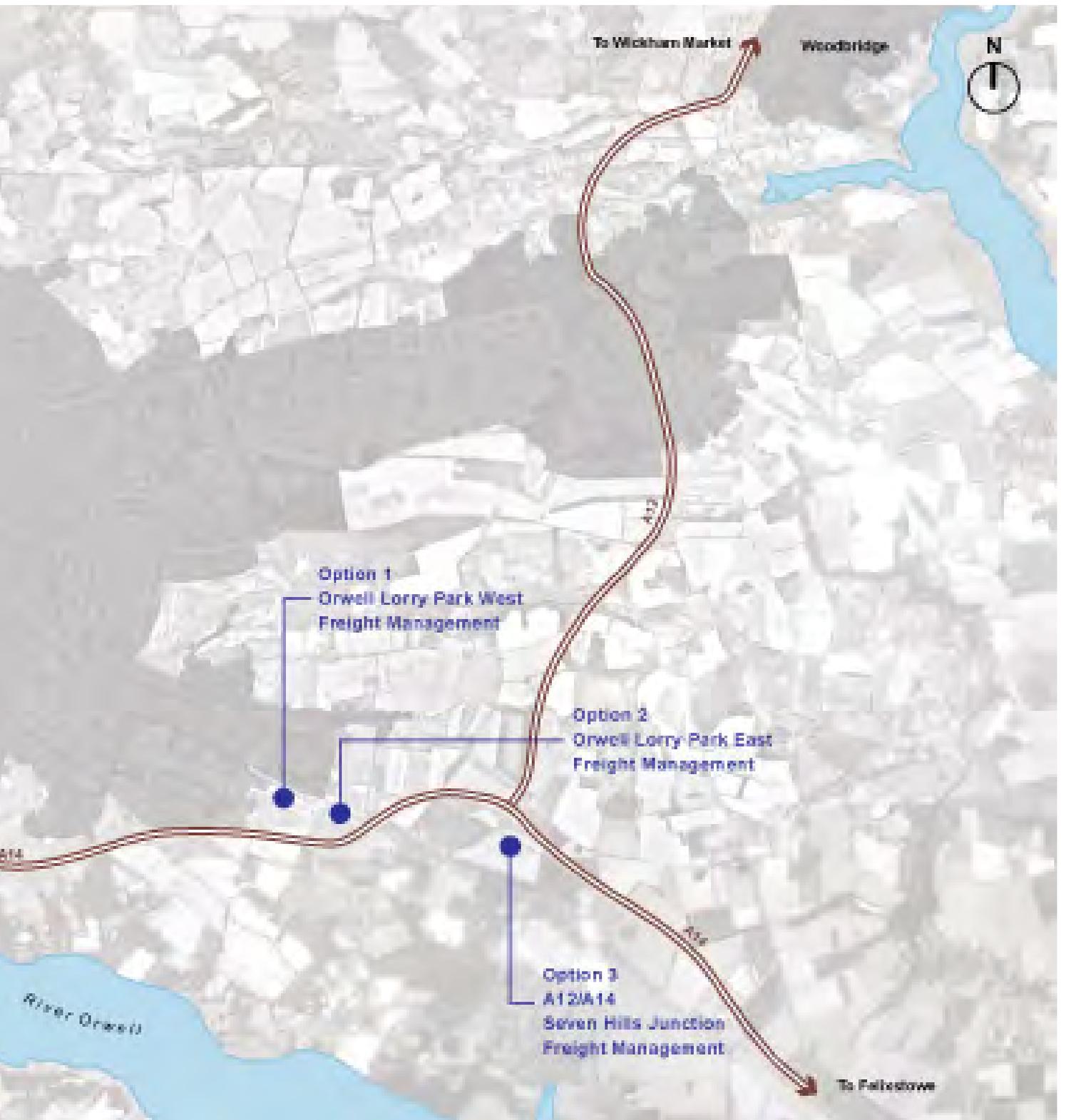


Figure 6.20: Lorry park site options map

## Options 1 and 2: Orwell Lorry Park (Options West and East)

### Location & surroundings

6.3.38 The Orwell Crossing Lorry Park is an existing privately-operated facility located on the A14 to the south-east of Ipswich and 4km east of the Orwell River. There are also a number of other businesses located in the central area of the site to the north of the lorry park. There is vacant land to the west and east of this central area which is proposed here as Option 1 (West) and Option 2 (East), although we would only need to use one of these.

6.3.39 The entire vacant site covers approximately 23 hectares (see **Figure 6.21**). The western site is presently allocated for employment use and adjoins the Ransomes Europark industrial estate. There is residential housing to the north of the site, fronting the A1156 to the north of the railway line.

6.3.40 The eastern site is unallocated. It lies within an isolated fragment of the Suffolk Coast and Heaths AONB, separated from the rest of the AONB by the A14 corridor. There is a public footpath running through the centre of the site, which would require a diversion. There is

residential housing along the site's northern boundary to the north of the railway.

6.3.41 We consider that the main advantages of the western site are that it is already allocated for employment use and lies outside of the Suffolk Coast and Heaths AONB. The residential properties to the north are located on the other side of a railway and a road and are therefore relatively well separated from the site. The advantage of the eastern site is that the use of land in this area is likely to be required in any event in order to construct a new access into the site from the A14. Its disadvantages are that it is located within the AONB and the residential properties to the north are separated from the site only by a railway.

### Indicative layout

6.3.42 We believe that both sites could best be accessed by a new junction off the A14 located to the east of the existing site entrance which would be closed (see **Figures 6.22 and 6.23**) The new access could also serve the existing lorry park.

6.3.43 In each option the facility would be centrally positioned with grassed earth mounds surrounded by screen planting. In the case of the Eastern option the footpath would be diverted around the site's perimeter.



Figure 6.21: Orwell lorry park location plan (Options West and East)



Figure 6.22: Orwell lorry park zoning diagram (Option 1 West)



Figure 6.23: Orwell lorry park zoning diagram (Option 2 East)

## Option 3: A12/A14 Seven Hills Junction

### Location & surroundings

- 6.3.44 This site is located at the A12/A14 junction to the south-east of Ipswich, between the A14 to the north and the A1156 Old Felixstowe Road to the south (see **Figure 6.24**). It would be accessed off the Old Felixstowe Road.
- 6.3.45 The site covers 12 hectares and is part of a large arable field. Seven Hills Crematorium is located immediately to the west of the site.

### Indicative layout

- 6.3.46 We envisage that the lorry park would be positioned so that there would be adequate space to the west to provide an effective landscape screen. Screening would also be provided along the site's other boundaries (see **Figure 6.25**).
- 6.3.47 Once Sizewell C had been built this site could be restored to farmland. Alternatively, it would be well positioned to potentially be used for lorry parking, if needed, given its strategic location next to the A12/A14.

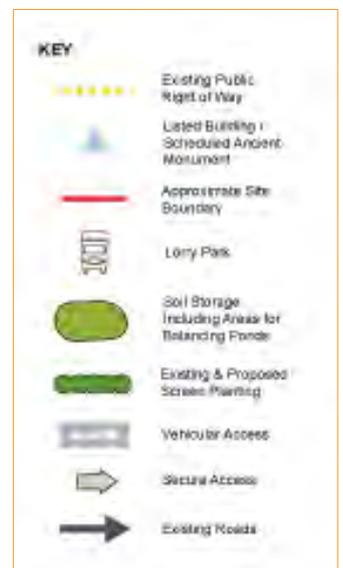




Figure 6.24: A12/A14 Seven Hills Junction location plan (Option 3)



Figure 6.25: A12/A14 Seven Hills Junction zoning diagram (Option 3)

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## 6.4 Traffic impacts of Sizewell C

- 6.4.1 As part of the planning process, we are required to assess in detail the likely significant traffic impacts of Sizewell C. This process is underway. We are working closely with Suffolk County Council, the highway authority for the local road network. We are in the process of building a detailed traffic model of the local area, which will be used to assess in detail the anticipated traffic impacts under a range of scenarios.
- 6.4.2 We have conducted preliminary modelling of the potential impact of Sizewell C and this work will continue to be developed and refined. We recognise that some of the most likely areas of potential traffic impact during the construction are on the A12 and the B1122 - the route that would be taken by our HGVs. Many cars and buses would also use this route to reach the site.
- 6.4.3 The A12 between Ipswich and Lowestoft would be the main corridor for a lot of Sizewell C traffic. Much of the A12 is dual carriageway and our initial analysis suggests that Sizewell C traffic would not create capacity or congestion concerns on the large majority of the road – including both dual carriageway and single carriageway sections.
- 6.4.4 We recognise that the single carriageway ‘four villages’ section of the A12 through the villages of Marlesford, Little Glemham, Stratford St Andrew and Farnham is one of the more sensitive stretches of the A12 and that a bypass of these villages has the support of Suffolk County Council and has been publicly linked to the construction of Sizewell C.
- 6.4.5 We are therefore carefully examining whether the traffic impacts of Sizewell C would be likely to justify or require a bypass of some or all the villages in this area. Our view at this time is that a full four village bypass is not possible to justify on this basis.
- 6.4.6 A key consideration is that the additional traffic generated by Sizewell C would represent only a relatively modest addition to existing traffic flows.
- 6.4.7 Our current estimates are that the total traffic impact would be in the region of between a 5% and a 15% addition to all-vehicle daily traffic flows at the period of peak construction. While these estimates will be subject to further detailed work, they are not of a scale likely to cause major changes to traffic or environmental conditions on this stretch of road or justify a major intervention in the form of a bypass.
- 6.4.8 We appreciate that there is a view that a bypass of the four villages should be built regardless of the Sizewell C Project. However, it is not for EDF Energy to fund or sponsor a bypass which could not be justified by or related to the impacts of Sizewell C.
- 6.4.9 The most recent study into a bypass, commissioned by Suffolk County Council in 2006, concluded that the combined environmental, landscape and heritage impacts of constructing a full bypass would be such that they would not be likely to be deemed acceptable against the tests set by planning policies at that time. We are not aware of any changes to relevant planning policies since 2006 likely to change this conclusion.
- 6.4.10 Although we are of the view that a bypass could not be justified by Sizewell C traffic, we are seeking through our transport strategy proposals to reduce the impacts of our traffic through this single-carriageway stretch of the A12, just as with other local villages which could be impacted by the development.
- 6.4.11 The major investment proposals set out above to use rail and sea for freight deliveries are indicative of that commitment. Our proposals to locate a park and ride development south of Marlesford would also significantly reduce peak traffic impacts.

### Farnham bend

- 6.4.12 The narrow bend at Farnham is widely recognised to be the most significant existing issue on the ‘four villages’ stretch of the A12. It is the area which is closest to capacity and the narrow bend creates a potential safety concern, particularly when two large vehicles are passing at once.
- 6.4.13 In this area our preliminary conclusions are that Sizewell C traffic could have the potential to cause some additional capacity constraints and congestion at the Farnham bend at peak periods. We also consider that the additional HGV traffic associated with our development could exacerbate safety concerns associated with the narrow bend.
- 6.4.14 For these reasons we consider that mitigation measures to improve the position at Farnham bend might be justified by our proposed development of Sizewell C. We are therefore inviting views on a number of potential alternative mitigation options for Farnham bend.

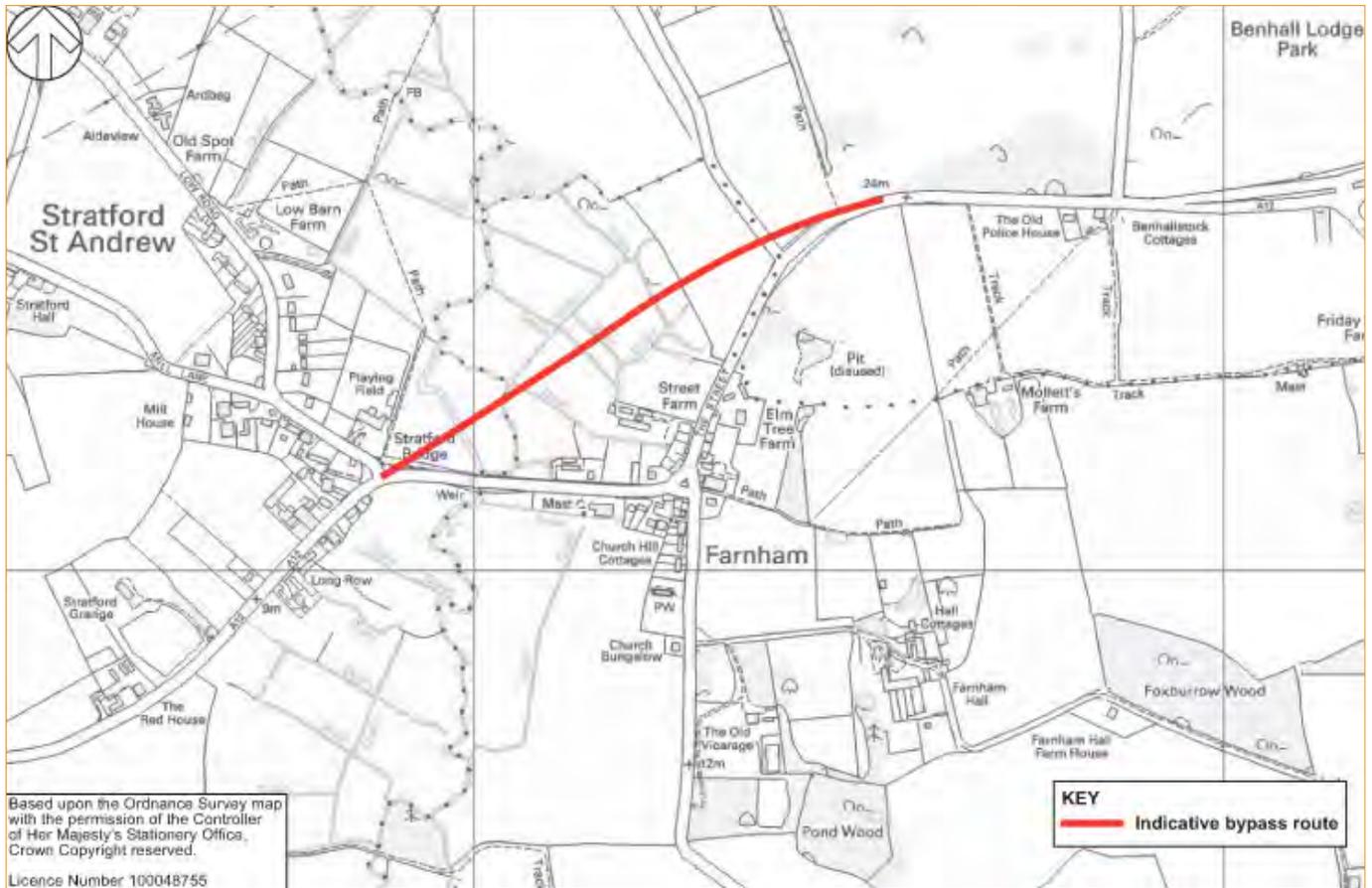


Figure 6.26: Indicative location of Farnham bypass

## Option 1: Farnham bypass

6.4.15 A bypass of Farnham has been considered in earlier studies of options for bypassing the four villages. The route considered in the 2006 study ran to the north-west of Farnham. We consider that this would be the most appropriate route for any bypass of Farnham. An indicative alignment for such a bypass is set out in **Figure 6.26**.

6.4.16 A bypass of Farnham would be approximately 1km in length and composed of a single lane in each direction with accompanying landscaping. At the southern end of the route it would adjoin the existing A12 close to Stratford St Andrew and at the northern end it would adjoin the existing A12 north of Farnham.

6.4.17 Details of the bypass and junction arrangements would be subject to further work if this option were progressed.

6.4.18 A bypass of this kind would remove existing capacity and safety concerns associated with the current bend at Farnham, improve traffic flow and reduce accident risks. Properties near the road in Farnham would benefit from a large reduction in traffic flows through the village.

6.4.19 Equally, it is recognised that there would be some environmental impacts (in particular landscape, ecology and heritage) associated with constructing a short new stretch of road through what is currently an area of farmland and open countryside. These impacts could be reduced through sensitive design and landscaping.

## Option 2: Road widening at Farnham bend

6.4.20 An alternative proposal to improve Farnham bend would be to widen and smooth the existing bend to reduce the potential for traffic congestion at peak times and remove safety concerns associated with the narrowness of the bend.

6.4.21 However to implement this option would require us to acquire and demolish a small number of properties closest to the bend. A number of different schemes of this kind were considered in the 2006 study. The scheme shown in **Figure 6.27** is the minimum which we consider would

be required to achieve a satisfactory degree of widening of the bend and would involve the demolition of two properties including one Grade II listed building.

6.4.22 Were we to take forward this option we would work sensitively and sympathetically with those residents who would need to relocate – with the objective of ensuring a satisfactory alternative solution for all those directly impacted.

6.4.23 A road widening scheme at Farnham bend would produce fewer environmental and landscape impacts than a bypass. It could be effective in addressing the current safety concerns associated with the bend and improve traffic flow to some degree, but it would not have the effect of removing traffic from the village of Farnham.



Figure 6.27: Indicative Farnham bend alteration



### **Option 3:** HGV traffic controls at Farnham bend

- 6.4.24 We have considered a limited form of intervention at Farnham bend involving some form of traffic control to prevent two HGVs passing through the bend at once.
- 6.4.25 Such a system could be relatively effective in reducing safety risks at Farnham bend and improve the ability of pedestrians and other road users to cross the A12 in this area.
- 6.4.26 However this option would have no positive effect on traffic flow through the bend and indeed would worsen the potential for congestion. As with a road widening scheme, all A12 traffic would continue to route through Farnham. For these reasons we consider it to be a less attractive option.

#### **Farnham bend - Summary**

- 6.4.27 In summary, we do consider that intervention to improve the situation at Farnham bend could be justified by extra Sizewell C traffic, in particular additional HGVs.
- 6.4.28 We have presented a number of mitigation options for Farnham bend and we invite views on the case for intervention and the options presented.
- 6.4.29 We recognise that there is no simple solution to this issue and that all options have some positives and negatives. We will take careful note of responses to this consultation – and in particular from those who would be most directly affected by the different proposals.

### **Road traffic impacts on the B1122**

- 6.4.30 As noted previously, we anticipate that the B1122 would be the approved HGV route for traffic between the A12 and the Sizewell C construction site. It would also be the route taken by some cars and buses.
- 6.4.31 Current traffic flows on the B1122 are relatively modest and much lower than on the A12. As such, Sizewell C traffic is not likely to cause any capacity or congestion problems on most of the B1122.
- 6.4.32 We do however consider that the junction of the A12 with the B1122 at Yoxford is likely to require improvement to ensure a smooth flow of traffic and avoid disruption to flows on the A12. We will bring forward more detailed proposals at a future stage of consultation but at this stage our initial assessment suggests that a roundabout could be required.
- 6.4.33 We also recognise that, in percentage terms, the impact of Sizewell C traffic would be much greater on the B1122 than on the A12, or indeed almost any other local road. We recognise the potential for this traffic to cause negative noise and amenity impacts to a relatively small number of properties near the B1122 and in the village of Theberton.
- 6.4.34 We will consult with the residents of these properties and the villagers of Theberton to discuss the form of mitigation which might be most appropriate to their circumstances and the impacts of Sizewell C. Any specific proposals in this area would be subject to further consultation.

### **Other road traffic impacts from Sizewell C**

- 6.4.35 The process of assessing the likely traffic impacts of Sizewell C will continue throughout the pre-application consultation process. As our proposals develop, and decisions are made on the size, nature and location of any proposed associated development, this will impact on the precise traffic impacts to be expected. We will also continue to improve and refine the traffic modelling which will inform our position.



Example consultation event

# 7

## What happens next?

› 7.1 Consultation events



## 7.1 Consultation events

- 7.1.1 We encourage you to visit one of our consultation events (see **Figure 7.1** for dates and locations). The Sizewell C project team will be available at these events to help you understand the proposals and answer your questions.
- 7.1.2 We will undertake to consider your feedback and to take it into account as we prepare detailed plans for Sizewell C.

Town	Venue	Date	Time
Leiston	Leiston United Church, High Street	Friday 23 November	2 - 8pm
Leiston	Leiston United Church, High Street	Saturday 24 November	12.30 - 4.30pm
Theberton	St Peters Church	Monday 26 November	2 - 8pm
Westleton	The Village Hall, Darsham Road	Tuesday 27 November	2 - 8 pm
Saxmundham	Market Hall, High Street	Thursday 29th November	2 - 8pm
Yoxford	The Village Hall, Old High Road	Friday 30th November	12 - 5pm
Stratford St Andrew	The Riverside Centre, Great Glemham Road	Saturday 1 December	10am - 4pm
Southwold	The Methodist Church, East Green	Tuesday 4 December	2 - 8pm
Halesworth	The Rifle Hall, London Road	Wednesday 5 December	2 - 8pm
Wickham Market	The Village Hall, High Street	Thursday 6 December	2 - 8pm
Aldeburgh	The Baptist Church, High Street	Friday 7 December	2 - 8pm
Melton - Woodbridge	The Lindos Centre, Saddlemakers Lane	Saturday 8 December	10am - 4pm

Figure 7.1: Consultation events







Appendix B.4 Consultation Summary Document (Stage 1) (November 2012)

# Initial Proposals and Options Consultation Document Summary



**Sizewell C** | Proposed  
Nuclear  
Development  
Stage 1 Pre-Application Consultation

*November 2012*







# Foreword

EDF Energy is delighted to begin the formal consultation for our proposed new nuclear power station, Sizewell C. We look forward to discussing our plans with local communities in Suffolk and with other stakeholders.

Sizewell C would generate enough electricity to supply one in five homes in Britain. It would make an important contribution to the UK's future needs for low carbon, secure and affordable energy.

It would also create significant business, training and employment opportunities locally, regionally and throughout the UK.

I urge you to play an active role in this consultation process and encourage you to visit one of our consultation events (see table for dates and locations). The Sizewell C project team will be available at these events to help you understand the proposals and answer your questions.

We will undertake to consider your feedback and to take it into account as we prepare detailed plans for Sizewell C.

## Richard Mayson

**Director of Planning and External Affairs  
Nuclear New Build, EDF Energy**

### Consultation events

Town	Venue	Date	Time
Leiston	Leiston United Church, High Street	Friday 23 November	2 - 8pm
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Melton - Woodbridge	The Lindos Centre, Saddlemakers Lane	Saturday 8 December	10am - 4pm

# The Consultation

## Consultation process

EDF Energy<sup>1</sup> intends to submit an application to the Secretary of State for development consent to construct and operate a new nuclear power station, Sizewell C, along with accompanying associated development. Prior to submitting this application, we<sup>2</sup> are consulting on our proposals. This is Stage 1 of our pre-application consultation.

This document summarises our Stage 1 initial proposals and options for the new power station and the associated development.

This is your first opportunity to obtain information on the proposals and to give us feedback on our work so far.

In addition to this summary, the documents available for the Stage 1 consultation are:

- › **Consultation Document**
- › **Transport Strategy and Supporting Information**
- › **Environmental Report**

The Stage 1 consultation will be open until 6 February 2013 and responses must be received by this date. Following Stage 1 of the consultation we will consider all responses and feedback and use them to inform the development of our plans. We will then publish our preferred options in a Stage 2 consultation. Stages 1 and 2 may be supplemented by limited, focused stages of further consultation where necessary.

<sup>1</sup> NNB Generation Company Limited, whose registered office is at 40 Grosvenor Place, London, SW1X 7EN (referred to in this document as "EDF Energy")

<sup>2</sup> Please note: throughout this document all uses of 'we', 'us', 'our' and 'the company' refer to EDF Energy

Before starting Stage 1 consultation, we prepared and published a Statement of Community Consultation explaining how we propose to consult the local community about our proposals. In preparation for this we consulted the relevant local authorities about what it should contain. For more information see: <http://sizewell.edfenergyconsultation.info>.

## Scope of consultation

Throughout the consultation process we encourage you to comment on:

- › Our overall proposals for the Sizewell C nuclear power station;
- › Options for associated development needed to support the construction and/or operation of the power station; and
- › The potential effects on the local community, both positive and negative.

Where we have a preferred option for our associated development proposals, we have identified our preference and set out the reasons why it is preferred.

The principle of the need for new nuclear power stations and the choice of Sizewell as a potentially suitable site have already been determined and voted on by Parliament, following public consultation and debate. These are outside the scope of this consultation.

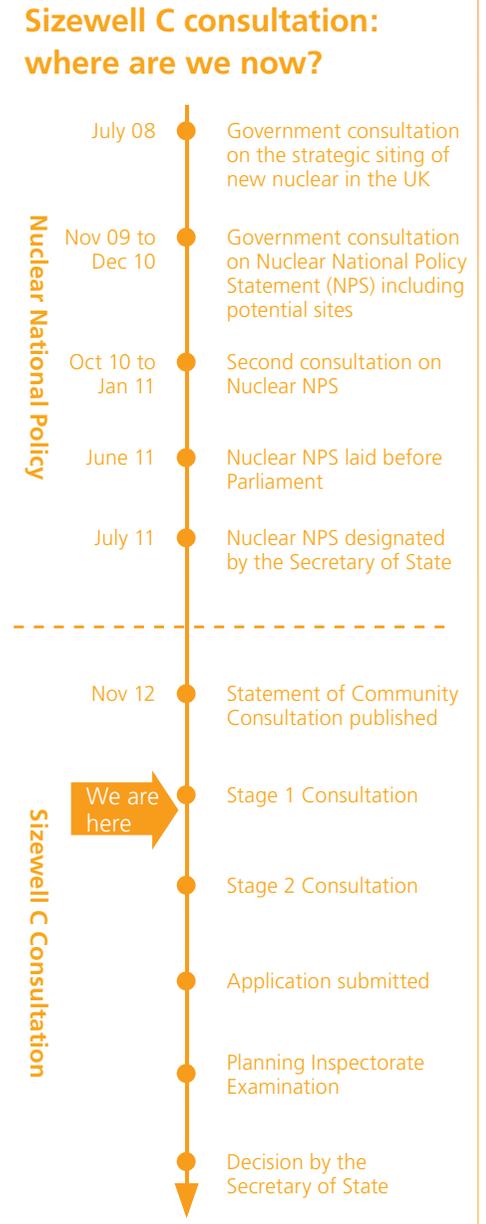
## How to respond to this consultation

You can respond in the following ways:

- › A public questionnaire can be found at the back of this document, and online at: <http://sizewell.edfenergyconsultation.info>.
- › You can email your comments on this document to: [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info).
- › Written responses can be posted to Sizewell Nuclear New Build, FREEPOST LON20574, London, W1E 3EZ
- › You can also call our freephone number 0800 197 6102 during normal office hours.

Copies of all the documents are available to view during the Stage 1 consultation period at the Sizewell C Information office 9.30am-5pm Mon-Fri and 9am-12pm Sat (48-50 High Street, Leiston, IP16 4EW); during normal office hours, in the offices of Suffolk County, Suffolk Coastal District, Waveney District and Ipswich Borough Councils; and at the public exhibitions and events that will be held during the consultation period. Documents will also be available in a number of local public libraries, on disc and to download by visiting the Project website: <http://sizewell.edfenergyconsultation.info>.

Please remember that the deadline for responses to this first stage of our consultation is 6 February 2013.



Consultation flowchart

# Sizewell C power station

We plan to build the new nuclear power station in Suffolk, on land immediately to the north of Sizewell B power station and in an area that has had nuclear power stations operating since 1966.

Should we receive the necessary consents, and once the site has been prepared, we expect that construction of the power station would take approximately seven to nine years.

Information on the Project aims and objectives can be found in the **Consultation Document**.

## Components of the power station

Once built, the Sizewell C power station buildings would occupy approximately 32 hectares of land. Our approach to the Sizewell C Project takes into account the sensitive nature of the surrounding environment.

The permanent components of the power station would be:

- › two UK EPR reactor units made up of reactor buildings and associated buildings (the 'Nuclear Island'), and turbine halls and electrical buildings (the 'Conventional Island');
- › cooling water infrastructure including pumphouses, associated buildings, tunnels extending out to sea and headworks;
- › interim storage for nuclear waste and spent fuel;
- › external plant including bulk storage tanks;
- › operational service centre and ancillary, office and storage buildings;



Indicative operational landscape plan

- › transmission infrastructure including a National Grid 400kV substation, removal and relocation of one existing National Grid pylon/tower and associated realignment of power lines;
- › internal roads, a bridge, car parking and a helipad;
- › access road to adjoin the B1122 and related junction improvements;
- › sea protection;
- › Simulator Building/Training Centre;
- › a Sizewell Visitor Centre; and,
- › landscaping of the areas to be restored following their use during construction.

# Sizewell C Power Station

## UK EPR

The Sizewell C site would include two reactors, known as UK EPRs, capable of generating enough electricity to supply approximately five million homes in Britain.

The design of the UK EPR is based on technology used successfully and safely around the world for many years. It includes innovations to enhance performance and safety.

The UK EPR is currently undergoing a Generic Design Assessment process, carried out by the Office for Nuclear Regulation (ONR) and the Environment Agency. For more information see:

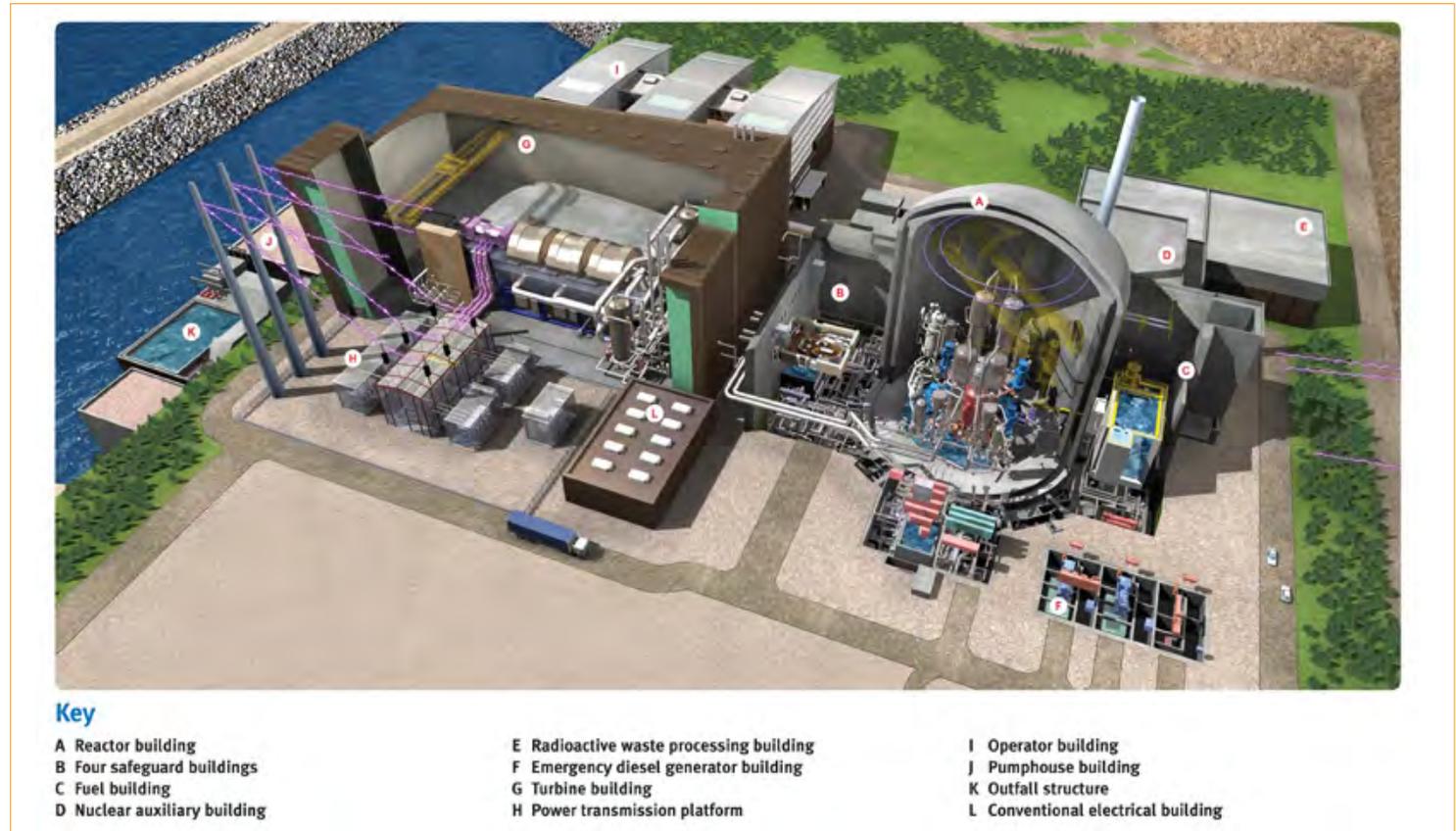
[www.hse.gov.uk/newreactors](http://www.hse.gov.uk/newreactors).

## Fuel and waste

The design of the UK EPR makes the most efficient use of fuel possible, ensuring the least possible amount of spent fuel is produced.

Spent fuel removed from the reactors would initially be stored underwater in a reactor fuel pool. The spent fuel and intermediate level radioactive waste would be kept on-site until a national geological disposal facility becomes available.

Low-level waste would be treated on-site to limit its volume and, after appropriate conditioning and packaging, it would be removed for disposal.



Illustrative UK EPR Reactor Unit Layout

## Safety

We make safety our overriding priority. Nuclear power is one of the most rigorously regulated industries in the UK. In order to operate the proposed new nuclear power station we would require a nuclear site licence from the ONR and environmental permits from the Environment Agency.

## Decommissioning

At the end of electricity generation at Sizewell C the site would be decommissioned, a process likely to take about 20 years. However, the spent fuel store would continue to operate until a national geological disposal facility becomes available.

## Sizewell C access

We propose to build a new access road to link the Sizewell C site to the B1122. This would be the main route to bring workers and materials onto the site during construction and the main access for Sizewell C once the station is operational. This access road is required due to regulatory requirements that all new nuclear power stations have two separate accesses. The existing Sizewell power stations' road would provide the secondary access.

## Environmental considerations

A range of potential impacts on the environment could arise from the construction and operation of the power station. The assessment of whether any of these potential impacts are likely or significant is currently underway as detailed in the Environmental Report published alongside this Summary Document.

### Landscape

The Sizewell C site is within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) and on the Suffolk Heritage Coast. Our proposals will be carefully designed to mitigate any adverse effects on these areas.

We will also prepare a landscape strategy for the areas to be restored after construction, and for the rest of the land in the area owned by EDF Energy. Our aim is to make long-term landscape improvements once the power station has been built.

### Ecology

The Sizewell C site lies within an area of ecological sensitivity - the Sizewell Marshes Site of Special Scientific Interest (SSSI) - and would require a small part of the SSSI to be developed. We would limit land take from the SSSI and are exploring opportunities to provide replacement habitat nearby.

We are running an extensive programme of studies to understand the potential impact on marine ecology and fisheries so that we can identify any appropriate mitigation measures.

### Historic environment

We are committed to taking the historic environment – including archaeology and heritage assets, such as Leiston Abbey - into full consideration in the development of Sizewell C. The potential for unrecorded archaeology to be present is being investigated and, if features of interest are found, we would preserve them in a manner to be agreed with the local authorities and English Heritage.

### Coastal processes

We have been monitoring coastal processes in the area surrounding Sizewell C for a number of years. Our studies will help us decide how best to protect Sizewell C while limiting effects on the local environment as far as practicable. The future evolution of the coastline itself and the offshore Sizewell and Dunwich Banks, and the potential long-term interactions between the Minsmere Sluice, local shores and Sizewell C are being considered as part of our studies.

### Flood risk assessment

Our proposals for Sizewell C will take into account risks associated with potential flooding, notably from the North Sea, nearby rivers and other watercourses. We will also take into account any risks that may arise through climate change. We will work closely with the Environment Agency and other key stakeholders, including the local authorities and the local Internal Drainage Board, to develop a robust flood risk assessment and to agree any suitable mitigation measures.

### Footpaths

We recognise that footpaths and access to the beach are important and we would aim to restrict access only when necessary to ensure public safety during essential engineering works. During the construction of Sizewell C, some public footpaths would be closed or diverted, however, any closures of footpaths would be agreed with the local authority and the public would be given advance notice.



Sizewell Beach

## Sizewell C Power Station

### Visitor Centre

We are proposing to build a new Visitor Centre, which would eventually replace the temporary Visitor Centre at Sizewell B. It would be open to members of the public and would be an education facility to enable people to find out more about our nuclear power stations and how we generate electricity.

There are three options for its location and we would like to hear your views about these:

#### Option 1: Lover's Lane

This option is located next to one of the accommodation campus options. This would give distant views of the power stations and could be linked to existing footpaths.

#### Option 2: Sizewell Beach

This would be located close to the existing tourist facilities on the beach. On leaving the centre, visitors would be able to view the power stations on a short walk along the beach.

#### Option 3: Goose Hill

This site would provide the best view of Sizewell C as well as giving access to the beach.



Indicative Visitor Centre location options

## Construction and temporary development

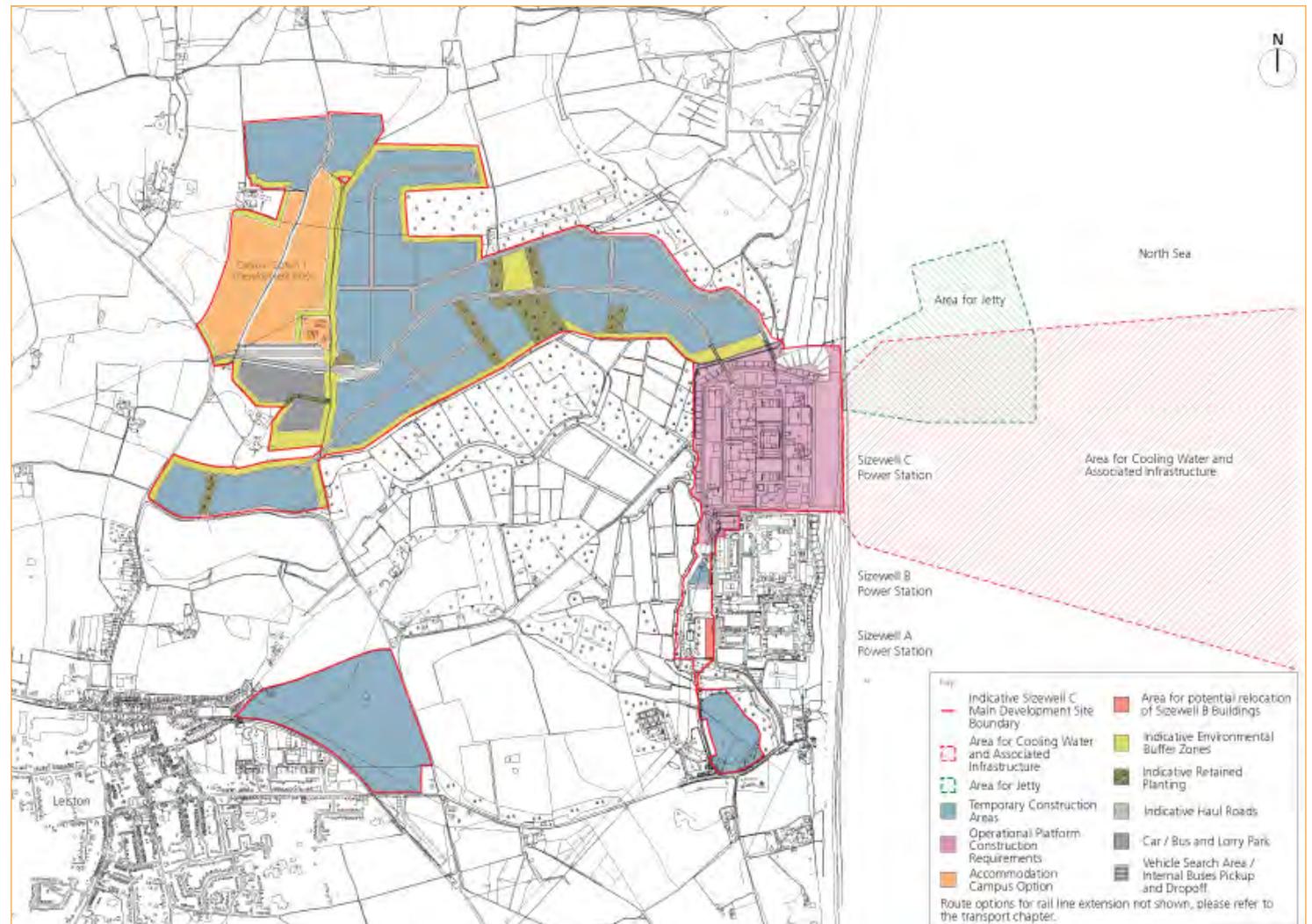
Some land near the power station site would be needed during construction, for example, to store building materials and equipment, to assemble components and to store excavated material. Our plans involve use of the land adjacent to the proposed new access road in the Goose Hill area and on farmland north of Kenton Hills and around Ash Wood.

A temporary jetty to allow delivery of very large loads, import of bulk construction materials, and export of excavated materials by sea would also be necessary for construction. Once Sizewell C is operational, very large items known as Abnormal Indivisible Loads (AILs) might occasionally need to be brought in – for example to replace a major piece of equipment. This might require permanent retention of some elements of the jetty.

In addition, we propose to use land near the existing rail head in Leiston, immediately to the east of the Eastlands Industrial Estate, for construction purposes.

Two temporary bridges would be required during construction to provide access across the SSSI watercourses and between the construction areas and the main power station area.

In order to prepare the Sizewell C site for development, some works will need to take place before construction of the power station starts. This includes the relocation of some Sizewell B buildings and early site preparation.



Indicative construction masterplan

## People and Economy

### Creating long-lasting opportunities

Sizewell C would be one of the biggest and most technologically complex construction projects ever built in the UK. A key benefit for the community would be the high quality employment and training it would generate.

### The workforce

Over the lifetime of the construction project we estimate that overall approximately 25,000 employment opportunities would be created and at its peak the construction site workforce would be about 5,600 people. Other jobs would also be created off-site through increased economic activity in the area.

At the site there would be a range of shift patterns for workers, aimed at ensuring efficient working whilst reducing travel in peak periods.

We would create an employment brokerage service to support local people looking for work at Sizewell C. During operation of the power station there would be about 900 permanent jobs available.

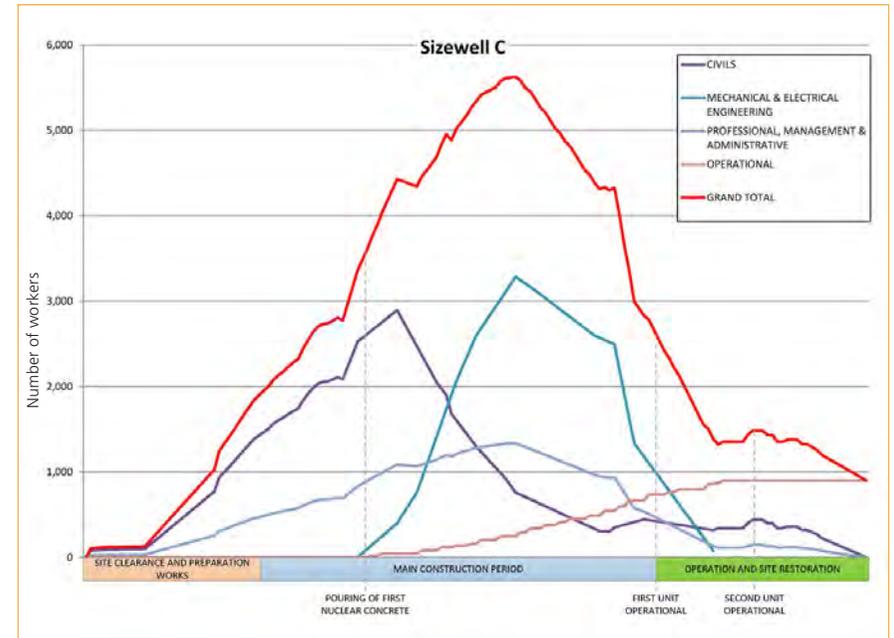
### Education and skills for employment

We will work in partnership with schools, colleges, training providers, local authorities and central government to help develop education programmes and skills required to support the construction of Sizewell C. We would also create apprenticeships and graduate schemes.

Many of the skills required during the construction would be transferable, opening up the opportunity for further employment once Sizewell C had been built. We would work to build longterm sustainable skills for future generations.

### Local business opportunities

Sizewell C would create many opportunities for local businesses to supply their goods and services. A website run by the Suffolk and Norfolk Chambers of Commerce is now available for businesses to register their interest in becoming suppliers: [www.sizewellsupplychain.co.uk](http://www.sizewellsupplychain.co.uk).



Indicative workforce profile



## Accommodation and Transport

We have developed initial plans for accommodating, and moving, the large number of people who would build Sizewell C. Our aim is to reduce the potential traffic pressure caused by workers travelling to and from the Sizewell C development site. We intend to build a temporary accommodation campus and park and ride facilities near the Sizewell C development site to reduce the number of journeys taken by private car. In addition, we are aiming to reduce the potential volume of freight on the roads by using sea and rail to move construction materials.

### Accommodation

When construction is at its peak we estimate that about 34% of the construction workforce would live at home and commute to work. The remaining 66% would live in temporary accommodation in the area and we propose to build a temporary campus for about 2,000 to 3,000 of these people. We believe our campus proposal would benefit our workers, nearby local communities, and the Sizewell C Project because:

- › it would significantly reduce the amount of travel by workers going to and from the Sizewell C site;
- › we know from experience that a campus would be likely to be popular with our workers – a similar, smaller campus created for the construction of Sizewell B had a waiting list of people wanting to stay in it;
- › it would also reduce the pressure on other local accommodation;
- › housing our construction workers close to the site would bring efficiency and productivity gains - for example, it would make it easier for staff to work flexibly in shifts to meet particular construction needs;
- › workers' response times would be shorter with key personnel nearby;
- › a single large campus would make it easier to ensure that our workers adhere to the codes of behaviour.



Campus site options map

The campus would consist of three or four-storey accommodation buildings, plus indoor and outdoor recreation and leisure facilities, car parking and services including waste and utilities. Unless otherwise identified, we intend to restore these sites to farmland after construction.

There are three options for the location of this campus and we would like to hear your feedback on these.

## Accommodation and Transport

### Option 1: Development Site Campus (preferred option)

Located next to the main construction site entrance, this option would allow people to walk to work, avoiding the need for buses. This would improve the efficiency of construction and help to limit traffic impacts.

The site is outside the AONB and is further away from designated ecological sites than the other two campus options.

We would consider ways of bringing Upper Abbey, including the Grade II listed farmhouse and barn, into productive use within the campus. The campus design would also take account of the nearby Leiston Abbey, for example through sensitive siting and the provision of screening.



Not to scale



Development Site Campus zoning diagram (Option 1)

### Option 2: Sizewell Gap Campus

This site is south of Sandy Lane and north of Sizewell Gap, about 2.4km from the main construction site entrance, so most people would take a bus to work.

The site, which could be used for the proposed Visitor Centre as well as the campus, is within the AONB.

There are also a number of important ecological sites in the local area – to the north, the SSSI, and to the south, the Leiston–Aldeburgh SSSI and the Sandlings Special Protection Area (SPA). The site would be screened from these areas.



Not to scale

Sizewell Gap Campus zoning diagram (Option 2)

## Accommodation and Transport

### Option 3: Leiston East Campus

Located in fields to the south of the Sizewell Sports and Social Club, this site is 2.7km from the main construction site entrance, so most journeys to work would be by bus.

As it is just east of Leiston, it could benefit businesses there through workers having better access to local services. A new road would be needed to reach the campus and this would lie within the AONB. The site is also in close proximity to the ecologically important Leiston-Aldeburgh SSSI and Sandlings SPA, but would be screened.

Once Sizewell C had been built, there might be the potential for the outdoor recreation area to remain for local community use.



Not to scale



Leiston East Campus zoning diagram (Option 3)

## Park and ride

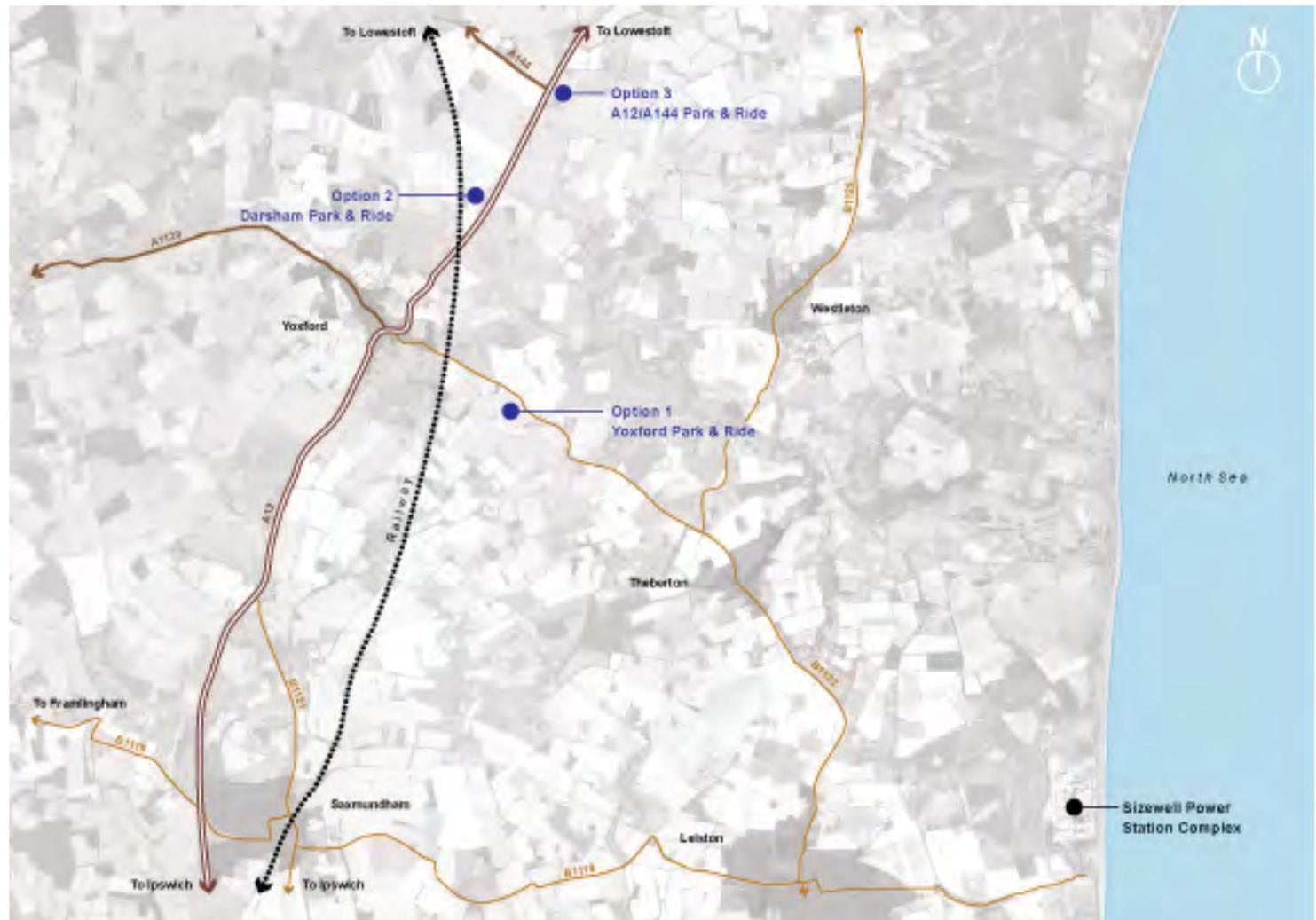
Park and ride facilities would significantly reduce the amount of Sizewell C traffic on local roads during the peak years of construction. We propose to build two temporary park and rides near the A12 – one for drivers approaching Sizewell from the north and the other for those approaching from the south. The park and rides would have spaces for up to about 1,000 cars plus space for minibuses, motorcycles and bicycles. There would be a bus interchange with shelters and a small welfare building. In addition, one of the park and rides could hold a temporary workers' induction centre and postal facilities. The southern park and ride could also include lorry parking – see the Lorry Management section on **page 23**.

Unless otherwise identified, we intend to restore the park and ride sites to their current use once construction of Sizewell C is completed.

There are three options for each of the park and ride locations and we would like your feedback on these.

For the northern park and ride, the options are:

- › Option 1: Yoxford Road
- › Option 2: Darsham
- › Option 3: A12/A144 junction



Northern park and ride site options map

## Accommodation and Transport

### Option 1: Yoxford Road

Located on the Yoxford Road, this site is ideally placed to intercept Sizewell traffic travelling south on the A12, and east along the A1120. It would also reduce traffic passing through Theberton.

The proposed layout would enhance screening of the development from the long distance views to the north and from the residential properties to the east.

Existing hedgerows within and around the site would be kept where practicable.



Not to scale



Yoxford Road zoning diagram (Option 1)

## Option 2: Darsham

This site is well positioned to intercept southbound traffic on the A12 as well as traffic travelling along the A144 from Halesworth. It would also make a good collection point for workers travelling to Sizewell C by rail.

A disadvantage of the site is that workers travelling east along the A1120 would need to divert some 1.7km along the A12 from Yoxford to reach it. The site is also quite open in aspect, although the properties along the A12 frontage are well screened from the site by trees. New planting is proposed around the site perimeter to improve screening.

We envisage that some limited infrastructure at the southern end of the site may be retained once Sizewell C is operational to enhance train station facilities.



Not to scale



Darsham zoning diagram (Option 2)

## Accommodation and Transport

### Option 3: A12/A144 Junction

This site, bounded to the west by the A12, includes the former Little Chef (now closed). The site extends behind the gardens of a row of properties on the A12, screened from the site by mature woodland.

The advantage of this location is that it is well placed to intercept traffic travelling south on the A12 and along the A144 from Halesworth.

A disadvantage of this site is that workers travelling east along the A1120 would need to divert more than 3km along the A12 to reach it.

There are a number of residential properties to the north and west, some of which are listed. Existing hedgerows within and around the site would be kept where practicable, to screen the site.



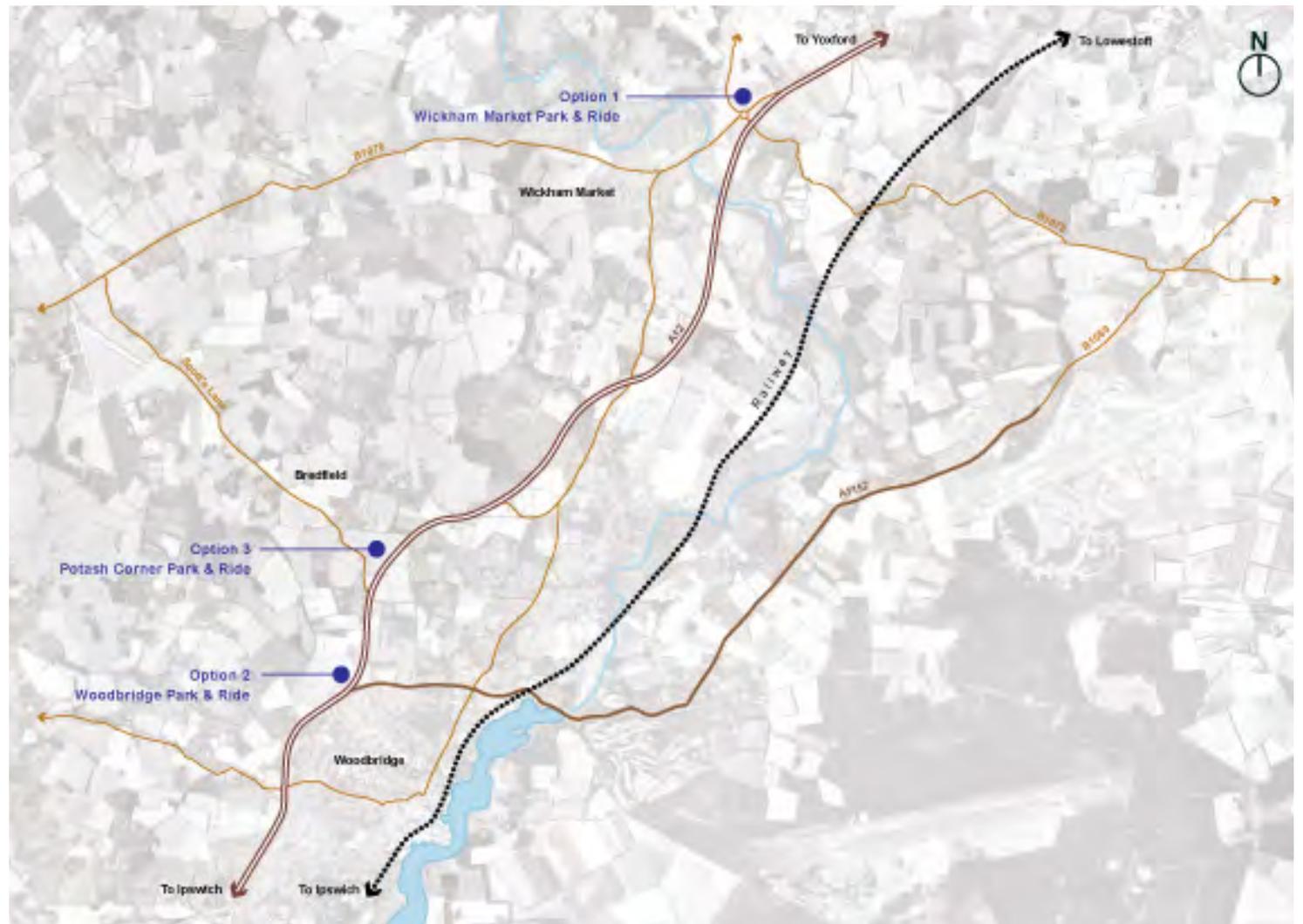
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A12/A144 Junction zoning diagram (Option 3)

For the southern park and ride, the options are:

- › Option 1: Wickham Market (preferred option)
- › Option 2: Woodbridge
- › Option 3: Potash Corner



Southern park and ride site options map

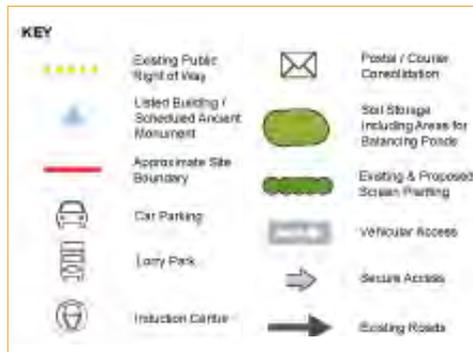
## Accommodation and Transport

### Option 1: Wickham Market (preferred option)

This is our preferred option because it is easily accessed from the A12 and is closer to Sizewell C than the two other options, meaning shorter journey times to the construction site.

Existing woodlands around the site would be retained, and new planting is proposed, to help screen the site.

It is likely that there is unrecorded archaeology at the site, which would be preserved in a manner to be agreed with the local authorities.



Not to scale



Wickham Market zoning diagram (Option 1)

## Option 2: Woodbridge

This site has been chosen as it is well placed for northbound traffic and can be easily accessed from the existing roundabout.

However, journey times to Sizewell C would be longer than from Option 1.

We would retain the public rights of way that cross the site, but diversions might be needed.

There are long-distance views of the site from the west that would need to be screened, whilst existing planting would screen views from Woodbridge.



KEY	
	Existing Public Right of Way
	Approximate Site Boundary
	Car Parking
	Lorry Park
	Induction Centre
	Postal / Courier Consultation
	Soil Storage Including Areas for Balancing Ponds
	Existing & Proposed Screen Planting
	Vehicular Access
	Secure Access
	Existing Roads

Not to scale

Woodbridge zoning diagram (Option 2)

## Accommodation and Transport

### Option 3: Potash Corner

This site is well placed for northbound traffic on the A12, but journey times would be longer than for Option 1. There are a number of residential properties near the site – including some at Potash Corner and others to the north-west – as well as a number of listed buildings in the vicinity. Existing trees and hedges would provide screening and additional planting would be provided as necessary.

We would retain the public rights of way within the site, but diversions might be needed.

The north-west corner would be used for soil storage and grassed over to protect views from local properties.



Not to scale

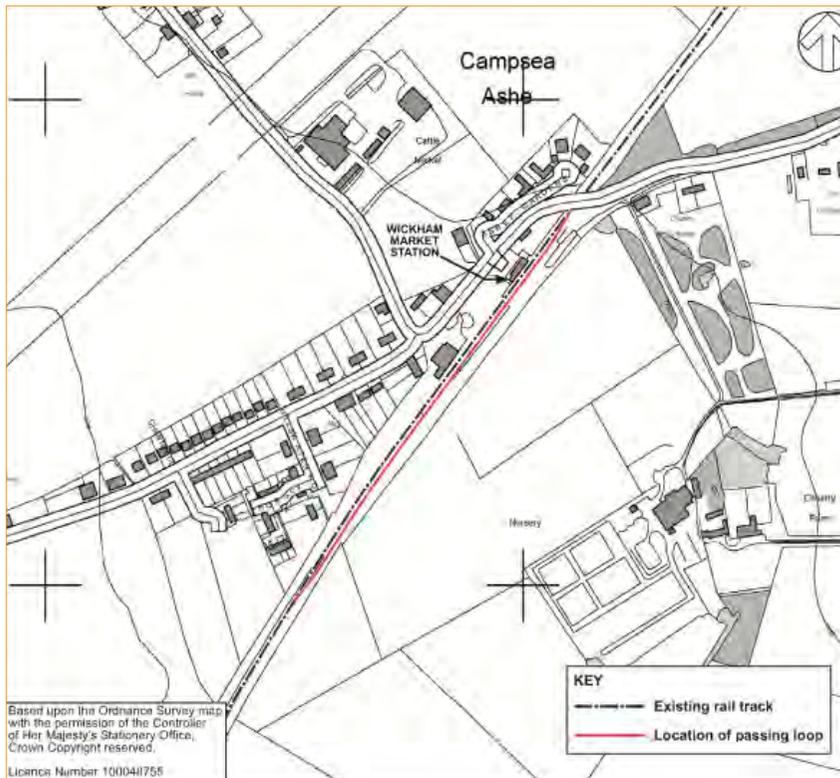


Potash Corner zoning diagram (Option 3)

## Rail improvements

We propose to upgrade and extend parts of the existing rail network near Sizewell, so that it could be used for the delivery of freight during construction and help reduce road freight movements. We would work with Network Rail to build a 'passing loop' track

so trains can pass each other at Wickham Market Station, allowing rail to be used for freight deliveries up to four or five times a day. We would also need to increase capacity for unloading freight at or near Sizewell and we are considering two options for this. We would like to hear your feedback on them.



Passing loop at Wickham Market Station

## Option 1: New rail terminal

Develop a new and larger rail terminal north of King George's Avenue on land to the north-east of the Leiston industrial estate. A new rail terminal at this location would create substantial additional space for unloading and storing rail freight for onward

delivery to the development site. This location would also avoid use of the level crossing on King George's Avenue, and unloading operations would take place further away from residential areas of Leiston than the existing terminal. We are also considering this land as a temporary area for construction purposes.



New rail terminal location plan (Option 1)

## Accommodation and Transport

### Option 2: Temporary rail extension (preferred option)

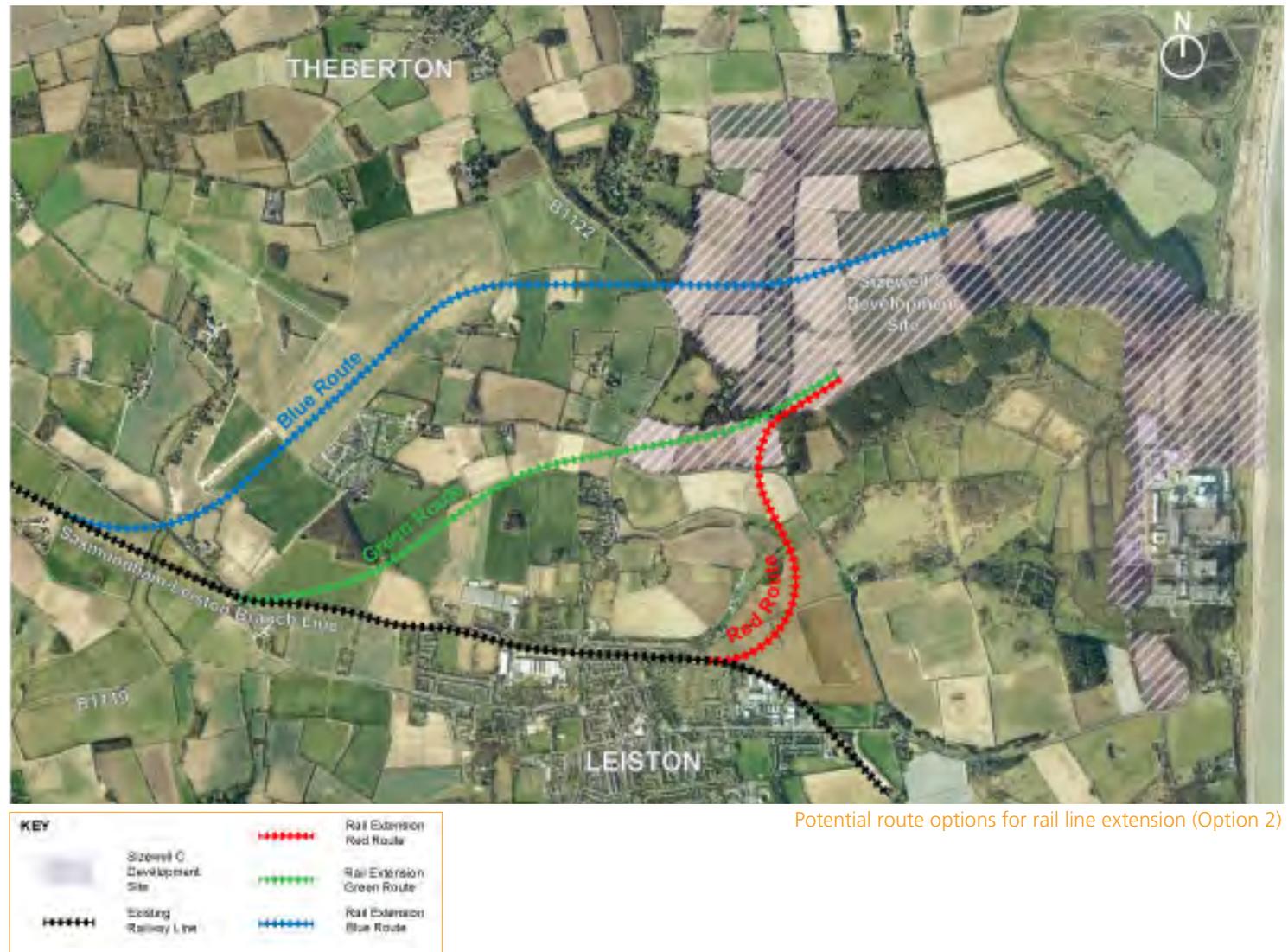
Build a temporary extension of the rail line into the construction area itself. We prefer this option because it would encourage contractors to use rail rather than road for freight deliveries, benefiting local communities and the construction programme.

If we were to go ahead with Option 2, we have identified three different potential routes for the rail line extension – red, green and blue, as shown on the map. These proposed routes are indicative and we would work to refine them after hearing feedback from this consultation.

The blue and green routes would avoid trains passing residential areas of Leiston. However, these routes would potentially have an adverse impact on the landscape and affect views from Leiston Abbey. The red route is the shortest of the three potential routes, with the least impact visually. At present, we favour either the green or the red route. The blue route is not only the longest but would also enter the Sizewell C development site at the place we wish to locate the accommodation campus.

### Sea transport

Our proposed jetty would play a major role in moving freight during construction, significantly reducing the need for road transport. The jetty will allow the sea delivery of bulky materials and very large items known as Abnormal Indivisible Loads (AILs), and the removal of excavated material.



Potential route options for rail line extension (Option 2)

## Lorry management

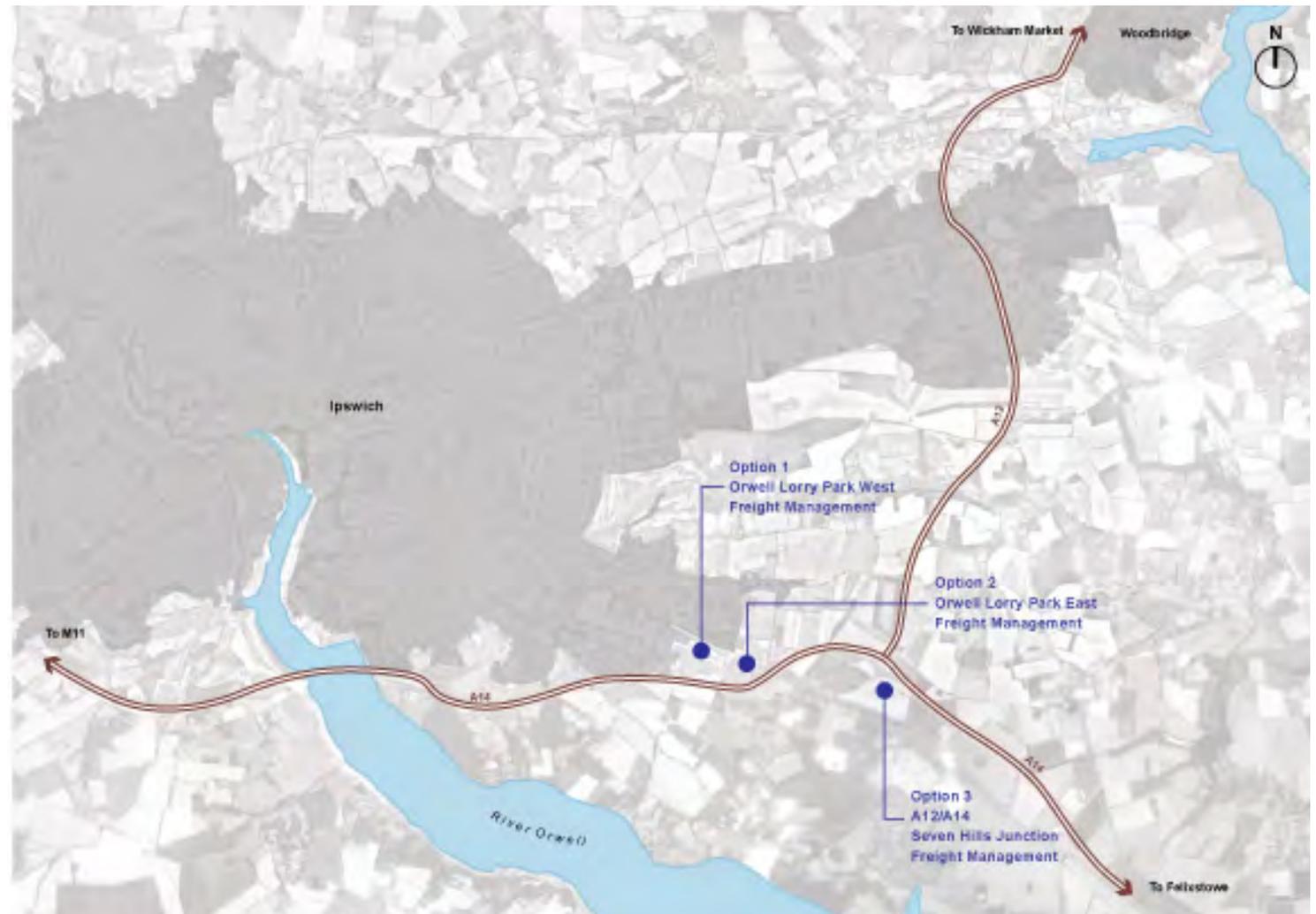
Although we plan to transport large amounts of freight by sea and rail, there will still be some freight that cannot practicably be moved other than by road.

At present we forecast there will typically be between 100 and 300 lorry or Heavy Goods Vehicle (HGV) deliveries per day in the years of peak construction. We anticipate that the A12, and then the B1122, will be the approved HGV route for deliveries – as was the case during the construction of Sizewell B.

We will put in place a range of management systems to control the timing and number of HGV movements through the local road network. These systems may require the construction of a lorry park with around 50-100 parking spaces to help manage vehicle flow.

We would prefer this lorry park to be built at the selected southern park and ride site, thereby avoiding an additional development. However an alternative would be to have a standalone site, which could ultimately be used to manage lorries heading for the Port of Felixstowe.

There are three site options for a standalone lorry park and we would like your views on these.



Lorry park site options map

## Accommodation and Transport

### Option 1: Orwell Lorry Park (West)

Option 1 is situated to the west of the Orwell Crossing Lorry Park adjoining the Ransomes Europark industrial estate. The advantages of this site are that it is already allocated for employment use and it lies outside the Suffolk Coast and Heaths AONB.

There are residential properties to the north but these are separated from the site by the railway and the A1156.

The site would be accessed by a new junction off the A14, and the existing access into the Orwell Crossing Lorry Park would be closed.



Not to scale



Orwell Lorry Park zoning diagram (Option 1 West)

### Option 2: Orwell Lorry Park (East)

Option 2 is situated to the east of the Orwell Crossing Lorry Park. There is residential housing along the site's northern boundary which is separated from the site by the railway.

The advantage of this location is that the land is likely to be required in any event to construct a new access into the site from the A14. However, this site lies within an isolated fragment of the Suffolk Coast and Heaths AONB, separated from the rest of the AONB by the A14 corridor.

There is a public footpath running through the centre of the site, which would require a diversion.

The site would be accessed by a new junction off the A14, and the existing access into the Orwell Crossing Lorry Park would be closed.



Not to scale



Orwell Lorry Park zoning diagram (Option 2 East)

## Accommodation and Transport

### Option 3: A12/A14 Seven Hills Junction

The site would be accessed off the Old Felixstowe Road. Seven Hills Crematorium is located immediately to the west of the site. If this option is selected, the lorry park would be positioned so that there would be adequate space to the west to provide an effective landscape screen. Screening would also be provided along the site's other boundaries.



Not to scale



A12/A14 Seven Hills Junction zoning diagram (Option 3)

## Road improvements

Through proposed major investment in rail and sea options, campus accommodation and park and ride facilities, we are aiming to limit the likely impacts on traffic as a result of Sizewell C. However, we recognise that some of the most likely areas for impact during construction are on the A12 and B1122.

### A12

We are carefully examining whether traffic impacts could justify a bypass around the single carriageway section of the A12, through Marlesford, Little Glemham, Stratford St Andrew and Farnham. At this time our view is that a full four village bypass cannot be justified as a result of the expected 5-15% rise in traffic we forecast at the peak construction period.

We consider that Sizewell C construction traffic may justify interventions to improve traffic flow and safety through the narrow bend at Farnham. We would like your views on three options we are considering:

### Option 1: A bypass of Farnham

This would reduce accident risk and traffic flow through the village, but would mean building a road through farmland and open countryside.

### Option 2: Widen the road at Farnham bend

This would not remove traffic from the village but should reduce accident risk. While it would avoid the landscape effects of a bypass it would require the removal of some houses.

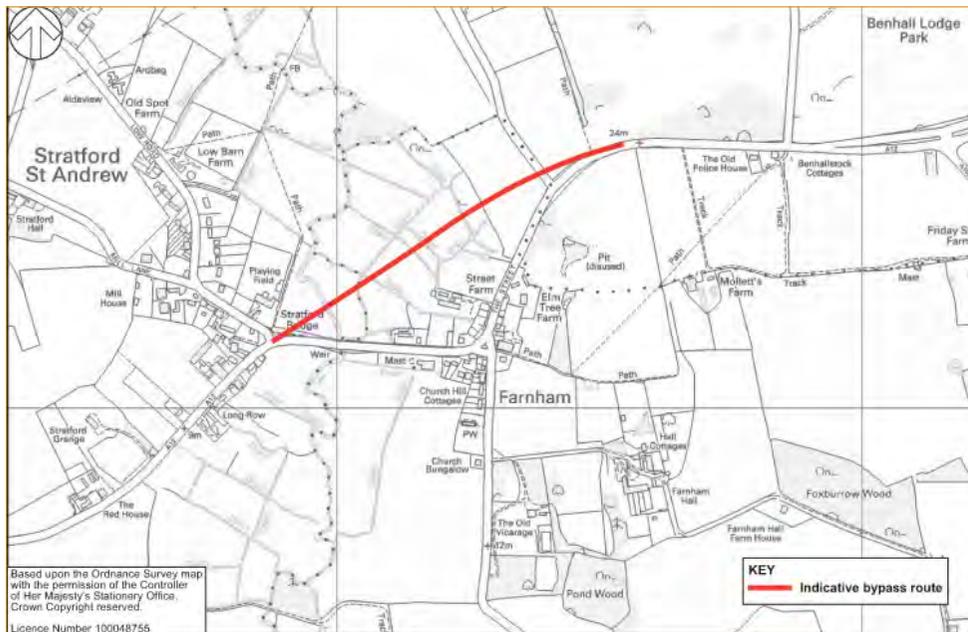
### Option 3: Put HGV traffic controls at Farnham

This should reduce accident risk but would worsen the potential for congestion. In addition it would not remove traffic through the village.

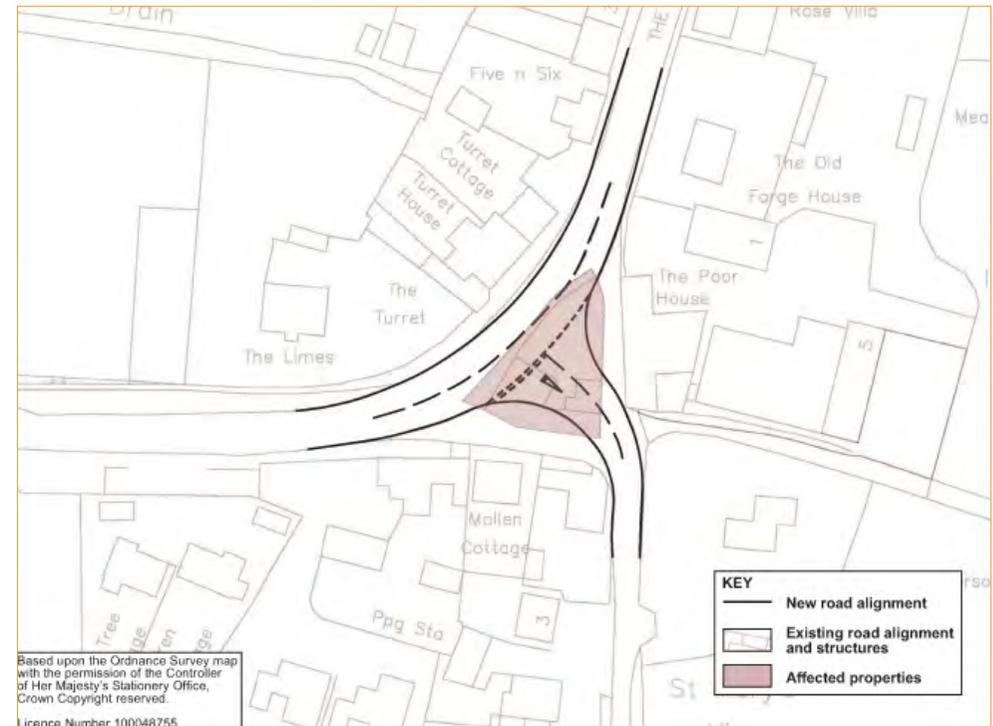
### B1122

The B1122 will experience a substantial increase in traffic as a result of Sizewell C. We consider that the junction of the A12

with the B1122 at Yoxford is likely to require improvement and that a roundabout will be required – more details will be presented at a later round of consultation. We also recognise the potential for Sizewell C traffic to cause adverse amenity and noise impacts to properties near the B1122 and in the village of Theberton. We will consult with the residents of these properties to consider how best to mitigate potential effects from Sizewell C traffic.



Indicative location of Farnham bypass (Option 1)



Indicative Farnham bend alteration (Option 2)

## Responding to this consultation

We are keen to hear your views on this Stage 1 consultation for Sizewell C and we encourage your feedback in the following ways:

- › A public questionnaire can be found enclosed within this document, and online at:  
<http://sizewell.edfenergyconsultation.info>
- › You can email your comments on this document to:  
[sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- › Written responses can be posted to Sizewell Nuclear New Build, FREEPOST LON20574, London, W1E 3EZ
- › You can also call our freephone number 0800 197 6102 during normal office hours.

Copies of all the documents are available to view during the Stage 1 consultation period at the Sizewell C Information office 9.30am-5pm Mon-Fri and 9am-12pm Sat (48-50 High Street, Leiston, IP16 4EW); during normal office hours, in the offices of Suffolk County, Suffolk Coastal District, Waveney District and Ipswich Borough Councils; and at the public exhibitions and events that will be held during the consultation period. Documents will also be available in a number of local public libraries, on disc and to download by visiting the Project website:

<http://sizewell.edfenergyconsultation.info>

Please remember that the deadline for responses to this first stage of our consultation is 6 February 2013.



Example exhibition

## Consultation Questionnaire

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Appendix B.5 Environmental Report Supporting Document (Stage 1) (November 2012)

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### APPENDIX A – HABITAT REGULATIONS AND WATER FRAMEWORK DIRECTIVE

**Figure A.1** – Step-by-step Approach to Determining the Implications of a Project on European Sites (IPC Advice Note 10 – IPC 2011)

**Table A.1** – Summary Table showing Initial European Site Selection Outcomes for HRA Screening

### APPENDIX B – FIGURES (AT A3)

For full list of figures see **Appendix B**

# 1. INTRODUCTION

## 1.1 Purpose of this Report

- 1.1.1 EDF Energy<sup>1</sup> is proposing to build a new nuclear power station at Sizewell, known as Sizewell C. The purpose of this Stage 1 Environmental Report (ER) is to provide preliminary environmental information as part of the Stage 1 consultation process<sup>2</sup>.
- 1.1.2 EDF Energy is in the early stages of the planning process for Sizewell C. This ER is included as a supplement to the **Sizewell C Stage 1 Consultation Document** to assist consultees with their responses. Further details on the planning and public consultation process are provided in the **Sizewell C Stage 1 Consultation Document**.
- 1.1.3 EDF Energy has embarked on a programme of environmental studies to inform the development of the Sizewell C proposals to date. These studies have helped establish an understanding of the main environmental aspects that have and will continue to inform the ongoing design of the proposals, the assessment of the likely significant effects and the identification of appropriate mitigation. This document presents the findings of the work carried out to date and provides a description of the environmental characteristics of the proposed development areas, including the Sizewell C Main Development Site, potential off-site associated development sites and the local surrounding area.
- 1.1.4 The application for a Development Consent Order (DCO) to construct and operate Sizewell C and the associated development will be accompanied by an Environmental Statement (ES). The ES will report the outcomes of the Environmental Impact Assessment (EIA), which will be undertaken in accordance with the requirements of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009<sup>3</sup>. The EIA process will consider the likely significant environmental effects of the Sizewell C Project during construction, operation and, in outline, decommissioning. It will propose ways to mitigate any significant adverse effects on the environment. The EIA process will also consider the potential for cumulative effects, in terms of inter-relationships between environmental factors as well as effects of the proposed development in combination with other development plans, programmes and projects, where this is appropriate.
- 1.1.5 In preparing this ER, EDF Energy has had regard to draft guidance published for consultation in April 2012 by the Department of Communities and Local Government (DCLG) on the Pre-Application Process<sup>4</sup>, which states that: "*Preliminary*

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<sup>1</sup> NNB Generation Company Limited, whose registered office is at 40 Grosvenor Place, London, SW1X 7EN (referred to in this document as 'EDF Energy').

<sup>2</sup> Preliminary environmental information is the information that has been compiled so far by EDF Energy and that is reasonably required to assess the environmental effects of the Project.

<sup>3</sup> *Infrastructure Planning (Environmental Impact Assessment) Regulations 2009*, Statutory Instrument (SI) 2009/2263, Her Majesty's Stationery Office (HMSO), 2009.

<sup>4</sup> *Planning Act 2008: Guidance on the Pre-Application Process*, DCLG, published in draft for consultation in April 2012.

*Environmental Information is not expected to replicate or to be a draft of the environmental statement and it can be presented in any way which the applicant feels would provide the most clarity."*

- 1.1.6 EDF Energy has sought to provide consultees with the environmental information that is available at this stage to help them provide informed responses to this Stage 1 consultation. The current proposals reflect EDF Energy's aspirations to minimise adverse environmental effects and a number of key design choices have already been informed by the conclusions of the work undertaken to date. EDF Energy welcomes feedback from consultees on the current proposals and on the key environmental issues that have been identified for further consideration as part of the EIA process. In particular, feedback is welcomed on:
- whether this ER identifies the main environmental resources and receptors that have the potential to be affected by the Sizewell C Project;
  - whether there are any potential environmental effects that are not identified; and
  - whether the design choices to date positively respond to identified environmental sensitivities.
- 1.1.7 By necessity the **Sizewell C Stage 1 Environmental Report** repeats some information which is contained in the **Sizewell C Stage 1 Consultation Document**. However, additional detail is provided on the process that is being followed, the work undertaken to date, the basis for EDF Energy's proposals and the further work planned. While consultees should respond to the proposals in the **Sizewell C Stage 1 Consultation Document**, EDF Energy would be happy to receive additional comments on the further detail provided in this document.
- 1.1.8 The work undertaken to date, and presented in this ER, represents an early stage in this EIA process and, in respect of the Sizewell C Main Development Site in particular, contributes to establishing the baseline environmental conditions against which the impacts of the Project will be assessed. This document is not an EIA Scoping Report. A Scoping Report, which will set out the range of topics, issues and methods of assessment that will be included in the EIA, will be prepared after the Stage 1 consultation. The EIA Scoping Report will be submitted to the Secretary of State and will give statutory consultees and other interested parties the opportunity to comment on the scope, approach and methodologies to be used during the EIA process.
- 1.1.9 Similarly, this ER is not a draft ES. Given the early stage in the proposals and EDF Energy's commitment to undertaking extensive consultation on what form its final proposals should take, EDF Energy is not yet in a position to prepare its ES. More detailed preliminary environmental information will be made available at Stage 2 of the consultation when EDF Energy presents its preferred proposals.

## 1.2 Other Regulatory Processes

1.2.1 In addition to the EIA, the Sizewell C proposals will be subject to assessment pursuant to other regulatory regimes including the Habitats Regulations<sup>5</sup> and Water Framework Directive<sup>6</sup>. Further information on these regimes is provided in **Appendix A** of this report. The DCO application will also be accompanied by a flood risk assessment which will be prepared in consultation with the Environment Agency and other stakeholders. Elements of the Project will also need to be considered under other consenting regimes in addition to the application for development consent. In particular, the Office for Nuclear Regulation and the Environment Agency will be responsible for licensing the nuclear site and environmental permitting respectively.

## 1.3 Structure of the ER

1.3.1 This ER comprises four main sections, excluding this Introduction, as set out below:

- Section 2: Project Description - provides a brief outline of the proposed development and signposts to further information in the **Sizewell C Stage 1 Consultation Document**;
- Section 3: Socio-Economics and Transport - sets out the socio-economic and transport context, emerging strategy and key considerations. Discussion of transport issues is kept brief as a separate **Transport Strategy and Supporting Information** document is provided to support the Stage 1 consultation;
- Section 4: Sizewell C Main Development Site Environment - provides a topic by topic description of the environmental baseline and key considerations associated with the power station site and construction area; and
- Section 5: Off-site Associated Development Site Options - presents preliminary environmental information for the sites that have been identified as potential locations for associated development.

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<sup>5</sup> *The Conservation of Habitats and Species Regulation 2010*, SI 2010/490 HMSO, 2010.

<sup>6</sup> *Water Environment (Water Framework Directive) (England and Wales) Regulations 2003*, SI 2003/3242, HMSO, 2003.

## 2. PROJECT DESCRIPTION

### 2.1 Introduction

2.1.1 This section of the ER describes the current Sizewell C Project development proposals. The Main Development Site for the Project (referred to as the Sizewell C Main Development Site) is located mainly to the north/north-west of the existing Sizewell B power station and comprises the nuclear power station, access road and temporary development areas required for construction.

2.1.2 In addition, land would be required permanently or temporarily off-site for associated development, such as a visitor centre and accommodation campus respectively.

2.1.3 The overall development proposals are summarised in the following two sections:

- Sizewell C Main Development Site; and
- Off-site associated development (including transport-related development and accommodation infrastructure).

### 2.2 Sizewell C Main Development Site

2.2.1 The Sizewell C Main Development Site is located on the Suffolk coast, in close proximity to the hamlet of Sizewell and approximately 1.5 kilometres (km) north-east of the town of Leiston. It is 36km north-east of Ipswich and 31km south of Lowestoft and is located within the civil parish of Leiston, Suffolk Coastal District and the County of Suffolk.

2.2.2 **Figure 2.1.1** (see **Appendix B**) shows the location of the proposed Sizewell C Main Development Site.

#### a) Permanent Development

2.2.3 The permanent development within the Sizewell C Main Development Site would include the following key operational elements:

- two UK EPR reactor units comprising reactor buildings and associated buildings (the 'Nuclear Island');
- turbine halls and electrical buildings (the 'Conventional Island');
- cooling water pumphouses and associated buildings;
- Operational Service Centre; and
- fuel and waste storage facilities, including interim storage for nuclear waste and spent fuel.

2.2.4 Together with:

- external plant, including bulk storage tanks;
- internal roads;
- ancillary, office and storage facilities; and

- National Grid 400kV Substation plus the addition of one National Grid pylon, removal of an existing pylon and associated realignment of overhead lines.

2.2.5 In addition, the permanent development would include the following elements, which would be sited away from the main station platform:

- cooling water infrastructure (including cooling water tunnels extending out to sea and headworks);
- bridge, car parking, some ancillary buildings and helipad;
- access road to join the B1122 and related junction improvements;
- sea protection;
- Simulator Building/Training Centre; and
- landscaping of the areas to be restored following their use during construction.

2.2.6 Options for a Visitor Centre are also being considered (both on and off-site) and are discussed in **section 5.8**.

2.2.7 **Figure 2.2.1** (see **Appendix B**) shows the proposed operational layout masterplan for Sizewell C.

2.2.8 The proposed operational layout has been developed to make the most efficient use of land within the constraints presented by the site itself and by those associated with the design of the UK EPR.

2.2.9 It is envisaged that the power station would be built at a platform level similar to Sizewell B (6.4m Above Ordnance Datum (AOD)). Further technical and environmental studies are required to establish the final level.

#### **b) Temporary Development**

2.2.10 During the construction of Sizewell C, temporary areas of land are required in order to facilitate the construction process. The temporary land uses would include the following:

- construction working areas: laydown areas, workshops, storage and offices;
- temporary structures, including a concrete batching plant;
- spoil/stockpile storage;
- temporary bridges between the power station and associated construction working areas;
- a jetty – part of which could remain permanently (to facilitate delivery of Abnormal Indivisible Loads (AILs) during the power station’s operational life);
- a temporary rail extension into the construction site (options are discussed in **section 5.6**);
- works areas on the foreshore for the installation of cooling water infrastructure and sea protection;
- construction roads, fencing, lighting and security features;

- site access arrangements and coach, lorry and car parking; and
- a development site accommodation campus (EDF Energy's preferred option – see **section 5.3**).

- 2.2.11 Upon completion of construction, land used temporarily would be restored in line with a landscape strategy. This strategy would also cover the wider EDF Energy estate and is likely to include the creation of some heathland-type habitat and reinstatement, where appropriate, of existing fields (see **Figure 2.2.1, Appendix B**).
- 2.2.12 **Figure 2.2.2** (see **Appendix B**) shows the construction masterplan which illustrates the indicative land uses required on the Sizewell C Main Development Site.

### c) Design Development

- 2.2.13 At this early stage, the design proposals have been guided by a number of key environmental considerations, including:
- Terrestrial Ecology and Ornithology;
  - Landscape and Visual Amenity;
  - Recreation;
  - Soils and Agriculture;
  - Noise and Vibration;
  - Air Quality;
  - Groundwater;
  - Surface Water and Flood Risk; and
  - Coastal Geomorphology and Hydrodynamics.
- 2.2.14 Further information on how EDF Energy's proposals have taken environmental issues into consideration is set out in the relevant chapters in **section 4**.

## 2.3 Off-site Associated Development

- 2.3.1 To support the construction and/or operation of Sizewell C, EDF Energy would also need to use some additional sites for associated development. Further details of the off-site associated development sites and their environmental characteristics are presented in **section 5** of this report. These proposals have been developed with regard to the emerging socio-economic and transport strategies set out in **section 3**.

- 2.3.2 The off-site associated development options include:
- site options for an accommodation campus (noting that EDF Energy's preferred option is for a development site accommodation campus - see **section 5.3**);
  - site options for two temporary park and ride facilities; one to the north of Sizewell C and one to the south. In addition, a postal consolidation facility and construction workers' induction centre may be located at the same site as the park and ride; and
  - a temporary freight management facility, with space for around 50 to 100 Heavy Goods Vehicles (HGVs), to help control deliveries to the Sizewell C Main Development Site and for use as a holding area for HGVs if, for example, there is an incident on the highway network. It is not yet certain if there is a need for such a facility, but if there is, EDF Energy's preferred option is to co-locate it with the southern park and ride site as it would avoid development of another site and any consequential environmental effects, although sites for a standalone facility on the A14 are also being considered.
- 2.3.3 Rail transport could play an important role in delivering freight to site and, in doing so reduce the amount of road traffic. The proposals currently being considered are as follows:
- a permanent passing loop at Wickham Market; and
  - options for a new rail terminal and temporary freight laydown area north of King George's Avenue, or alternatively three routing options for temporarily extending the existing railway into the construction site.
- 2.3.4 More information on these rail options is provided in the **Transport Strategy and Supporting Information** document.
- 2.3.5 The **Transport Strategy and Supporting Information** document also considers the need for permanent improvements to the A12 as a result of the Sizewell C-generated traffic. EDF Energy's current view is that a full bypass of the four villages section of the A12 is not likely to be justified by the additional traffic associated with Sizewell C. Preliminary findings are that traffic associated with Sizewell C could increase the potential for congestion and exacerbate safety concerns associated with the narrow bend at Farnham and that mitigation measures may be justified in this area. The strategy identifies three possible solutions:
- a Farnham bypass;
  - road widening at Farnham bend; and
  - HGV traffic controls at Farnham bend.
- 2.3.6 The final potential off-site associated development to be considered within this ER is the proposed Visitor Centre. The Visitor Centre would be a joint facility with Sizewell B, eventually replacing the existing Visitor Centre associated with the existing station. Three possible siting options are proposed (one option being within the Sizewell C Main Development Site, the other two being located off-site in the vicinity).
- 2.3.7 **Section 5** of this ER presents further details on the proposed off-site associated development sites, including the potential environmental issues associated with each of these options and the key considerations should they be taken forward.

## 2.4 Construction

2.4.1 The construction of Sizewell C would be governed by the following principles:

- being a good neighbour and ensuring that the needs and views of the community are fully taken into account;
- creating long-term, sustainable opportunities for the community where practicable, for example through training, employment and support for joining the EDF Energy supply chain;
- applying regulatory and company standards of safety, quality, sustainability, operational efficiency and construction practice; and
- reducing, as far as is practicable, potentially significant negative impacts and mitigating their effects.

2.4.2 Construction work would commence with site clearance and preparation. This would include relocation of some buildings and activities at the northern end of the Sizewell B power station site to make space for the new power station. Areas being considered for relocation of these buildings and activities include the Sizewell A power station site, the Sizewell B power station site, part of Coronation Wood and the temporary use of part of Pillbox Field. The works would also include construction of a permanent new access road into the site from the B1122, establishment of temporary construction areas and permanent and temporary bridges linking these to the main platform on which the power station would be built, construction of a jetty, and commencement of earthworks (including platform development, deep excavations (including the use of cut-off walls), stockpiling, grading of materials prior to re-use and backfilling).

2.4.3 The construction of Sizewell C would also produce large amounts of spoil, some of which would be unsuitable for re-use as part of the construction or associated landscaping works. This unsuitable material would mainly comprise a combination of peat and clay, although large quantities of silty and sandy material would also be excavated and may be inappropriate for use in backfill for construction. EDF Energy is considering all options for re-use of this material with a preference for local re-use and other sustainable options in line with the European Union (EU) Waste Hierarchy Directive as transposed into UK law. One option being examined is to ship surplus material by barge to the Royal Society for the Protection of Birds (RSPB) nature reserve at Wallasea Island in the Crouch Estuary in Essex, as part of a habitat creation project. Other options could include targeted use for heathland creation purposes, local sea defences and restoration of borrow pits (a pit created to source construction material that on completion could be backfilled).

2.4.4 The main construction phase would include the erection of the key buildings and ancillary facilities and the installation of the mechanical and electrical plant.

2.4.5 Once the site has been cleared, construction of Sizewell C would take approximately seven to nine years. At peak EDF Energy would expect the construction workforce to comprise about 5,600 people.

## 2.5 Operation

2.5.1 The Sizewell C power station would have a design life of 60 years. The expected electrical capacity of the nuclear power station would be approximately 1,630 megawatts (MW) per unit, giving a total site capacity of 3,260MW. During operation, it is expected that approximately 900 staff would be employed. Approximately 1,000 additional staff would be employed on each UK EPR unit during planned refuelling and maintenance outages which take place approximately every 18 months and last typically between one to three months.

## 2.6 Decommissioning

2.6.1 At the end of operation, Sizewell C would be decommissioned. Decommissioning would start as soon as practicable after the end of generation and would continue for a period of around 20 years until the site is cleared and delicensed. The exception is the interim spent fuel store, which would be retained on-site until a Geological Disposal Facility is able to accept the spent fuel for disposal (for further details see section 2.2 of the **Sizewell C Stage 1 Consultation Document**).

2.6.2 Decommissioning is subject to its own detailed regulatory process and there is a requirement for the operator to obtain consent from the Health and Safety Executive (HSE) under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999, which would include an EIA and a period of public consultation.

## 2.7 Spent Fuel and Radioactive Waste Management

2.7.1 This section summarises EDF Energy's strategies for dealing with spent fuel and waste management on the Sizewell C site. Further details can be found in the **Sizewell C Stage 1 Consultation Document**.

2.7.2 The spent fuel would be removed from the reactor and initially stored in a reactor fuel pool. Following this initial storage period, the spent fuel assemblies would be transferred to the separate on-site interim spent fuel store (ISFS) where they would be stored until a UK Geological Disposal Facility is available and the spent fuel is suitable for final disposal. The ISFS would have a design life of at least 100 years which could be extended if necessary.

2.7.3 The waste management strategy would be common for all types of waste covering solid, liquid and gaseous radioactive discharges, as well as conventional waste, and would be based on the following key policy principles:

- to prevent or minimise the generation and accumulation of wastes, as far as is reasonably practicable;
- to protect the environment and people by reducing the impact of discharges and disposals to the environment;
- to document and retain appropriate records relating to the management, disposal and discharge of wastes;
- to store wastes in a passively safe condition with robust and adequate containment to prevent leakages;

- to ensure that anyone involved in activities associated with the generation, management, handling, transport and/or disposal of wastes will be provided with adequate training and have access to appropriate advice;
- to maintain consistency with Government policy, regulatory requirements, the availability of waste storage and disposal facilities, advances in waste management technologies and any internal changes in operating conditions; and
- to review operational experience and feedback to enable ongoing development of the strategy and achieve continual improvement in waste management practices.

2.7.4 In addition to these core principles for waste management, a number of key elements form the basis of the strategy for the management of radioactive wastes. These include the maintenance of radiation doses from waste management operations within legal limits and As Low As Reasonably Practicable/Achievable (ALARP/ALARA), and to dispose of all radioactive wastes as soon as reasonably practicable. The design of the UK EPR includes a number of measures aimed at limiting the amount of radioactive waste generated. This waste would fall into two categories – Low Level Waste (LLW) or Intermediate Level Waste (ILW). LLW would be disposed of as soon as reasonably practicable following treatment to limit its volume and appropriate conditioning and packaging. ILW would be conditioned and packaged on site throughout the operational lifetime of the station. This ILW facility would also be capable of life extension.

## 2.8 Drainage and Utilities

2.8.1 The Sizewell C Main Development Site and associated development sites would need provision of drainage at all stages of development, protection against flooding from any source and should seek to avoid increased risk of flood elsewhere or adverse impacts to water quality on local watercourses.

2.8.2 The drainage requirements of each phase of the Project and mitigation of flooding and water quality impacts will be addressed through site drainage strategies for the Sizewell C Main Development Site and associated development sites. These strategies would also address the transition between phases of construction. EDF Energy would manage this transition in order that effective drainage and associated management of flood risk and water quality is ensured at all times.

2.8.3 During construction, temporary drainage would be provided within the permanent development and would remain until permanent site drainage and associated outfall infrastructure is established and operational. Once operational, surface water and groundwater drainage would be routed and discharged via a surface water outfall. There may be potential to incorporate temporary drainage infrastructure into the permanent drainage and this will be considered as part of the site drainage strategy.

2.8.4 The site drainage strategy would take into account any associated off-site effects generated by the design of the drainage facility.

2.8.5 EDF Energy will work closely with relevant stakeholders, in particular the Environment Agency and Office for Nuclear Regulation, to produce a robust site drainage strategy in tandem with the flood risk assessment process. Further discussion on drainage issues can be found in the surface water and flood risk section of this document (see **section 4.11**).

2.8.6 Utilities services, such as water, gas, electricity and sewage, would be required for the construction and operation of Sizewell C and its associated development. EDF Energy will liaise with the relevant statutory undertakers regarding capacity and demand to ensure adequate supply is available for the Project, alongside other planned and existing requirements.

## 3. SOCIO-ECONOMICS AND TRANSPORT

### 3.1 Introduction

3.1.1 This section of the ER presents the main findings of the socio-economic and transportation work undertaken to date. This includes the work that has influenced the accommodation campus proposals and transport strategy. The transportation work is covered in further detail in the **Transport Strategy and Supporting Information** document.

### 3.2 Socio-economics

3.2.1 The Sizewell C Project would be one of the biggest and most technologically complex projects to be built in the UK. It represents a multi-billion pound investment into low carbon infrastructure in Suffolk and would generate significant economic benefits for the region and UK over many years.

3.2.2 A large workforce would be required to build the Project and a significant workforce required to operate it. The characteristics of the workforce, how far people would be willing to commute and the characteristics of the labour market within commuting distance have been assessed. Through this assessment, the anticipated number of workers that could be recruited from within a commuting distance has been estimated. Training and employment initiatives would be implemented to enable people to access these employment opportunities. The demand for workers that cannot be met from the surrounding communities would need to be made up by workers who would move temporarily into the area to work on the Project. These workers, defined as non-home-based workers, would need accommodation for the duration of their employment contract.

3.2.3 The Project would generate significant opportunities for local businesses through the supply chain. Understanding the nature of the existing regional economy and extent of construction and energy supply chains is important to identify what proportion of EDF Energy's demand for goods and services can be met from within the East of England and what preparation businesses interested in being involved in the Project could do to win contracts.

3.2.4 During the construction phase, 25,000 on-site employment opportunities would be generated by the Project. For almost two years, over 5,000 construction workers are expected to be required on site, with a peak of around 5,600. Over the lifetime of the Project, hundreds of millions of pounds would be spent directly with local businesses or through increased economic activity in the area. Through the provision of educational initiatives, apprenticeship programmes and high quality employment with opportunities for career progression, the Project would also deliver a legacy of workers and businesses with transferrable skills.

3.2.5 Infrastructure investment and job creation of this scale would generate socio-economic effects and impacts on surrounding areas. Initial baseline studies have been completed to understand the socio-economic characteristics of the Sizewell area and the results of these are set out in this section. This includes information on:

- **The economy** – understanding economic activity in the area and the regional economy and employment characteristics and education facilities.
- **Development of a workforce profile for the Project** – covering the number of workers required by skill type and time on-site.
- **Accommodation for non-home-based workers** – understanding accommodation availability and affordability and identification of a strategy which minimises impact.
- **The spatial distribution of workers** – development of a ‘Gravity Model’ to help understand where construction workers could live and implications for public services and community resources.

#### a) The Economy

3.2.6 Baseline studies into the socio-economic characteristics in the Sizewell area have been undertaken at three spatial scales:

- **The East of England:** To understand economic trends and characteristics, particularly labour supply.
- **A 90-minute daily commuting zone from the Sizewell C Main Development Site:** Studies show home-based construction workers are willing to travel up to 90-minutes to their place of work. This area covers all of Suffolk, much of Norfolk and north Essex.
- **A 60-minute daily commuting zone from the Sizewell C Main Development Site:** Non-home-based workers relocating to work on the Project, therefore requiring accommodation, would choose to locate closer to the site and it is estimated that they will commute from within this zone. This area covers Suffolk Coastal, Mid Suffolk and Ipswich.

3.2.7 These assumptions broadly reflect the experience of worker commuting patterns at the Sizewell B power station.

#### i. Regional Economy: Construction and Energy

3.2.8 Background information from the construction and energy industries within the East of England provide an indication of the available services and labour supply within the area.

3.2.9 Gross Value Added (GVA) in the East of England returned to growth in 2010, increasing by 2.3% from 2009 to a total of £101.2 billion (2006 prices). This was stronger than the UK as a whole, which experienced 1.8% growth over the same period of time. The region’s GVA is estimated to have risen by 0.6% in 2011, in line with the UK average and a second successive year of growth. However, the East of England is likely to have experienced a slowdown in 2012 in line with the rest of the UK economy.

3.2.10 In 2010, total construction output was £8.8 billion (2005 prices), with infrastructure accounting for 11%. **Table 3.2.1** sets out the structure of the construction industry by sub sector across the region in 2010.

Table 3.2.1: Structure of Construction Industry in the East of England (2010)

Construction Sub Sector	Construction Output in East of England
Public Housing	4%
Private Housing	14%
Infrastructure	11%
Public Non-housing	10%
Industrial	3%
Commercial	17%
Housing Repair and Maintenance	24%
Non-housing Repair and Maintenance	16%

Source: CSN, Experian 2012.

N.B. Figures do not total 100% due to rounding

- 3.2.11 2010 represented the third successive year of decline in total construction output, taking the region to its lowest level since 1999; growth was strongest in the infrastructure sector where output rose by 36% during 2010<sup>7</sup>. To 2016, construction output in the East of England is expected to rise at an average rate of 2.9% making it the best performing region in the UK. Infrastructure output is expected to grow by approximately 6%, below the highest sub sector growth estimate for industrial output (over 10%) but above the lowest levels for public sector housing and other development<sup>8</sup>.
- 3.2.12 Experian and Construction Skills Network have forecast the projected demand for construction workers across the East of England to 2020, including the demand generated by Sizewell C. These forecasts show that the projected demand for construction workers is not estimated to exceed the pre-recession construction peak in 2007<sup>9</sup>. This indicates there should be a latent supply of construction labour within the region on which Sizewell C could draw. The scale of investment at Sizewell C means there would be significant opportunities for local businesses to become suppliers to the Project.
- 3.2.13 Across the region, the energy sector supports the operations of around 6,200 companies, over 100,000 jobs and an annual turnover of £13 billion<sup>10</sup>. This indicates that the region is well placed to take advantage of supply chain opportunities provided by the Sizewell C Project. The East of England has a strong training provider base that has supported the energy industry over the 40 years that it has been operating along the East of England coastline. It delivers to all ages and skill levels - from foundation apprenticeships through graduate and postgraduate programmes.
- 3.2.14 EDF Energy would work with businesses, education, and training and skills providers to ensure that people living in the area surrounding Sizewell are able to make the most of local supply chain and recruitment opportunities generated by the Project.

<sup>7</sup> *Construction Skills Network East of England*, Construction Skills Network, Experian, 2012.

<sup>8</sup> Ibid.

<sup>9</sup> *Nuclear New Build Employment Scenarios*, Construction Skills Network, 2011.

<sup>10</sup> Ibid.

## ii. Labour Market within the 90-Minute Daily Commuting Zone

- 3.2.15 Baseline socio-economic studies have been undertaken to understand the key characteristics of the labour market within a 90-minute daily commuting zone of the Sizewell C site, as research<sup>11</sup> shows that this is the area within which construction workers are willing to commute to work (i.e. home-based workers). These studies have helped estimate the likely numbers of workers who can be recruited from within this area.
- 3.2.16 Baseline studies indicate there are approximately 1,055,200 working age people living in this area, of which 77.7% are in employment<sup>12</sup>. By 2021, total employment across this area is projected to increase from 828,000 in 2008 to 901,300<sup>13</sup>. The size of the labour market is about 200,000 greater than when the Sizewell B power station was built and broadly comparable to the labour market in the vicinity of the Hinkley Point C project. This indicates that there would be capacity to support some of EDF Energy's demand for workers from the existing labour market.
- 3.2.17 Approximately 3.1% of the working age population living in this area is seeking work, of which around 5,000 are looking for work in occupations relevant to the Project<sup>14</sup>. **Table 3.2.2** shows the key employment statistics within the 90-minute daily commuting zone.

Table 3.2.2: Key Employment Statistics within the 90-minute Daily Commuting Zone

Key Employment Indicator	90-minute Daily Commuting Zone
Total Employment	828,000
Total Projected Employment in 2021	901,300
Working Age Residents	1,055,200
Working Age Residents in Employment	819,900
Employment Rate	77.7%
Number of People Seeking Employment	32,600
Unemployment Rate	3.1%
Number of People Seeking Employment in Relevant Occupations	5,000

Source: ONS, EEDA.

### b) Workforce Profile

- 3.2.18 This section provides some information on the workforce requirements which informs the anticipated numbers of home-based and non-home-based workers as well as information on where non-home-based workers may live.

<sup>11</sup> *Workforce Mobility and Skills in the UK Construction Sector*, IFF Research & University of Warwick, 2005.

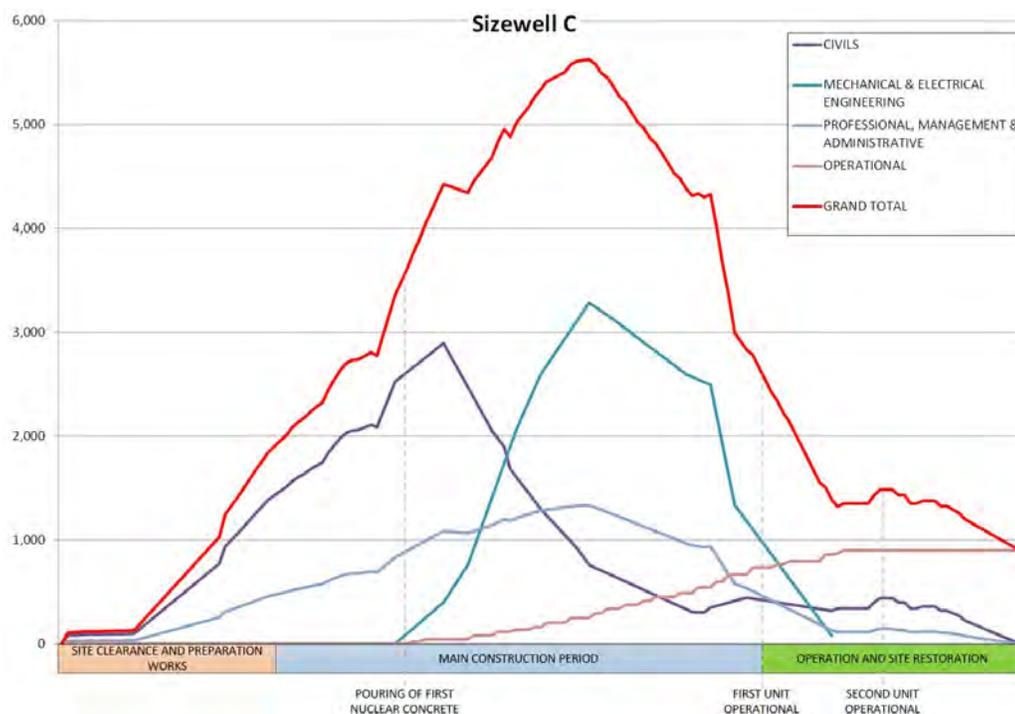
<sup>12</sup> *Annual Population Survey*, Office for National Statistics, 2008/09.

<sup>13</sup> Figures show total employment (including employees and self employed jobs). *Spring 2010 Economic Forecasts*, East of England Development Agency, East of England Forecasting Model (EEFM).

<sup>14</sup> *Claimant Count*, Office for National Statistics, 2010.

- 3.2.19 The size of the Sizewell C Project workforce would vary over the course of the Project, with the largest number of people required to work during the construction phase and a significant number once it has been completed.
- 3.2.20 EDF Energy has developed a workforce profile model (shown in **Figure 3.2.1**) to identify the indicative number of construction and operational workers likely to be required by skill set. This model is based on EDF Energy's experience of building new nuclear reactors elsewhere, including Flamanville in France, and some initial knowledge of construction activities at Sizewell. The workforce profile indicates that at peak construction, the total number of workers required on-site is estimated to be 5,600, with more than 5,000 required for almost two years.

Figure 3.2.1: Workforce Profile

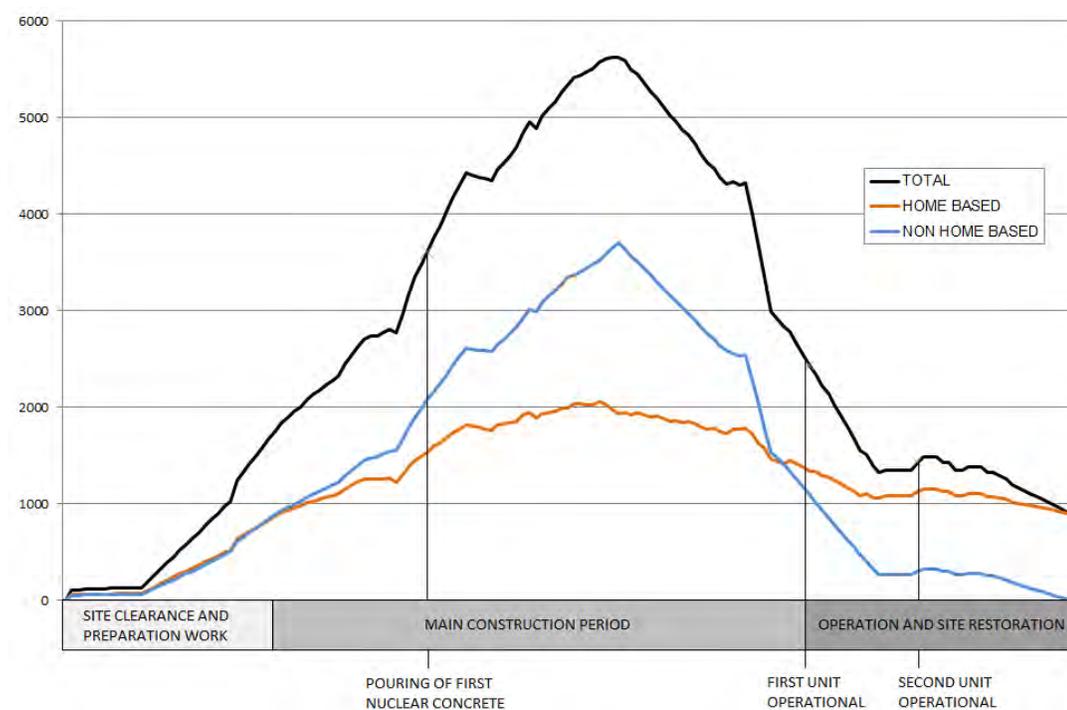


- 3.2.21 The workforce profile and census data on the skill sets of people living within the 90-minutes area have inputted into a model which estimates the proportion of home-based workers. The residual number of workers required on the Project would comprise non-home-based workers (**Figure 3.2.2**).
- 3.2.22 **Figure 3.2.2** shows that the proportion of home-based workers is expected to be its highest during the early and later stages of the construction phase. At the peak of construction, it is expected that the home-based and non-home-based construction workforce would be approximately 1,900 (34%) and 3,700 (66%) respectively.
- 3.2.23 This was broadly the pattern that was observed at Sizewell B where the proportion of workers that were home-based started above 60% and never fell below 40%, with an average of 45%. However, as the absolute size of the Sizewell B construction workforce at peak was smaller than that anticipated for Sizewell C, EDF Energy is assuming that most of the difference would be filled by non-home-based workers.

EDF Energy has therefore conservatively assumed a slightly lower proportion of home-based workers for Sizewell C at peak.

3.2.24 It is, however, EDF Energy's intention to encourage as many home-based workers to be involved in the Project as can practicably be achieved and aim to realise this through the implementation of skills and training initiatives (see **section 3.2.13** above and information contained within section 4 of the **Sizewell C Stage 1 Consultation Document**).

Figure 3.2.2: Split of Home-based and Non-home-based Workers over the Construction Period



### c) Temporary Accommodation for Non-home-based Workers

3.2.25 Through the workforce profile and understanding of the local labour market, EDF Energy estimates that approximately 3,700 workers would require temporary accommodation. Where workers choose to live depends on a number of factors, including the length of their employment contract; whether they plan to live with their partner or family; and the affordability, availability and accessibility of accommodation.

3.2.26 Initial research into the availability and affordability of accommodation has been completed drawing on a number of sources, including publicly available datasets, information managed on behalf of the East of England Tourist Board and surveys undertaken by EDF Energy. **Table 3.2.3** sets out the estimated supply of accommodation across the four districts within the 60-minute daily commuting zone. These estimates are based on the 2001 Census and information from the East of England Tourist Board.

3.2.27 **Table 3.2.3** indicates there is a total of around 220,000 tourist accommodation bedspaces, private rented bedrooms and family sized owner-occupied homes within the 60-minute daily commuting zone.

Table 3.2.3: Accommodation Supply within 60-minutes of the Sizewell C Main Development Site

	Suffolk Coastal	Mid Suffolk	Waveney	Ipswich	Total
<i>Tourist Accommodation</i>					
Self Catering Bedspaces	2,200	400	1,400	0	4,000
Serviced Bedspaces	1,300	800	1,200	1,000	4,300
Caravan, Holiday & Touring Park Bedspaces	5,700	200	7,000	0	12,900
Sub Total	9,200	1,400	9,600	1,000	21,200
<i>Private Rented Accommodation</i>					
Bedrooms	20,300	14,700	23,300	18,900	77,200
<i>Owner-occupied Accommodation</i>					
Family Sized Units	33,600	24,800	31,200	31,200	120,800
<b>TOTAL SUPPLY</b>	<b>63,100</b>	<b>40,900</b>	<b>64,100</b>	<b>51,100</b>	<b>219,200</b>

Source: Census ONS 2001, Tourist Accommodation Supply NVG 2011.

N.B. Figures may not total 100% due to rounding.

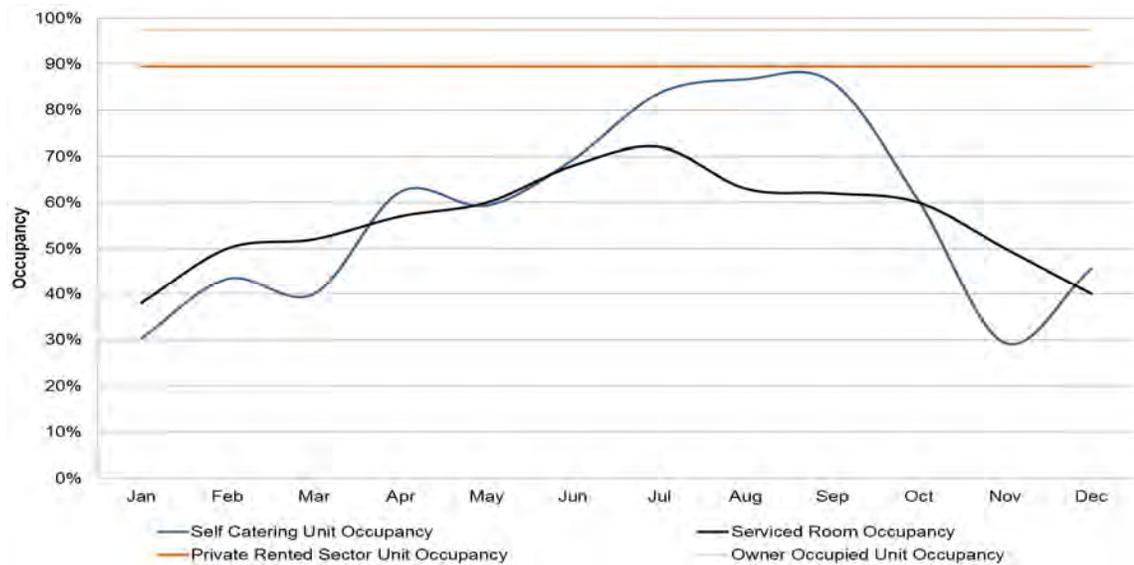
3.2.28 **Figure 3.2.3** sets out the estimated occupancy of accommodation by type. This shows that on average, vacancy rates in the private rented sector are estimated to be around 10% and less than 5% for owner-occupied homes. During the tourist season, only 10% of some types of tourist accommodation would be available to workers without displacing tourists. Tourist accommodation is more readily available outside of the summer months. Initial surveys completed in 2012 indicate that 5-10% of caravan accommodation is available without displacing tourists during the summer months.

3.2.29 Based on the nightly accommodation allowance given to workers<sup>15</sup>, **Figure 3.2.4** shows the affordability of the different types of accommodation during the peak and off-peak tourist seasons. It shows that accommodation in the private rented market and caravan parks would be affordable to construction workers. Some self-catering and serviced accommodation within the 60-minute daily commuting zone would not be affordable for most workers, particularly during the peak tourist season.

3.2.30 Given the limited supply and costly nature of existing accommodation within the Sizewell area, purpose-built campus accommodation would need to be provided to house workers and to avoid any adverse impacts to the tourist economy. Information from contractors and EDF Energy experience demonstrates that campus accommodation is attractive to workers. At Sizewell B, campus accommodation with 900 bed spaces was provided for workers and operated at capacity with a waiting list. EDF Energy would seek to maximise the use of campus provision by providing high quality accommodation at an affordable rate for workers.

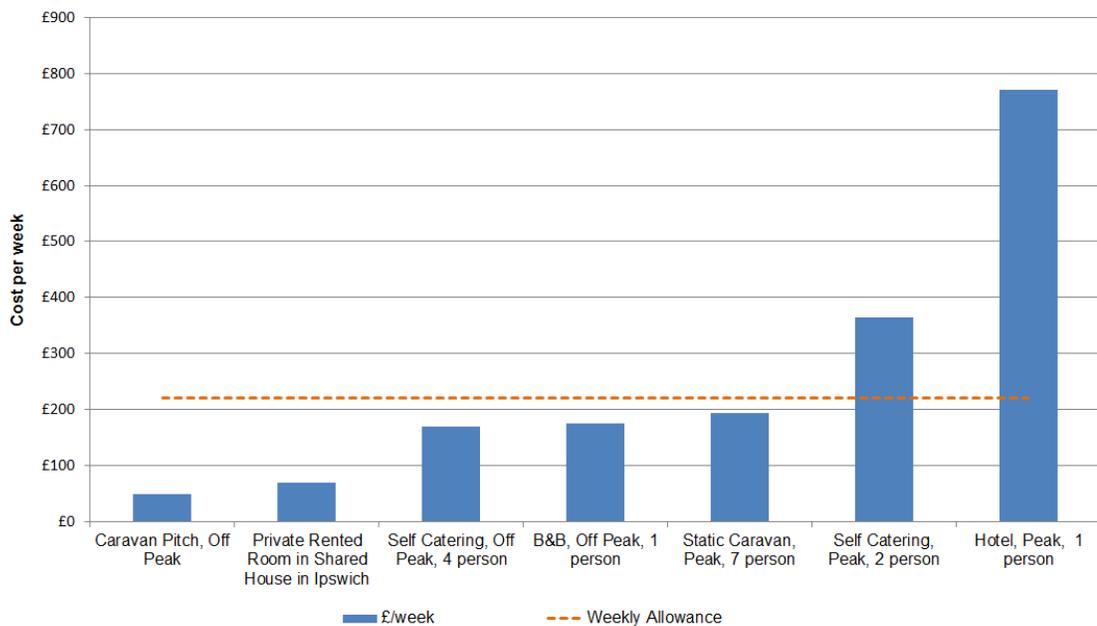
<sup>15</sup> Worker Housing Allowance, NAECI, 2009.

Figure 3.2.3: Occupancy of Accommodation by Type



Source: English Housing Survey, 2012; Choose Suffolk Tourist Partnership, 2010; East of England Occupancy Report, 2010.

Figure 3.2.4: Accommodation Affordability by Type



Source: VOA, 2010; The Suffolk Coast, July 2012; EDF Energy Survey of Caravan Accommodation, July 2012; NAECl, 2009.

3.2.31 Campus accommodation built close to the Sizewell C Main Development Site would have further benefits. It would promote more sustainable travel patterns and improve productivity and efficiency during the construction period.

#### d) Spatial Distribution of Workers

3.2.32 The size of the workforce required to build the Project drives many of the related socio-economic issues for the regional economy and labour markets within the 90-minute daily commuting zone. Through the workforce profile, it is estimated that about 3,700 workers would require temporary accommodation. The choices these non-home-based workers make about where to live would determine the extent to which issues relating to the supply of accommodation, provision of public services and community resources would occur. Providing accommodation for 2,000 to 3,000 of these workers at a purpose-built accommodation campus would reduce demand for alternative types of temporary accommodation, including tourist, and has the potential to reduce the extent to which the capacity of public services and community resources are used throughout the 60-minute daily commuting zone.

##### i. Public Services and Community Resources

3.2.33 Workers who move into the area may increase demand for public services and community resources such as health, education and leisure facilities or emergency services. The extent to which this occurs would be driven by where they choose to live. The model for assessing this has not been finalised and will be determined, in part, by the location and size of the associated development, such as park and ride facilities and campus accommodation. Socio-economic baseline research will be undertaken into public services and community resources as the Project progresses.

##### ii. Gravity Model

3.2.34 EDF Energy has been working with Suffolk County Council and Suffolk Coastal and Waveney District Councils to develop a model to estimate where non-home-based workers would choose to live outside the campus accommodation and where home-based workers would travel from. This model is called the 'Gravity Model' and has been developed to support both the emerging accommodation and transport strategies.

3.2.35 EDF Energy is proposing to house between 2,000-3,000 of non-home-based workers in a purpose-built temporary accommodation campus (see **section 5**). Based on experience of building nuclear infrastructure elsewhere and through discussions with contractors, it is expected that around 500 non-home-based workers would look for owner-occupied accommodation. The remainder of the non-home-based workforce have been assumed to split equally between accommodation in the private rented and tourist sectors.

3.2.36 **Figures 3.2.5 and 3.2.6** (see **Appendix B**) show the estimated spatial distribution of home-based and non-home-based workers respectively. This is based on the assumption of construction of a 2,000-bed campus and information on availability and affordability of existing accommodation within the respective daily commuting zones. On each map, one dot represents where one construction worker is likely to live.

3.2.37 The figures show that a large proportion of home-based workers, travelling from the wider 90-minute daily commuting zone, would commute from the area immediately surrounding the Sizewell C Main Development Site and east of the A12. A significant proportion would also commute to the Sizewell C Main Development Site from the nearest urban areas of Ipswich, Lowestoft, Great Yarmouth, Colchester and Norwich.

3.2.38 A large proportion of non-home-based workers, travelling from within the 60-minute daily commuting zone, are anticipated to live close the Sizewell C Main Development Site and east of the A12. As this distribution of workers is based on the assumption of a 2,000 bed campus, it should be noted that there would be fewer non-home-based workers living across the 60-minute daily commuting zone if the capacity of the proposed campus were to reach 3,000.

**e) Key Considerations**

3.2.39 EDF Energy would work to optimise the economic benefits generated by the Project for the communities within and surrounding the Sizewell area, and, where necessary, mitigate potential adverse effects. Strategies will be developed that seek to:

- increase employment opportunities for workers living within the 90-minute daily commuting zone by promoting vacancies and supporting education and training initiatives;
- enhance the economic benefits of the Project by working with the local supply chain; and
- develop an accommodation strategy which will promote opportunities for people and businesses to rent rooms or let out tourist accommodation; reduce potential impacts including displacement of existing tenants or tourists via the construction of sufficient purpose-built accommodation to house a large proportion of workers requiring temporary accommodation; and establish an accommodation office which advertises vacancies and guides workers towards accommodation to avoid disruption to local residents, public services and community resources.

3.2.40 In addition to the above, EDF Energy would:

- establish a Community Safety Management Plan and Worker Code of Conduct in consultation with the Police with systems in place to monitor and respond to any complaints; and
- complete a Health Impact Assessment.

3.2.41 The key socio-economic considerations going forward are summarised below in **Table 3.2.4**.

Table 3.2.4: Potential Socio-economic Issues Arising from the Project

Economy	
Regional and Local Economy and Labour Markets	Increased expenditure, income and demand for labour, including changing levels of labour market capacity and skill levels.
Businesses and Supply Chains	Increased demand for and transportation of goods and services, such as increased business growth, competition for workers, road congestion during the construction phase and changes in the perception of Suffolk.
Tourist Economy	Changing levels of access to tourist destinations, workers accessing tourist accommodation and related to changes in the perception of Suffolk.
Agricultural Economy	Land-take and/or severance related to the Project and including changing levels of agricultural employment and activity.

Accommodation	
Tourist Sector	Increased demand for tourist accommodation, particularly during peak tourist season.
Private Rented Sector	Workers accessing private rented accommodation, and subsequent potential issues related to local housing provision, homelessness and affordability.
Owner-occupied Sector	Workers accessing owner-occupied accommodation.
Latent Accommodation	Uptake of currently un-rated tourist or other non-private rented accommodation (e.g. rooms in private homes).
Public Services and Community Resources	
Education	School capacity and integration arising from workers' children requiring places; and investment in skills and training.
Leisure	Workers using existing leisure facilities and demand for facilities.
Emergency Services/Planning	Capacity and operation of emergency services including the Police and NHS during the construction phase, on-site and in areas where construction workers live.
Health and Wellbeing	Workers accessing healthcare services, and to the mental and physical wellbeing of workers and residents.
Community Cohesion	Community integration and equity of access to information and services, housing issues and cultural issues.

### 3.3 Transport

- 3.3.1 Construction of Sizewell C would require the movement of a large number of people and large amounts of freight. It is currently estimated that the construction workforce would peak at around 5,600 people and that very large volumes of material would be required for construction; the vast majority of which would be bulk materials such as sand, cement and aggregates.
- 3.3.2 EDF Energy is considering a number of options for the movement of people and freight, including by road, by rail and by sea. Further information on the proposals being considered is presented in the **Transport Strategy and Supporting Information** document. Preliminary environmental information relating to these transport options is included in **sections 4 and 5** of this document.
- 3.3.3 EDF Energy will not be able to remove all the transport related effects associated with a project of this scale. Nonetheless, EDF Energy plans to make a range of investments which would significantly reduce and manage the traffic generated during by the Sizewell C Project, especially during the construction phase.

## **a) Transport Context**

### **i. Road**

- 3.3.4 The Sizewell C Main Development Site is located on the Suffolk coast, approximately 3km to the north-east of the town of Leiston. The major towns of Ipswich and Lowestoft are some 40km to the south-west and north respectively.
- 3.3.5 By road, the Sizewell C Main Development Site can be accessed locally either via the B1122 (travelling through Theberton), the B1119 (through Saxmundham and then Leiston) or via the A1094 and then B1069 through Leiston. Of these routes, the B1122 was the approved heavy goods vehicle (HGV) route during the construction of Sizewell B power station.
- 3.3.6 From more distant locations the area can be reached by the A12, which runs from London to Great Yarmouth via Ipswich. The A12 can experience some congestion in places during peak hours, such as in areas to the east of Ipswich. Other parts of the road network close to the Sizewell C Main Development Site generally experience modest existing traffic flows, consistent with the relatively rural character of the surrounding area.
- 3.3.7 A number of local bus services serve the town of Leiston and surrounding towns and villages in the Suffolk Coastal district.

### **ii. Rail**

- 3.3.8 The East Suffolk Line is an unelectrified railway line running between Ipswich and Lowestoft, with connections to the wider regional and national rail network available from these locations.
- 3.3.9 A single track line runs between Saxmundham and Leiston, terminating in a siding to the south of King George's Avenue, Leiston. The line is not currently used for any public rail passenger services, rather for the occasional movement of spent fuel associated with the decommissioning of the Sizewell A power station. The line, which branches from the East Suffolk Line at Saxmundham, was used for the delivery of cement and other construction materials by rail during the construction of Sizewell B.

### **iii. Sea**

- 3.3.10 The nearest commercial port facilities are located at Lowestoft, Ipswich and Felixstowe, each of which are approximately 40-50km from the Sizewell C Main Development Site. The ports at Lowestoft and Ipswich are owned and operated by Associated British Ports and provide a range of facilities for container, bulk and general cargo handling. The port of Lowestoft is a centre for servicing of the offshore oil and gas industry and, more recently, for the offshore wind energy industry. The port of Felixstowe is operated by the Felixstowe Dock and Railway Company and handles container cargo.

## b) Work Undertaken to Date

- 3.3.11 EDF Energy is in the process of developing a transport model to examine the traffic issues that might arise from the Sizewell C Project. In line with industry standards, the model consists of three main stages: construction of a 'base' model, development of a 'reference case' model and the production of a 'with-development' model.
- 3.3.12 An initial base model has been developed to accurately replicate the existing conditions on the road network, using the following data sources:
- A wide range of traffic counts on the local road network were conducted in May and June 2011 in the areas in and around Saxmundham, Leiston, the A12 and Beccles; and
  - Traffic count information from the Highways Agency Traffic Flow Data System, which holds information on traffic flows on the motorway and trunk road network.
- 3.3.13 Building on the base model, a 'reference case' model has been developed which takes into account forecast future traffic growth and additional traffic associated with developments that have been granted planning permission, but not yet built.
- 3.3.14 Initial 'with-development' modelling has been used to make an initial assessment of the potential issues associated with the Sizewell C Project construction traffic. This has been done by adding estimates of the Sizewell C Project-related traffic to the 'reference case' model.
- 3.3.15 Further details on the transport model can be found in section 4 of the **Transport Strategy and Supporting Information** document.

## c) Key Considerations

- 3.3.16 Initial transport work has focused on the construction phase for Sizewell C, which would require the greatest number of traffic movements.
- 3.3.17 In relation to the movement of the construction workforce, EDF Energy's proposals for a development site or near site accommodation campus would significantly reduce the additional daily traffic associated with bringing the construction workforce to and from the Sizewell C Main Development Site. Park and ride developments are also proposed to reduce traffic impacts during peak construction years. Direct and rail pick-up bus services would also be operated. A range of shift patterns would operate on the Sizewell C Project (see section 4.2 of the **Sizewell C Stage 1 Consultation Document**).
- 3.3.18 For the movement of freight the transport strategy envisages a major role for sea and rail deliveries. Sea export is also considered likely for the export of surplus material generated during the site excavation phase. Some materials would need to be brought to and from the site by road, but total HGV movements would be much reduced through investments in rail and sea. Residual HGV movements would be managed.
- 3.3.19 It is also being explored whether a borrow pit or pits could be created within the construction area to help source engineering fill material for the Sizewell C Main Development Site. If feasible, this would help reduce the amount of fill that would need to be transported by sea, rail and/or road. Any borrow pit(s) would be of a

temporary nature and would not be left open but restored to the level of the construction area.

- 3.3.20 Initial traffic modelling has allowed EDF Energy to reach early conclusions about the transport-related issues that could occur as a result of the Sizewell C Project.
- 3.3.21 The most likely areas where transport impacts could be experienced are on the A12 and the B1122. This would be the route taken by HGVs and vehicles transporting the construction workforce. Much of the A12 is dual carriageway and initial analysis suggests that traffic-related to the Sizewell C Project would not create capacity or congestion concerns on the large majority of the road.
- 3.3.22 EDF Energy is aware that the single carriageway section of the A12 through the villages of Marlesford, Little Glemham, Stratford St Andrew and Farnham is one of the more sensitive stretches of the A12, and is looking to reduce the effects experienced at these locations as far as practicable (as with other areas which could be significantly affected by the development). EDF Energy's plans to use rail and sea for freight deliveries, and park and ride developments during the years of peak construction, will substantially reduce the traffic impacts of the development. Current estimates are that the total traffic impact of Sizewell C on this part of the A12 would be in the region of between a 5% and 15% addition to all-vehicle daily traffic flows during the period of peak construction. At this time, EDF Energy's view is that Sizewell C traffic would not be of a scale likely to cause major changes to traffic or environmental conditions on this stretch of road, and would not justify major intervention in the form of a full four village bypass.
- 3.3.23 The narrow bend at Farnham is widely considered to be the most significant existing issue on the four villages stretch of the A12. It is the area which is closest to capacity and the narrow bend creates a potential safety concern, particularly when two large vehicles are passing at once. For these reasons it is considered that measures to improve the position at Farnham bend may be justified by the Sizewell C Project. EDF Energy is therefore inviting views on a number of potential alternative mitigation options for Farnham bend.
- 3.3.24 As the Sizewell C Project proposals develop, transport assessment work will continue to be progressed with further regular liaison with the relevant local authorities and the Highways Agency. This work will cover a wide range of issues, including further development, refinement and agreement of the transport model in light of responses to the Stage 1 and future consultation.

# 4. SIZEWELL C MAIN DEVELOPMENT SITE ENVIRONMENT

## 4.1 Introduction

4.1.1 This section of the ER sets out EDF Energy's current understanding of the environmental characteristics of the Sizewell C Main Development Site and surrounding area. Taking each environmental topic in turn, the main environmental resources and receptors are identified and, where relevant, an explanation is provided of how these have influenced the Stage 1 consultation proposals. Each topic section also identifies the key issues that are likely to require further consideration as part of the EIA scoping process. The following topics are covered:

- Terrestrial Ecology and Ornithology;
- Landscape and Visual Amenity;
- Recreation;
- Historic Environment;
- Noise and Vibration;
- Air Quality;
- Soils and Agriculture;
- Geology and Ground Contamination;
- Groundwater;
- Surface Water and Flood Risk;
- Coastal Geomorphology and Hydrodynamics;
- Marine Water Quality and Sediments;
- Marine Ecology;
- Commercial Fisheries;
- Navigation; and
- Radiological Effects.

## 4.2 Terrestrial Ecology and Ornithology

4.2.1 This section sets out the key terrestrial ecology and ornithology considerations, early study findings and ongoing and planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation. This information is also relevant to the parallel Habitats Regulations Assessment (HRA) process, which will assess the implications of the proposals specifically on European designated sites. Further detail of this process is included in **Appendix A**.

## a) Environmental Baseline

- 4.2.2 Environmental baseline information relevant to terrestrial ecology and ornithology has been gathered through a comprehensive suite of desk-based studies and field surveys beginning in 2007.
- 4.2.3 Relevant stakeholders have been regularly consulted during the progression of the Sizewell C Project leading up to the Stage 1 consultation. Representatives from Natural England, Suffolk County Council, the Environment Agency, Suffolk Wildlife Trust and the RSPB are involved in ecology progress meetings, as well as the scope (and geographic extent) of the ecological surveys that have been refined in response to consultee comments and interim survey findings. **Table 4.2.1** provides a brief summary of the extensive ecological survey work carried out to date.

Table 4.2.1: Summary of the Ecological Studies Undertaken to Date

Ecological Study	Scope of Studies
Habitats and plant communities	A broad review and mapping of the habitats present within and adjacent to the Sizewell C Main Development Site. Detailed information collected on habitats present within the most botanically diverse areas of the Sizewell C Main Development Site, including: The wet grassland/swamp/marshy grassland habitats within the Sizewell Marshes Site of Special Scientific Interest (SSSI); The aquatic and emergent plant communities present within the ditches of Sizewell Marshes SSSI; and The coastal vegetation.
Invertebrates	Surveys of the aquatic and terrestrial invertebrates present within the coastal habitats and the Sizewell Marshes SSSI.
Reptiles	A detailed study of the extent and distribution of reptile species.
Amphibians	A survey for great crested newts within water bodies and ditches within the wetland areas adjacent to the Sizewell C Main Development Site.
Mammals	Detailed studies of mammal species including: A suite of bat studies including roost surveys, activity surveys and radio-tracking studies, covering the period 2007 to 2011; Studies to determine the distribution and extent of water voles ( <i>Arvicola amphibious</i> ) and otters ( <i>Lutra lutra</i> ) within Sizewell Marshes SSSI; and Surveys to determine the distribution and extent of badgers ( <i>Meles meles</i> ).
Breeding birds	Detailed surveys of breeding birds in habitats within and adjacent to the Sizewell C Main Development Site.
Wintering birds	Detailed studies of wintering birds in habitats within and adjacent to the Sizewell C Main Development Site.
Seabirds	A suite of studies investigating the use of the inshore areas by sea birds.

- 4.2.4 The part of the Suffolk coastline within which the Sizewell C Main Development Site is situated is ecologically diverse and, as a result, is subject to a range of nature conservation designations. **Figure 4.2.1** and **Figure 4.2.2** (see **Appendix B**) show the locations of the international (Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar) and nationally designated sites including Special Sites of Scientific Interest (SSSIs) and National Nature Reserves within 20km of the Sizewell C Main Development Site. Given the importance of these sites a

20km buffer from the Sizewell C Main Development Site was considered an appropriate distance to consider potential effects upon these sites.

4.2.5 **Figure 4.2.3** (see **Appendix B**) shows the locations of locally designated sites in close proximity to the Sizewell C Main Development Site. As these sites are considered to be important in a County (Suffolk) context, a 3km buffer from the Sizewell C Main Development Site was considered an appropriate distance to consider potential effects upon these sites.

4.2.6 **Table 4.2.2** and **Table 4.2.3** respectively identify the statutory and non-statutory designations that have been identified and are considered most relevant to terrestrial ecology and ornithology, along with the main ecological features associated with each site. It should be noted that not all the sites shown on **Figures 4.2.1 - 4.2.3** (see **Appendix B**) are likely to be affected by the Sizewell C Project, and only those considered most relevant to terrestrial ecology and ornithology are discussed in this section and **Tables 4.2.2** and **4.2.3**.

Table 4.2.2: Key Statutory Designated Sites Considered Relevant to Terrestrial Ecology and Ornithology

Statutory Designated Site	Description
Minsmere - Walberswick SPA and Ramsar site, and Minsmere to Walberswick Heaths and Marshes SAC (located adjacent to the north-east boundary of the Sizewell C Main Development Site)	This area has been identified as a Ramsar site as it supports a diverse range of wetland bird species in nationally important numbers. The SPA supports bird populations of European importance, including breeding populations of avocet ( <i>Recurvirostra avosetta</i> ) and little tern ( <i>Sterna albifrons</i> ), over-wintering gadwall ( <i>Anas strepera</i> ) and white-fronted goose ( <i>Anser albifrons</i> ), as well as migratory populations of teal ( <i>Anas crecca</i> ), gadwall and shoveler ( <i>Anas clypeata</i> ) during the breeding season.  The habitats that are a primary reason for selection of the SAC are 'annual vegetation of drift lines' and 'European dry heaths', whilst 'perennial vegetation of stony banks' are a qualifying feature of the site.
Sandlings SPA (located approximately 0.7km south of the Sizewell C Main Development Site)	The Sandlings SPA supports populations of European importance of both nightjar ( <i>Caprimulgus europaeus</i> ) and woodlark ( <i>Lullula arborea</i> ).
Alde-Ore Estuary SPA and Ramsar and Alde-Ore & Butley Estuaries SAC (located approximately 5.5km south of the Sizewell C Main Development Site)	The Alde-Ore Estuary has been identified as a Ramsar site for its diverse and nationally important wetland bird species, and as an SPA because it supports bird populations of European importance, including breeding populations of avocet, little tern ( <i>Sterna albifrons</i> ) and sandwich tern ( <i>Sterna sandvicensis</i> ), and over-wintering ruff ( <i>Philomachus pugnax</i> ) and avocet. The site also supports important migratory populations of lesser black-backed gull ( <i>Larus fuscus</i> ) during the breeding season and redshank ( <i>Tringa tetanus</i> ) during the winter.  The primary reason for the SAC designation is the estuary habitat; intertidal mudflats and sandflats and Atlantic salt meadow habitats are also qualifying features.
Outer Thames Estuary SPA (includes the area of open sea adjacent to the eastern boundary of the Sizewell C Main Development Site)	The Outer Thames Estuary SPA qualifies by supporting populations of European importance of red-throated diver ( <i>Gavia stellate</i> ) during the winter.

Statutory Designated Site	Description
Staverton Park and the Thick SAC (located 16km south of the Sizewell C Main Development Site)	This site is representative of old acidophilus oak woods in the eastern part of its range and its ancient oaks ( <i>Quercus</i> spp.) have rich invertebrate and epiphytic lichen assemblages.
Benacre to Easton Bavents Lagoons SAC (located 14.5km north of the Sizewell C Main Development Site)	Benacre to Easton Bavents Lagoons is designated as an SAC as it supports a series of percolation lagoons on the east coast of England. The lagoons (the Denes, Benacre Broad, Covehithe Broad and Easton Broad) have formed behind shingle barriers and are a feature of a geomorphologically dynamic system. This range of salinity has resulted in a series of lagoonal vegetation types, and associated specialist lagoonal species.
Benacre to Easton Bavents Lagoons SPA (located 14.5km north of the Sizewell C Main Development Site)	Benacre to Easton Bavents is designated as an SPA because they support bird populations of European importance including important numbers of bittern ( <i>Botaurus stellaris</i> ) in winter, and breeding little terns ( <i>Sterna albifrons</i> ) which feed substantially outside the SPA in adjacent marine waters.
Stour and Orwell Estuaries SPA and Ramsar Site (located more than 20km south of the Sizewell C Main Development Site)	The Stour and Orwell estuaries have been designated as a Ramsar site for its diverse and nationally important wetland bird species; and as an SPA because they support bird populations of European importance. This includes numbers of breeding avocet. In winter, they hold major concentrations of water birds, especially geese, ducks and waders. The geese also feed, and waders roost, in surrounding areas of agricultural land outside the SPA.
Orfordness to Shingle Street SAC (located approximately 8km south of the Sizewell C Main Development Site)	The habitats that are a primary reason for selection of this site are 'coastal lagoons', 'annual vegetation of drift lines' and 'perennial vegetation of stony banks'.
Minsmere to Walberswick Heaths and Marshes SSSI (adjacent to the north of the Sizewell C Main Development Site)	This SSSI contains a complex series of habitats, notably mudflats, shingle beach, reedbeds, heathland and grazing marsh. These combine to create an area of exceptional scientific interest that supports a diverse breeding and wintering bird assemblage and a diverse range of invertebrates.
Sizewell Marshes SSSI (located within and immediately west of the Sizewell C Main Development Site)	This SSSI is of national importance for the considerable area of lowland unimproved wet meadow it contains. Associated with the wet meadows are outstanding assemblages of invertebrates and breeding birds, along with several nationally scarce plant species. The marshes also support a diverse invertebrate assemblage. Water voles ( <i>Arvicola amphibious</i> ) are present within the SSSI and the SSSI is also used regularly by otters ( <i>Lutra lutra</i> ).
Leiston to Aldeburgh SSSI (located approximately 1km south of the Sizewell C Main Development Site)	This SSSI contains a rich mosaic of habitats, including acid grassland, heath, scrub, woodland, fen, open water and vegetated shingle.

Table 4.2.3: Non-statutory Designated Sites Considered Most Relevant to Terrestrial Ecology and Ornithology

Non-statutory Designated Site	Description
Southern Minsmere Levels County Wildlife Site (CWS) (see site 1 on <b>Figure 4.2.3, Appendix B</b> )	Supports coniferous woodland and a diverse assemblage of breeding birds, roosting and foraging bats, invertebrates (including the white admiral butterfly ( <i>Limenitis camilla</i> ) and Norfolk hawk dragonfly ( <i>Aeshna isoceles</i> )) and reptiles.
Sizewell Levels and associated areas CWS (see site 2 on <b>Figure 4.2.3, Appendix B</b> )	A large area of land, consisting of woodland, plantation, wet meadow, osier beds and scrub. The ground remains waterlogged throughout the winter and numerous dykes provide good cover for high numbers of mute swans ( <i>Cygnus olor</i> ), teal ( <i>Anas crecca</i> ), mallard ( <i>Anas platyrhynchos</i> ) and moorhen ( <i>Gallinula chloropus</i> ).
Leiston Common CWS (see site 3 on <b>Figure 4.2.3, Appendix B</b> )	Supports lowland heath, breeding birds and a diverse assemblage of reptiles and invertebrates.
Suffolk Shingle Beaches CWS (see site 4 on <b>Figure 4.2.3, Appendix B</b> )	Supports coastal sand and shingle habitats, a diverse assemblage of invertebrates, a population of reptiles, and foraging black redstarts.
Dower House CWS (see site 5 on <b>Figure 4.2.3, Appendix B</b> )	Valuable cliff-top unimproved dry acid/dry maritime grassland. The sward composition includes species typically associated with acid grasslands and heaths such as heath dog violet ( <i>Viola canina</i> ).
Aldringham to Aldeburgh Disused Railway CWS (see site 6 on <b>Figure 4.2.3, Appendix B</b> )	A section of disused railway line which serves as a public footpath and supports a species diverse flora both on the line of the old track and on the gently sloping embankments.
Sizewell Rigs CWS (see site 7 on <b>Figure 4.2.3, Appendix B</b> )	Supports a breeding colony of kittiwake ( <i>Rissa tridactyla</i> ).
Suffolk Wildlife Trust Reserve (see two patches of purple hatching on <b>Figure 4.2.3, Appendix B</b> )	This reserve occupies the same area as the more highly designated Sizewell Belts SSSI and parts of some of the County Wildlife Sites described above.

4.2.7 The survey work has resulted in the development of a comprehensive ecological baseline, which has informed the development and layout of the Sizewell C Project. In addition, the work has led to a detailed understanding of the key habitats and species that are present and how they are likely be affected by the Sizewell C Project. **Table 4.2.4** summarises the key findings from the survey work carried out to date, which will inform any subsequent assessment.

Table 4.2.4: Key Findings of the Ecological Studies Undertaken to Date

Ecological Study	Key Findings
Habitats and plant communities	<p>The majority of non-designated land within and adjacent to the Sizewell C Main Development Site comprises agricultural farmland with smaller areas of deciduous woodland such as Ash Wood and Fiscal Policy, coniferous plantation including Kenton Hills and Goose Hills; acid grassland/lowland heath and neutral grassland. Sizewell Marshes SSSI supports plant-rich wetland habitat whilst the coast comprises valuable sand and shingle plant communities. The studies identified considerable opportunities for habitat enhancement and creation, such as new Suffolk ‘sandling heath’ habitat during any site restoration.</p> <p>The studies of Sizewell Marshes have recorded in detail the plant composition of the area of the SSSI that would be lost to development. This comprises a mosaic of open water, reed bed and wet woodland. The open water and ditches are flower-rich, supporting aquatic plants including water-soldier (<i>Stratiotes aloides</i>), soft hornwort (<i>Ceratophyllum submersum</i>) and common duck-weed (<i>Lemna minor</i>), with emergent plants such as common reed (<i>Phragmites australis</i>), hemp-agrimony (<i>Eupatorium cannabinum</i>) and bulrush (<i>Typha latifolia</i>). The reedbed areas are relatively species-poor, dominated by common reed and nettle (<i>Urtica dioica</i>). The wet woodland is dominated by alder (<i>Alnus glutinosa</i>) with smaller areas of grey willow (<i>Salix cinerea</i>) and downy birch (<i>Betula pubescens</i>).</p>
Invertebrates	<p>Studies have shown that habitats adjacent to and within the Sizewell C Main Development Site support a range of invertebrate species, with Sizewell Marshes and coastal vegetation being especially species-rich. Species of particular note include Norfolk hawker dragonfly (<i>Aeshna isosceles</i>) and white admiral butterfly (<i>Limenitis camilla</i>).</p> <p>The coastal habitats supported eight nationally scarce fly species and two species listed in the red data book, together with three nationally scarce beetles and two listed in the red data book.</p> <p>The Sizewell Marshes SSSI (including the portion that would be lost) supports a number of scarce species, including Norfolk hawker, a soldier fly (<i>Odontomyia ornate</i>) and a tachinid fly (<i>Subclytia rotundiventris</i>).</p>
Reptiles	<p>The habitats adjacent to and within the Sizewell C Main Development Site and, in particular, the woodland rides within Kenton Hills and Goose Hill support populations of reptiles comprising four species: an ‘exceptional’ population of adder (<i>Viper berus</i>), an ‘exceptional’ population of slow worm (<i>Anguilla fragilis</i>), a ‘good’ population of common lizard (<i>Zootoca vivipara</i>) and a ‘good’ population of grass snake (<i>Natrix natrix</i>) (definitions of the importance of the reptile populations from guidance produced by Froglife<sup>16</sup>).</p> <p>Detailed information on the status and distribution of these species has been collected and will inform the development of a comprehensive mitigation strategy.</p>

<sup>16</sup> *Reptile Survey: An introduction to planning, conducting and interpreting surveys for snakes and lizard conservation*, Froglife Advice Sheet 10, Froglife, 1999.

Ecological Study	Key Findings
Amphibians	<p>No evidence for the presence of great crested newts (<i>Triturus cristatus</i>) has been identified within the habitats adjacent to and/or within the Sizewell C Main Development Site.</p> <p>An introduced population of natterjack toads (<i>Epidalea calamita</i>) is present within the EDF Energy estate. The habitat requirements of this species are widely known and will be incorporated within the final habitat mitigation and landscape strategy.</p>
Mammals	<p>The ditches within Sizewell Marshes support a large population of water voles. The adjacent RSPB Minsmere nature reserve has been identified as a National Key Site<sup>17</sup> for this species.</p> <p>Otters (<i>Lutra lutra</i>) are also regular visitors and the marshes may potentially be important for breeding otters. The detailed information on the status and distribution of these species will enable suitable measures to be put in place to safeguard them and ensure the habitat and landscape strategy incorporates their requirements.</p> <p>Five badger (<i>Meles meles</i>) social groups have been identified within habitats adjacent to and within the Sizewell C Main Development Site, and work has identified the territory sizes, movements and interactions between the groups.</p> <p>Survey work has also described the assemblage of bat species present within habitats adjacent to and within the Sizewell C Main Development Site, including the scarce barbastelle and roosts of Natterer's (<i>Myotis nattereri</i>), soprano pipistrelles (<i>Pipistrellus pygmaeus</i>) and brown long-eared bats (<i>Plecotus auritus</i>). In addition, the work has identified the key features of importance, such as roost sites, feeding areas and foraging and commuting routes. As such, a detailed picture of how bats are using the wider landscape has been built up. Barbastelle are roosting within mature broadleaved trees and woodland, such as Ash Wood, Fiscal Policy and the edge of Kenton Hills and are foraging widely over a range of habitats, including woodland rides within Kenton Hills, Goose Hill and Sizewell Marshes. Other bat species are roosting in a variety of locations including artificial bat boxes within the coniferous woodlands of Kenton Hills, whilst a number of buildings to the west and north of the Sizewell C Main Development Site also support roosting bats. Again these bats forage widely over the habitats present in the local vicinity with woodland, hedgerows and arable farmland all well used.</p>

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<sup>17</sup> The National Water Vole Steering Group (which includes Natural England and the RSPB) oversees the implementation of the Biodiversity Action Plan for water voles. They have identified a number of Key National Sites that are important for the conservation of the species. The RSPB Minsmere nature reserve has been identified as one such site due to the large population of water voles present. The sites are identified in the following policy paper [http://www.ptes.org/files/1554\\_water\\_voles\\_key\\_sites\\_final\\_report\\_1.pdf](http://www.ptes.org/files/1554_water_voles_key_sites_final_report_1.pdf)

Ecological Study	Key Findings
Breeding birds	<p>Studies conducted over two breeding seasons have identified that the mosaic of habitats in close proximity to the Sizewell C Main Development Site supports a diverse assemblage of breeding birds typical of the mosaic of habitats present, including protected species such as Cetti's warbler (<i>Cettia cetti</i>) within wet woodland in Sizewell Marshes, hobby (<i>Falco subbuteo</i>) using mature trees for nesting, black redstart (<i>Phoenicurus ochruros</i>) within the A and B Power Station complex, barn owl (<i>Tyto alba</i>) foraging widely and crossbill (<i>Loxia curvirostra</i>) within coniferous woodland. A total of 13 UK Biodiversity Action Plan (UKBAP) priority species were also recorded holding territory.</p> <p>Sizewell Marshes supports small numbers of breeding wildfowl and Cetti's warbler. Marsh harriers (<i>Circus aeruginosus</i>) nesting at Minsmere are known to forage occasionally over the SSSI; however, Sizewell Marshes are not considered to be critical for their breeding success. Bitterns are occasional visitors, but there is no evidence that they breed close to the Sizewell C Main Development Site. Likewise, there is no evidence to suggest that either nightjar or woodlark are currently breeding.</p>
Wintering birds	<p>The studies indicate that the habitats present in close proximity to the Sizewell C Main Development Site supports a range of wintering birds. Sizewell Marshes support an important wintering population of gadwall, whilst bearded tit (<i>Panurus biarmicus</i>) and kingfisher (<i>Alcedo atthis</i>) are also present. Woodlark may winter within the arable land.</p>
Seabirds	<p>Ongoing seabird studies are focusing on red-throated diver and little tern (<i>Sterna albifrons</i>), as these are the interest features of adjacent SPAs (see <b>Table 4.2.3</b>). Nevertheless, information concerning the distribution and abundance of other seabirds using the coast adjacent to Sizewell has also been collected.</p> <p>Studies have also showed that little tern forage during the breeding season over the section of sea in close proximity to their breeding colonies (e.g. at Minsmere), but that the coast immediately adjacent to Sizewell was not well-used by foraging little terns. However, this lack of foraging terns close to site may be due to the fact that little terns failed to breed in the area during the period 2010-2012.</p> <p>The studies also indicate that the inshore waters (including the area of the Sizewell outfall) are important foraging habitat for a variety of other seabird species. For example, the outfall is important for foraging black-headed gull (<i>Larus ridibundus</i>) and common tern (<i>Sterna hirundo</i>) during the breeding season (May – July), for common tern, little gull (<i>Larus minutus</i>) and black tern (<i>Chlidonias niger</i>) during autumn passage (August – September), and for herring gull (<i>Larus argentatus</i>) and black-backed gull during the winter (October-March).</p> <p>Inshore waters are also used by large numbers of common tern and smaller numbers of Sandwich tern (<i>Sterna sandvicensis</i>) in the post breeding period (August-September), as well as by kittiwake (<i>Rissa tridactyla</i>).</p>

## b) Key Environmental Considerations

- 4.2.8 On the basis of the extensive ecological baseline work already undertaken (as described above), and taking on board the key themes that have emerged from discussion with relevant stakeholders, it has been possible to compile an initial list of likely key ecological receptors and thus to highlight the main ecological considerations to be taken into account in the detailed design and assessment of the Sizewell C Project. It should be noted that some of these issues have already been considered within the ecology surveys described in **Table 4.2.4**. These receptors are listed and described as follows:

- **Bird populations associated with Minsmere-Walberswick SPA/Ramsar, Alde Ore Estuary SPA/Ramsar and the Outer Thames Estuary SPA** – The bird populations associated with these nearby sites are of European importance, and it will therefore be necessary to assess how they might be affected by the Sizewell C Project. Seabird studies have indicated that the adjacent coastal habitats are used by a variety of species from these sites, including little tern (during the breeding season) and red-throated diver (during the winter months). Further survey work may be required in order to better understand how these important populations are using the coastal areas close to Sizewell.
- **Bird populations associated with the Sandlings SPA** – As for the marine SPAs above, it will also be necessary to assess how the breeding woodlark and nightjar using the Sandlings SPA might be affected by the proposals, in particular, through disturbance.
- **Minsmere to Walberswick Heaths and Marshes SSSI/SAC, Orfordness Shingle Street SAC and Leiston to Aldeburgh SSSI** – Although they are outside the Sizewell C Main Development Site, possible effects on the habitats present in these sites will be considered with regard to potential changes in coastal processes, along with indirect hydrological effects on freshwater habitats resulting from the Sizewell C Project. Consideration will also be given to the effects on species associated with these sites, such as marsh harriers and bittern, both of which breed at Minsmere but which are visitors to Sizewell Marshes and may be affected by disturbance during the construction phase.
- **Sizewell Marshes SSSI (and associated species)** – The loss of part of this site is an important ecological consideration for the Sizewell C Project. The ecological and hydrological requirements of the proposed replacement habitat will be determined, and the replacement habitat would need to be available within an agreed timeframe. The viability of the retained Leiston Beck channel beneath the proposed new access bridge to the Sizewell C Main Development Site will need to be examined in terms of hydrology, floodwater function and biodiversity. EDF Energy will assess the existing habitat quality and potential impacts upon the associated wetland invertebrate species and assemblages present (including Norfolk hawker dragonflies), as well as wetland birds, otters and water voles.
- **Southern Minsmere Levels CWS (and associated species)** – Parts of this site, which includes the woodland at Goose Hill, are within the footprint of the Sizewell C Main Development Site. Bats, badgers, invertebrates, reptiles and nesting birds associated with this site will be important considerations.
- **Suffolk Shingle Beaches CWS (and associated species)** – The implications of construction activities (in particular the temporary jetty, the cooling water infrastructure and the sea protection) for the coastal habitats and species will need careful consideration in the proposals. The potential effects include habitat loss, long-term changes brought about by altering the rates of coastal erosion, sedimentation, longshore drift and disturbance.
- **Sizewell Rigs CWS** – The implications of the proposals on breeding kittiwakes that currently use this feature, along with other seabird species that use the offshore habitats as a foraging resource, will need careful consideration.
- **Reptiles** – The existing reptile population within the Sizewell C Main Development Site will need to be moved to appropriate receptor sites, either within the Sizewell C Main Development Site or off-site. The strategy for reptile mitigation is evolving

taking account of Project land use requirements. This will form part of a reptile mitigation strategy ensuring that sufficient good quality habitat is available when required. Careful consideration will be given to the site (or sites) chosen and ensuring such land is ready to receive translocated animals.

- **Bats** – The wider landscape of the Sizewell C Main Development Site is of particular importance to bats, especially (based upon recent surveys) the European-protected barbastelle which uses many of the habitats present for roosting, foraging, commuting and/or hibernating. Key features for other bat species are also present. Depending upon the results of further work, it is likely that different species (or groups of species) will be addressed separately as receptors in their own right, especially barbastelles.
- **Black redstarts** – The implications for this species will partly be dealt with under the ‘Suffolk Shingle Beaches CWS (and associated species)’ receptor. However, given its presence also on the existing buildings of the Sizewell A and B power stations, the species is also likely to be addressed separately as a receptor in its own right.
- **Arable farmland (and associated habitats and species)** – The arable landscape of the Sizewell C Main Development Site, including field margins and hedgerows, along with associated species such as populations of skylark and brown hare, could potentially be a key ecological receptor and consideration will need to be given to the implications of the proposals.

4.2.9 Other issues identified by relevant stakeholders include:

- additional information will be required in respect of sea protection proposals, the jetty and the cooling water structures to determine the potential for disturbance of key receptors; and
- the parallel HRA process must consider all likely potential effects on European designated sites (see **Appendix A** for further details).

4.2.10 Some of the survey findings set out in **Table 4.2.4** have already influenced the evolution of the Sizewell C Main Development Site, notably:

- the identification of significant bat populations on the EDF Energy estate, in particular within Goose Hill, Kenton Hills, Ash Wood and Fiscal Policy, resulted in EDF Energy taking a decision to move the proposed northern access road further north than the originally envisaged route (abutting Kenton Hills and linking to Lover’s Lane);
- similarly, the enhanced understanding of the bat habitats, in particular the surveyed north-south foraging and commuting routes between Ash Wood, Kenton Hills and the Sizewell Marshes SSSI, has led EDF Energy to specifically set aside a broad ‘green corridor’ between these locations and thereby limit disturbance to the habitat of these protected species. This has effectively split the construction laydown area into two east and west zones, albeit road access would be required across the corridor. Furthermore, the use of the woodlands of Kenton Hills and Ash Wood has similarly been avoided, and appropriate buffer zones incorporated into the landscape strategy to provide further protection;
- the enhanced understanding of the habitats within the Sizewell Marshes SSSI; in particular, the greater understanding of the interdependencies of these habitats and the potential effects of changes to hydrology (surface water and groundwater)

and water quality, have reaffirmed the need for EDF Energy to seek to limit land take within the SSSI as far as reasonably practicable and to ensure a viable ecological and hydrological 'corridor' remains between the Marshes and land heading north into Minsmere; and

- the enhanced understanding of reptile species present within the EDF Energy estate has helped to identify the quantity and quality of replacement habitat required, although this strategy will not be determined until after the Stage 1 consultation in discussion with relevant stakeholders.

4.2.11 An extensive programme of habitat restoration and creation (alongside proposed landscape enhancements) is to be discussed with relevant stakeholders, which will seek to deliver a net biodiversity gain across the Sizewell C Main Development Site in the longer term. EDF Energy is committed to ensuring that the design and long-term management of land delivers maximum landscape, biodiversity and amenity benefits.

4.2.12 **Table 4.2.5** identifies future planned terrestrial ecology and ornithology studies for the Sizewell C Project. This list is not exhaustive and, if further surveys are identified, they will be incorporated into the programme. The scope of these surveys will be discussed with the relevant stakeholders.

Table 4.2.5: Planned Terrestrial Ecology and Ornithology Studies

Study	Scope of Study
SSSI habitat replacement	To identify the ecological parameters required for the habitat replacement and the suitability of potential replacement habitat in both hydrological and ecological terms.
Reptiles	Production of a mitigation strategy to identify suitable sites for the creation of good quality reptile habitat so that suitable receptor sites are available when required.
Bats	An assessment of how bat species (notably barbastelle) will be affected by the proposed development, particularly with regard to the Sizewell C construction activities and in identifying appropriate mitigation measures.
Seabirds	Completion of a second year's study to fully understand the seabird assemblage present during the year including numbers and distribution of species, and to identify the mitigation measures that may be appropriate.  Additional studies may also be required (in conjunction with the marine ecology studies) to determine if there are likely to be any changes in the marine environment that may affect seabirds; for example, the abundance or distribution of prey species for key seabirds such as red-throated diver and little tern.

### 4.3 Landscape and Visual Amenity

4.3.1 This section sets out the key landscape and visual amenity considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

#### a) Environmental Baseline

4.3.2 The Sizewell C Main Development Site is located almost entirely within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB), and partially within and adjacent to areas defined as Heritage Coast. A small area of the Sizewell C Main Development Site is also located within an area designated as a Special Landscape

Area in the Suffolk Coastal Local Plan<sup>18</sup>. The full extent of the study area will be discussed with the relevant stakeholders as part of the EIA scoping process and is likely to extend some distance, given the potential for visual effects. To date, work has concentrated on the EDF Energy estate, and the land immediately adjacent to it, extending out approximately 1-2km from the EDF Energy estate boundary.

4.3.3 **Figure 4.3.1** (see **Appendix B**) is an aerial photograph of the Sizewell C Main Development Site and surrounding area which shows the site in its landscape context.

4.3.4 EDF Energy has undertaken a desk and site based review of landscape character and other relevant aspects in and around the EDF Energy estate and reviewed published material concerning the Suffolk Coast and Heaths AONB in order to inform the development of a landscape strategy, as described in **Table 4.3.1**.

Table 4.3.1: Landscape and Visual Amenity Related Studies Undertaken

Study	Scope of Study
Suffolk Coast and Heaths AONB	Review of relevant AONB legislation and policy related to the Suffolk Coast and Heaths AONB.
Landscape Baseline	Assessments of landform, vegetation and land use, published information on landscape character and the landscape policy context and a site scale landscape character assessment have been undertaken.
Visual Baseline	An assessment of key viewpoints, as well as potential viewpoints for the purpose of the Landscape and Visual Impact Assessment (LVIA).

4.3.5 The studies undertaken to date have provided an understanding of the landscape baseline, which is described in the following sections.

#### i. Landform

4.3.6 The landform is shown on **Figure 4.3.2** (see **Appendix B**). The study area generally slopes eastwards towards the coast. Rivers draining eastwards towards the sea create a relatively regular pattern of higher areas and lower lying valleys that open out to form expansive estuaries and low lying landscapes along the coastal strip in places. Soils are of glacial sand, gravel and till in origin, covering underlying deposits. The sands and gravels are spread in narrow bands giving rise to characteristic variations in the landscape. Lower lying areas often contain a diverse range of wetland habitats. Along the coast, low cliffs, vegetated dunes and shingle beaches mark the boundary between land and sea. The beach east of the Sizewell C Main Development Site includes flood defence structures comprising a shingle ridge fronting an earth embankment.

<sup>18</sup> *Suffolk Coastal Local Plan*, Suffolk Coastal District Council, 2001.

## ii. Land Cover and Settlement

- 4.3.7 The study area is characterised by a diverse range of land cover and land use types, reflecting human interventions over the years, and the underlying variations in geology, soils and topography. Land use and land cover is dominated by arable farmland, with more localised areas of permanent and improved pasture around villages and farms. Areas of heathland/acid grassland are sporadic with larger and more continuous areas of heath further to the south in the vicinity of The Walks. Low lying areas such as the Sizewell Belts and Minsmere Levels are characterised by areas of open water, drainage ditches and grazing marsh and reed beds, interspersed with wet woodland.
- 4.3.8 Woodland cover varies across the study area. Coniferous plantations are dominated by Corsican pine and occupy the elevated areas of Goose Hill. Deciduous/mixed woodland and scrub areas are more widely distributed with notable areas surrounding the Sizewell Belts and around the perimeter of the Sizewell A and B power stations. Woodland is also a feature of the wider rural landscape, often closely associated with areas of parkland or permanent pasture and close to farms and settlements. The coastal strip is characterised by vegetated dunes, cliffs and shingle beaches.
- 4.3.9 Built development in the study area varies. Buildings associated with the Sizewell A and B power stations form prominent features in the local landscape. The main reactor structures are surrounded by ancillary buildings, car parks and areas of hard standing which are largely screened from views from the surrounding landscape. The EDF Energy estate also includes a number of farms, farm buildings and dwellings including, Upper Abbey, Lower Abbey and Ash Wood Cottages. Other dwellings in the area exist including some along Sandy Lane.
- 4.3.10 Leiston is the principal settlement in the immediate vicinity and a number of villages, hamlets and more isolated dwellings are distributed throughout the landscape. There is limited settlement along the coast, with the exception of the small hamlet of Sizewell and a small number of properties in the vicinity of Sizewell Hall.

## iii. National and Regional Landscape and Seascape Character

- 4.3.11 The study area is located entirely within the Suffolk Coast and Heaths National Character Area (NCA)<sup>19</sup> which extends along the Suffolk coast in an open but narrow band of sand and shingle. Further inland to the west extends the South Norfolk and High Suffolk Claylands. To date, no national scale seascape character assessment has been published. Relevant NCAs are illustrated on **Figure 4.3.3** (see **Appendix B**).
- 4.3.12 At the regional scale of assessment the East of England Landscape Typology<sup>20</sup> presents an overview of the region's diverse landscape character within the broad framework of the NCAs. The assessment maps and describes 27 landscape character types (excluding urban), several of which are relevant, notably the Coastal

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<sup>19</sup> *Countryside Character Volume 6: East of England*, The Countryside Agency, 1999.

<sup>20</sup> *East of England Landscape Typology*, Landscape East, Available online: <http://www.landscape-east.org.uk/>, 2010.

Dunes, Coastal Levels, Forested Estate Sandlands, Wooded Plateau Claylands, Valley Meadowlands and Valley Settled Farmlands.

#### iv. County/District Scale Landscape and Seascape Character

- 4.3.13 Several published studies have been undertaken by the local authorities to map and describe the character of the entire landscape of the County and Suffolk Coastal District administrative areas and the Suffolk Coast and Heaths AONB. The key reference is the Suffolk County Landscape Character Assessment<sup>21</sup> which identifies 30 landscape types (excluding urban), several of which are relevant including Coastal Dunes and Shingle Ridges, Estate Sandlands, Coastal Levels, Ancient Estate Claylands, Rolling Estate Claylands and Valley Meadows and Fens. For each of the landscape types identified, the assessment confirms its key characteristics, presents analysis under a series of themes and records the sensitivity of the landscape to change, the key forces for change acting upon it and a series of guidelines to manage change.
- 4.3.14 Other landscape character assessments relevant to the study area include the assessment presented in the Suffolk Coast and Heaths AONB Management Plan 2008-2013<sup>22</sup>, the recently published Touching the Tide Landscape Character Assessment<sup>23</sup>, Landscape Character Guidelines for the Suffolk Coast and Heaths AONB<sup>24</sup> and Suffolk Coast and Heaths Landscape Assessment<sup>25</sup>. The Suffolk County Landscape Character Assessment is illustrated on **Figure 4.3.4** (see **Appendix B**).

#### v. Landscape Designations

- 4.3.15 As stated above the majority of the study area lies within the Suffolk Coast and Heaths AONB. The Suffolk Coast and Heaths AONB was designated in 1970 and covers an area of approximately 403 kilometres squared (km<sup>2</sup>) stretching from the northern side of the Stour Estuary to the eastern fringes of Ipswich and as far north as Kessingland.
- 4.3.16 AONBs are one of several designated landscapes in England and Wales that the Government has confirmed as having the highest status of protection in relation to landscape and natural beauty. AONBs are designated for their landscape qualities and for the purpose of conserving and enhancing their natural beauty. The current 2008-2013 AONB Management Plan<sup>26</sup> is in the process of being reviewed with the aim of developing a new Management Plan for the period 2013-2018.
- 4.3.17 The Suffolk Heritage Coast was defined in 1973 and is largely contained within the AONB, but extends some distance offshore. There are no statutory requirements or

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<sup>21</sup> *Suffolk County Landscape Character Assessment*, Suffolk County Council, Available online: <http://www.suffolklandscape.org.uk/>, 2011.

<sup>22</sup> *Suffolk Coast and Heaths AONB Management Plan 2008-2013*, Suffolk Coast and Heaths AONB Partnership, 2008.

<sup>23</sup> *Touching the Tide Landscape Character Assessment*, Alison Farmer Associates, August 2012.

<sup>24</sup> *Landscape Character Guidelines for the Suffolk Coast and Heaths AONB, The Suffolk Coast & Heaths Project 2001*, Available online: <http://www.suffolkcoastandheaths.org/uploads/SCH%20Landscape%20guidelines.pdf>

<sup>25</sup> *Suffolk Coast & Heaths Landscape Assessment*, Countryside Commission, 1993.

<sup>26</sup> *Suffolk Coast and Heaths AONB Management Plan 2008-2013*, Suffolk Coast and Heaths AONB Partnership, 2008.

powers associated with the Heritage Coast definition; the purpose of the definition is similar to that of an AONB. However, the definition also includes objectives for conserving environmental health and biodiversity of inshore waters and beaches and to extend opportunities for recreational, sporting and tourist activities that draw on, and are consistent with, the conservation of natural beauty and protection of heritage features.

- 4.3.18 Land adjacent to the AONB in the vicinity of Upper Abbey is designated as a Special Landscape Area (SLA). SLAs are identified by Suffolk Coastal District Council within the current Local Plan<sup>27</sup> and are retained as a saved policy. The Submission Draft Core Strategy and Development Management Policies Development Plan Documents<sup>28</sup> retains reference to SLAs in the preamble to Policy SP15, which states that in the longer term the decision may be to delete or amend the SLA designation, albeit in the meantime SLA boundaries will continue to apply.
- 4.3.19 **Figure 4.3.5** (see **Appendix B**) illustrates the extent of the Suffolk Coast and Heaths AONB, Suffolk Heritage Coast and SLA designation in the vicinity of the Sizewell C Main Development Site.

#### vi. Visual Environment and Visual Receptors

- 4.3.20 There are significant variations in the visual character of the study area due to the nature of topography, built form, vegetation and land use patterns. For example, from locations on the coast, views out to sea and along the coast are characteristically expansive, whereas those inland are restricted by cliffs, shingle banks and vegetated dunes. These variations in visual character influence the nature and extent of views to the existing Sizewell power stations, and by extension to any proposed development in the vicinity.
- 4.3.21 Field surveys indicate that a variety of visual receptors are located in the study area. Visual receptor types include residents; those visiting the area for recreational and amenity purposes; those travelling through the area; and those engaged in work. The majority of the visual receptors would be located onshore, but there is also potential for receptors engaged in activities offshore, such as those working on boats and those engaged in recreational boating and yachting.

#### b) Key Environmental Considerations

- 4.3.22 Initial discussions with relevant stakeholders have reaffirmed the importance of the AONB as a significant consideration for the proposed Sizewell C development. This has had a direct influence on the Sizewell C Main Development Site as currently proposed by EDF Energy, in a number of areas and notably with regard to the principle to maintain the buffering and screening function of the 'Northern Mound' at the north-eastern corner of the Sizewell C Main Development Site platform. This was established as part of the Sizewell B development in order to screen views of the power station complex from the north. Whilst the mound would be subject to

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<sup>27</sup> *Suffolk Coastal Local Plan*, Suffolk Coastal District Council, 2001.

<sup>28</sup> *Submission Draft Core Strategy and Development Management Policies Development Plan Document*, Suffolk Coastal District Council, Available online:

<http://scdc.onesuffolk.net/assets/Documents/LDF/E/PreSubmissionCoreStrategy.pdf>, December 2011.

alteration as part of the proposed development its function in screening (from the north) the lower levels of the power station complex would be maintained.

- 4.3.23 The site's location within the AONB has also influenced early concepts for the emerging landscape strategy for the EDF Energy estate which provides an opportunity for significant improvement in the landscape and establishment of habitats in the Estate including the provision of new heathland habitat and landscape character links with the Minsmere and Sandlings estates to the north and south respectively. Furthermore, the topography, existing screening vegetation and immediate landscape context has determined the northernmost extent of the proposed construction laydown areas in order to protect views from the RSPB Minsmere nature reserve. The understanding of the key characteristics of the AONB, gained through these early studies and discussions, will continue to inform EDF Energy's land use considerations beyond Stage 1 consultation.
- 4.3.24 Key considerations relating to landscape and visual context, as well as and potential effects of the proposals that will be taken into account in the detailed design and assessment of the effects of the proposals, include:
- the location of the Sizewell C Main Development Site within the AONB, notwithstanding the fixity of EDF Energy's proposal for the power station (see sections 3.3.3 to 3.3.5 of the **Sizewell C Stage 1 Consultation Document**). Discussions will continue with the relevant stakeholders including the AONB Partnership, Natural England and Suffolk County Council to ensure adequate recognition of this designation along with the AONB Management Plan (and future updates) in the development of the proposals and assessment of effects;
  - the potential effects of the proposals on access to the countryside and the enjoyment of the landscape of the area including the AONB;
  - the potential landscape and visual impacts and opportunities arising from the construction phasing; and
  - potential cumulative landscape and visual issues arising from the Sizewell C Main Development Site with off-site associated development.
- 4.3.25 Positive engagement with the design development process for the whole development and consultation with relevant design and environmental stakeholders will be undertaken. A landscape strategy will be developed, demonstrating the legacy benefits which could be delivered by the development (see **section 2.2**).
- 4.3.26 **Table 4.3.2** identifies future planned studies in relation to Landscape and Visual Amenity for the Sizewell C Project.

Table 4.3.2: Planned Landscape and Visual Amenity Related Studies (Subject to EIA Scoping)

Study	Scope of Study
Landscape Character	Review, update and agree existing baseline including landscape character assessment as appropriate.
Seascape Character	Undertake and agree seascape character assessment at appropriate scale(s) subject to agreement of methodology in consultation with stakeholders.

Study	Scope of Study
Viewpoints	Produce Zone of Theoretical Visibilities (ZTV) based on the known extents of Sizewell C Main Development Site and discuss potential viewpoints with relevant stakeholders.
Landscape Strategy	Development of landscape strategy for EDF Energy estate.

## 4.4 Recreation

4.4.1 This section sets out the key recreation considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.4.2 Environmental baseline information has been gathered through a desk-based study to identify the main existing recreational facilities. An initial study area of 2km from the boundary of the Sizewell C Main Development Site has been used. In most circumstances, this is anticipated to cover a wider area than is likely to experience significant effects (which are usually limited to between 200m and 500m from a development site), but helps to capture the wider context.

4.4.3 The town of Leiston is located to the west of the Sizewell C Main Development Site and is located within the 2km study area. There are a number of footpaths that lead into/out of and run along the eastern edge of the town which lie in proximity to part of the Sizewell C Main Development Site. Given the built form and topography of the area, effects on recreational resources could be experienced during the construction phase and potential effects would tend to be concentrated in the eastern side of the town.

4.4.4 Work to further define the study area and prepare a comprehensive baseline of the recreational resources within it is ongoing. Consultation and engagement will be undertaken with the relevant stakeholders, including (but not limited to) Suffolk Coastal District Council, Suffolk County Council, the AONB Partnership, the RSPB, and Suffolk Wildlife Trust.

4.4.5 A summary of surveys and studies completed to date is provided in **Table 4.4.1**.

Table 4.4.1: Recreation Related Studies Undertaken

Study	Scope of Study
Desk study	<p>Identification of the main existing recreational facilities within a 2km radius of the Sizewell C Main Development Site, including:</p> <ul style="list-style-type: none"> <li>• Public rights of way, access routes and access land;</li> <li>• Beach and water based recreation; and</li> <li>• Sports clubs and facilities.</li> </ul>

4.4.6 Recreational resources within the Sizewell C Main Development Site and surrounding area include:

- Public Rights of Way (PRoW) (designated under the Countryside and Rights of Way (CROW) Act<sup>29</sup>), permissive paths and accessible land used for activities such as walking, cycling, horse-riding and bird-watching;
- beach and water-based recreation, including boating and angling;
- sports clubs and facilities; and
- heritage resources, such as Leiston Abbey (see **section 4.5**).

4.4.7 The Draft Suffolk Coastal Cultural Strategy states that the “*District’s landscape is its main attraction for tourists*”<sup>30</sup>. Its designated sites, as well as its woodlands, are a key contributing feature of the District’s landscape and therefore its recreational offer. Further details on the landscape and visual amenity of the Sizewell C Main Development Site are located in **section 4.3**. In particular, certain designated sites are likely to have appeal to local and visiting recreational groups such as walkers, bird-watchers and holiday makers.

4.4.8 Recreational users include both local residents and tourists, including day trippers and overnight holiday makers.

4.4.9 Further detail of the three recreational resource groups outlined above and their relevance to the recreation assessment is presented as follows.

#### **i. Public Rights of Way, Access Routes and Access Land**

4.4.10 The following resources are identified in relation to PRoW, access routes and access land:

- PRoW;
- permissive access routes;
- open access land;
- permissive access land;
- registered common land;
- bridleways; and
- cycle tracks.

4.4.11 These are shown in **Figure 4.4.1** (see **Appendix B**) and considered in the following section. **Figure 4.4.1** is yet to be verified against data on rights of way, permissive paths and land held by Suffolk County Council.

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<sup>29</sup> *Countryside and Rights of Way Act 2000*, SI 2000/c.37, HMSO, 2000.

<sup>30</sup> Page 12, *Draft Suffolk Coastal Cultural Strategy 2002 -2008*, Suffolk Coastal District Council, December 2002 [Suffolk Coastal District Council has confirmed that the draft strategy is the final version].

### *Public rights of way*

- 4.4.12 PRowWs are 'highways', which means that the public can use them at any time. Walking is permitted on all PRowWs, however some PRowWs may have extra rights to ride a horse, cycle or drive a vehicle<sup>31</sup>.
- 4.4.13 The Sizewell C Main Development Site proposals would affect two named long distance paths with PRow sections – the Suffolk Coast Path and Sandlings Walk. The Suffolk Coast Path extends approximately 50 miles between Felixstowe and Lowestoft<sup>32</sup>. Sandlings Walk is a 60-mile route between Ipswich and Southwold which also partly follows the route of the Suffolk Coast Path at this point<sup>33</sup>. Both these paths cross the Sizewell C Main Development Site.
- 4.4.14 Further PRowWs, including designated circular walks and paths, lie to the north, west and south of the Sizewell C site within the 2km study area.

### *Permissive access routes*

- 4.4.15 Some landowners may provide permissive access to their land for walking, cycling or horse-riding. Permissive access means access is given by permission of the landowner rather than as a public right.
- 4.4.16 As a landowner, EDF Energy provides a network of permissive access routes within the Sizewell C Main Development Site boundary, around Kenton Hills and Goose Hill. Within the 2km study area further permissive access routes exist around Leiston Common, to the south of Leiston town and to the east of Minsmere nature reserve.

### *Open access land*

- 4.4.17 'Open access' applies to all land designated as open country by the Countryside Agency (now Natural England) under the CRow Act. The Act permits access to designated land across Britain without having to use paths. The right to access this land is commonly referred to as the right (or freedom) to roam. Activities which are generally not permitted on open access land include horse-riding, cycling, fishing, camping and water sports<sup>34</sup>. The landowner may have the discretion to extend the range of activities allowed on open access land.
- 4.4.18 There is no known open access land within the Sizewell C Main Development Site boundary. Within 2km of the Sizewell C Main Development Site open access land exists near Leiston Common, Sizewell Hall and a small part of Aldringham Common.

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<sup>31</sup> Ibid.

<sup>32</sup> *Suffolk Coast and Heaths long distance paths*, Available Online: <http://www.suffolkcoastandheaths.org/downloads.asp?PageId=152>, Accessed September 2012.

<sup>33</sup> Ibid.

<sup>34</sup> *Rights of way*, DirectGov, Available online: [http://www.direct.gov.uk/en/Environmentandgreenerliving/Greenertravel/Enjoyingthecountryside/DG\\_187666](http://www.direct.gov.uk/en/Environmentandgreenerliving/Greenertravel/Enjoyingthecountryside/DG_187666), Accessed September 2012. Countryside and Rights of Way Act 2000.

### *Permissive access land*

- 4.4.19 Permissive access land is land which landowners allow access to for walking, cycling and/or horse-riding<sup>35</sup>. Permissive access is not covered under the CRow Act. There is no specific legal designation since permissive access simply refers to private land which landowners allow access to. Agreements concerning access are usually made directly between the landowner and the local authority.
- 4.4.20 EDF Energy is in the process of identifying any permissive access land in the study area in addition to permissive access routes.

### *Registered common land*

- 4.4.21 Registered common land is designated under the Commons Registration Act 1965<sup>36</sup> as land (usually in private ownership) that has 'rights of common' over it.
- 4.4.22 EDF Energy is aware of six areas of registered common land within the 2km study area – at Sizewell Common; an area near Sizewell Hall; two parts of Aldringham Common; and two areas next to Aldringham, south of the B1353 road.

### *Bridleways and horse riding*

- 4.4.23 Bridleways are a type of PRow open to walkers, horse-riders and cyclists (cyclists must give way to walkers or horse-riders using bridleways)<sup>37</sup>.
- 4.4.24 There is one bridleway which falls within the Sizewell C Main Development Site. Several more are located to the north, west and south within the 2km study area.
- 4.4.25 Some permissive access routes surrounding the site may allow horse riding.

### *Cycle tracks and cycling*

- 4.4.26 Cycle tracks are "a way over which the public have a right of way on pedal cycles with or without a right of way on foot"<sup>38</sup>. The National Cycle Network (NCN) and Regional Cycle Network (RCN) are a collection of cycle tracks that follow highways or dedicated tracks (i.e. on and off road cycle tracks). The NCN and RCN are coordinated by Sustrans; a charitable organisation supported through funding by a variety of national, regional and local agencies<sup>39</sup>.
- 4.4.27 There is one RCN route in the study area (RCN route 42), which runs through the western part of the Sizewell C Main Development Site and the study area.

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<sup>35</sup> *Access to farms and country estates*, Natural England. Available online: <http://www.naturalengland.org.uk/ourwork/enjoying/places/farmsestates/default.aspx>. Accessed September 2012.

<sup>36</sup> *Commons Registration Act 1965*, SI 1965/c.64, HMSO, 1965.

<sup>37</sup> *Rights of way*, DirectGov, Available online: [http://www.direct.gov.uk/en/Environmentandgreenerliving/Greenertravel/Enjoyingthecountryside/DG\\_187666](http://www.direct.gov.uk/en/Environmentandgreenerliving/Greenertravel/Enjoyingthecountryside/DG_187666), Accessed September 2012. Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; and Countryside Act 1968.

<sup>38</sup> *Ibid.*

<sup>39</sup> *National Cycle Network*, Sustrans, Available online: <http://www.sustrans.org.uk/what-we-do/national-cycle-network>, Accessed September 2012.

## ii. Outdoor and active recreation

- 4.4.28 Sites for outdoor recreation do not always require a formal recreational space or designated location. For example, both active and passive recreational activities such as watersports and sun bathing, would take place at beaches even where formal facilities are absent. Accordingly, sites where informal recreational activities take place are identified here as resources due to their recreational potential and according to the types of activities which they are used for. These types of resources are likely to be frequented by local residents, day visitors and overnight tourists.
- 4.4.29 Outdoor and active recreation sites are shown in **Figure 4.4.2** (see **Appendix B**) and considered below. **Figure 4.4.2** has been developed using OS mapping, supplemented with RSPB National Biodiversity Network, and Suffolk Wildlife Trust mapping.

### *Beaches*

- 4.4.30 In this area of the Suffolk coast there is an unbroken stretch of beach (comprised of shingle and sand) between Orford and Lowestoft. The closest named beach to the Sizewell C Main Development Site is Sizewell Beach which adjoins Thorpeness Beach (located to the south and which has supporting visitor amenities)<sup>40</sup>.

### *Nature reserves*

- 4.4.31 Nature reserves are places for people to enjoy and explore<sup>41</sup> and offer opportunities for recreation, enjoyment and education.
- 4.4.32 Two of the key nature reserves in terms of visitors and recreation are Minsmere nature reserve (which is managed by the RSPB<sup>42</sup>) and North Warren (which is managed by Suffolk Wildlife Trust<sup>43</sup>). They are managed as a means of not only improving their conservation value but also to promote the recreational and educational opportunities at these sites (including partly as a means to raise funds to aid their management and preservation).

### *Sports clubs and facilities*

- 4.4.33 Two wildfowling clubs have been identified as being active in the wider area. Both clubs are understood to lease and shoot over marshes located beyond the study area.
- 4.4.34 The recreation assessment will consider amenity impacts such as impact on function and enjoyment of clubs within the 2km study area.

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<sup>40</sup> *Suffolk Coastal Local Plan*. Available at: [http://www2.suffolkcoastal.gov.uk/planning/local\\_plan/LP\\_intro.htm](http://www2.suffolkcoastal.gov.uk/planning/local_plan/LP_intro.htm) Accessed September 2012.

<sup>41</sup> *Suffolk Wildlife Trust*. Available at: <http://www.suffolkwildlifetrust.org/about-us/>. Accessed September 2012.

<sup>42</sup> *RSPB reserves*. Available at: <http://www.rspb.org.uk/reserves/>. Accessed September 2012.

<sup>43</sup> *Reserves. Suffolk Coast Wildlife Trust*. Available at: <http://www.suffolkwildlifetrust.org/reserves-and-visitor-centres/>. Accessed September 2012.

### iii. Water Bodies and Waterborne Recreation

- 4.4.35 The Sizewell C Main Development Site is located immediately adjacent to the North Sea. Inland, within the 2km study area, Minsmere New Cut and a network of lakes at Minsmere nature reserve both lie to the north of the Sizewell C Main Development Site.
- 4.4.36 No formal facilities for waterborne recreation activities, such as fishing, swimming, sailing and watersports, have been identified within 2km of the Sizewell C Main Development Site. Aldeburgh, approximately 6km south, and Southwold, approximately 10km north<sup>44</sup> have facilities for sailing. The Meare is a self-contained boating lake in Thorpeness, approximately 3km to the south (open seasonally), which offers a variety of small pleasure boats and canoes for hire<sup>45</sup>.
- 4.4.37 Both local residents and visitors from outside the area are likely to informally use stretches of the coast adjacent to the site for sailing, swimming or informal waterborne recreation, such as windsurfing, kayaking and angling<sup>46</sup>.

#### b) Key Environmental Considerations

- 4.4.38 The Sizewell C Project could have potential effects on a range of recreation resources and users, particularly during the construction phase.
- 4.4.39 Matters anticipated to require particular attention in the ongoing design and assessment work include:
- use of the Suffolk Coast Path and Sandlings Walk and potential temporary closures and/or temporary/permanent diversions affecting PRoW, access routes and access land, including linkages between the coast and the inland network;
  - outdoor and water based recreational activities along the sea front next to and near the Sizewell C Main Development Site;
  - use of Kenton Hills and Goose Hill; and
  - recreational activities on the eastern edge of Leiston including footpaths and outdoor sports pitches off Abbey Road and adjacent to Leiston Leisure Centre.
- 4.4.40 Discussions with relevant stakeholders have highlighted the need for EDF Energy to carefully consider the effect of the Sizewell C Project on these identified recreational resources and the current proposals have carefully considered the interface of these resources against the needs of the Project e.g. construction and security. The enjoyment by walkers of the network of EDF Energy-owned permissive paths in Kenton Hills has, in particular, influenced the alignment of the access road and construction areas, as well as the provision of proposed landscaped 'buffer zones' around these construction areas. Furthermore, EDF Energy is committed to maintain

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<sup>44</sup> *Activities on the Suffolk Coast*, Visit Suffolk, Available online: <http://www.visitsuffolk.com/explore/thedms.aspx?dms=11&browsetype=V&groupid=5&nd=All&townid=656&miles=35&z=9&msg=Outdoor+Activities+on+the+Suffolk+Coast&ba>, Accessed September 2012.

<sup>45</sup> *The Meare*, Visit Suffolk. Available online: <http://www.visitsuffolk.com/things-to-do/thedms.aspx?dms=13&venue=0728200>, Accessed September 2012.

<sup>46</sup> *Radiological Habits Survey*, Centre for Environment, Fisheries and Aquaculture Science (Cefas), 2010.

(and enhance) as far as reasonably practicable recreational routes connecting inland and coastal paths during both construction and operational phases.

- 4.4.41 The construction and, to a lesser extent, the operational and decommissioning phases of the Project could affect the recreational resources identified above through both physical obstruction and disturbance of activities or user groups. Information on levels of usage of resources by different recreational groups will help provide a stronger understanding of the scale and importance of recreational amenities and the implications of obstruction or disturbance.
- 4.4.42 Further stages of work will include identification of usage surveys that could help to establish the level of recreational activity at potentially affected resources. Surveys will be designed to record information, such as the type of user and number of users at specific locations, and are likely to be undertaken at different times during the day and different seasons during the year. Based on information reviewed to date, usage surveys are anticipated to be appropriate for the resources identified in **Table 4.4.2**.

Table 4.4.2: Planned Recreation Related Studies

Study	Scope of Study
Usage surveys	Usage surveys are anticipated to be appropriate for the following resources within the study area: <ul style="list-style-type: none"> <li>• The Suffolk Coast Path;</li> <li>• Sandlings Walk;</li> <li>• Kenton Hills and Goose Hill; and</li> <li>• Outdoor and water based recreational activities along the sea front next to and near the Sizewell C Main Development Site. Specific details of usage surveys will be developed during the scoping stage.</li> </ul>

## 4.5 Historic Environment

- 4.5.1 This section sets out the key historic environment considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

- 4.5.2 Several meetings were held with Suffolk County Council Archaeological Conservation Team and English Heritage in 2010 and 2011. The purpose of these meetings was initially to informally discuss the required scope of studies with respect to the historic environment, and then subsequently to provide updates on progress and discuss additional studies as deemed necessary.
- 4.5.3 **Table 4.5.1** summarises the studies that have been undertaken to date with respect to the historic environment.

Table 4.5.1: Summary of the Historical Environment Studies Undertaken to Date and Key Findings.

Survey Type	Scope of Study and Findings
Desk-based historic environment study	To be seen as a 'point in time' document. Study into heritage assets within an area up to 3km from the Sizewell C Main Development Site boundary (undertaken in 2010). This study identified 312 heritage assets within the study area.
Archaeological monitoring of geotechnical site investigation	Archaeological watching brief of geotechnical trial pits across the site. This related to trial pits in the areas north of the Sizewell Marshes SSSI, the proposed main power station platform and Pillbox Field Geophysical anomalies which may represent potential buried archaeology which will be evaluated by an extensive programme of trial trenching.
Geophysical survey	Aimed to identify subsurface anomalies and hence areas of buried archaeological potential across the agricultural fields of the construction site (non-wooded areas) and Pillbox Field. This information has helped EDF Energy, in consultation with relevant stakeholders, to identify with greater precision potential areas for planned trial trenching.
A geoarchaeological 'resistivity tomography' geophysical survey	Aimed to identify areas of buried archaeological potential where investigation by routine archaeological practice is restricted by the depth of sediment (on the proposed main power station platform). It has been possible to define areas of heightened buried archaeological potential including a promontory-like feature which has been noted and mapped and should provide a focus for future investigation.
Geoarchaeological monitoring	Monitoring of 29 peat trial auger holes across the proposed main power station site. No archaeological artefacts were recovered but the monitoring confirmed the presence of well preserved organic matter, including sedges and reeds, within the peat.
Detailed documentary study	A study of the historical development of Sizewell and the surrounding area including general history, a review of available manuscript maps, a review of the survey of the Sizewell landscape in the 15 <sup>th</sup> Century, a description of coastal change identified from historic records, a conjectural reconstruction of Sizewell in the late medieval period based on historic maps and records, and a review and discussion of early maps of the Sizewell Bank and Coastal Charts. These findings support the ongoing evaluation programme and potential mitigation.
Offshore and intertidal desk-based assessment	Assessment into the rate of coastal change evident within the study area and the potential for the presence of submerged archaeological landscapes, settlements and wreck materials. Surviving archaeological remains may be submerged beneath a considerable sedimentary overburden.
Designated assets baseline study	This study identified the location and setting considerations in respect of designated heritage assets (Scheduled Monuments, Listed Buildings, Conservation Areas, Historic Parks and Gardens) and a selection of undesignated assets within a 10km (approx.) study area (see 4.5.5 below).
Light Detection And Ranging (LiDAR) Survey	Survey of the character, nature, extent and possible survival of previously recorded, and possibly further unrecorded, archaeological remains within the wooded area of the Sizewell C Main Development Site. One of the particular aims of the survey was to attempt to identify and locate potential prehistoric sites (interpreted as causewayed ring ditches and ring ditches) recorded as part of an earlier assessment of aerial photographs of the wider area.  Small scale quarrying activity was evidently widespread across the area and the majority of the features identified during the analysis and interpretation stage were subsequently observed on the ground as probable disused/infilled pits, historic ground workings associated with previous quarrying activity or similar.

4.5.4 This survey work has informed EDF Energy's understanding of the heritage baseline. There is a significant heritage resource in and around the Sizewell C Main Development Site. This includes:

- the potential sub-surface archaeological resource on the construction site. The presence or absence of archaeological remains will be evaluated by a programme of trial trenching, focusing on areas of potential interest identified by the geophysical survey (see **Table 4.5.1**);
- the peat resource (which has high potential for the preservation of organic material) underlying the proposed main power station site. Areas of heightened potential have been identified by a programme of geoarchaeological resistivity work undertaken across this area (see **Table 4.5.1**);
- designated heritage assets within the vicinity of the Sizewell C Main Development Site, including the original site of Leiston Abbey (Scheduled Monument) to the north within the Minsmere nature reserve; the new site of Leiston Abbey (Grade I Listed Building, Scheduled Monument and EH Guardianship Site, which is currently used by Pro Corda as a music school) west of the B1122, Grade II Listed Abbey Cottage and Upper Abbey Farmhouse and Barn;
- further designated assets, along the Suffolk Coast, where long distance views are evident. For example, south, towards Aldeburgh and north towards Dunwich Heath and Southwold;
- potential archaeological remains, as yet unidentified/uncharacterised, within the currently wooded areas of Hill Top Covert, Dunwich Forest and Goose Hill;
- the historic landscape, particularly that associated with the proposed north-west construction area (field patterns, field boundaries, tracks and historic hedgerows); and
- potential off-shore archaeological resource as yet unidentified/uncharacterised.

4.5.5 Key designated heritage assets with a potential to be affected by the Sizewell C Main Development Site include:

- Leiston Abbey;
- Leiston Old Abbey;
- Abbey Cottage;
- Upper Abbey Farmhouse and Barn;
- Potter's Farm; and
- Coastguard Cottages, Dunwich Heath.

4.5.6 **Figure 4.5.1** (see **Appendix B**) shows designated historic sites and monuments in and around the Sizewell C Main Development Site.

#### **b) Key Environmental Considerations**

4.5.7 A number of key issues have been identified through the studies undertaken to date. These will require further study to inform the ongoing design and assessment of the Sizewell C Project.

- 4.5.8 In considering the land use requirements for the currently proposed Sizewell C Main Development Site, the setting of heritage assets - and in particular Leiston Abbey, Leiston Old Abbey, Abbey Cottage, Potter's Farm and Upper Abbey - have been taken into account, in particular through the indicative landscape screening proposed. The enhanced knowledge in relation to historic field patterns and land uses is also influencing the emerging landscape strategy for the Project. These considerations will continue to inform the planning of Sizewell C beyond Stage 1 in close consultation with relevant stakeholders.
- 4.5.9 A mitigation strategy for dealing with any archaeological remains identified during the evaluation trial trenching and potential archaeological remains within the peat would need to be agreed with Suffolk County Council Archaeological Conservation Team and English Heritage. This will most likely comprise set-piece archaeological excavation and recording, and targeted excavation of identified areas of heightened potential within the peat.
- 4.5.10 Similarly, taking into account LiDAR findings, a strategy would also be required to deal with potential archaeological remains within the currently wooded areas of the construction site, following specific felling associated with construction. This equally applies to the historic landscape features, including field patterns, field boundaries, tracks and historic hedgerows that lie within the proposed Sizewell C Main Development Site boundary. In addition, the wider historic landscape will need to be taken into account in the design of the Sizewell C landscape strategy.
- 4.5.11 The impact assessment will consider potential effects on heritage assets and in particular potential impacts to Leiston Abbey. However, additional work will be undertaken to identify further affected sites and any appropriate mitigation measures discussed with relevant stakeholders.
- 4.5.12 A designated wreck site, known as the Dunwich Bank Wreck is located approximately 4.5km north of the Sizewell C site (see **Figure 4.5.1, Appendix B**). The results of any possible offshore geophysical surveys and geotechnical borehole/ground investigations in the Sizewell C area will need to be examined.
- 4.5.13 **Table 4.5.2** identifies future planned studies in relation to the historic environment for the Sizewell C Main Development Site. This list is not exhaustive and if further surveys are required they will also be incorporated into the programme. The scope of these surveys will need to be agreed with the Suffolk County Council Archaeological Conservation Team and English Heritage and will be subject to the formal EIA scoping process in due course.

Table 4.5.2: Planned Surveys in Relation to the Historic Environment

Study	Scope of Study
Trial trenching	Locations for trial trenching across the agricultural fields of the construction site have been agreed with Suffolk County Council Archaeological Conservation Team. Trenching has not yet started.
Historic landscape study	Detailed historic landscape study, including aerial photography study, of the Sizewell C Main Development Site.
Detailed setting study	Detailed study of specific designated assets may be required to inform the assessment and any proposed mitigation.

Study	Scope of Study
Examination of any offshore geophysical survey data and offshore borehole data	The results of any offshore surveys will be assessed by a specialist marine archaeology team. This team will also examine any proposed borehole and jack-up rig locations in advance of any intrusive investigations to ensure there is no conflict with potential archaeological features.

## 4.6 Noise and Vibration

4.6.1 This section sets out the key noise and vibration considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.6.2 Baseline data have been gathered by a noise survey, the scope of which is summarised in **Table 4.6.1**, which will inform future assessment work. The noise monitoring locations are shown in **Figure 4.6.1** (see **Appendix B**). The noise survey results (as shown in **Table 4.6.2**) and further noise and vibration survey requirements (in relation to human receptors) were discussed with relevant stakeholders, including Suffolk Coastal District Council, Suffolk County Council and the Environment Agency in 2010, and further consultation will be undertaken as the Project progresses.

4.6.3 No data have been gathered to date in relation to vibration, but appropriate vibration studies will be identified through consultation with relevant stakeholders as part of the EIA scoping process after the Stage 1 consultation.

4.6.4 The main sources of noise at the Sizewell C Main Development Site identified through surveys to date are road traffic and the existing Sizewell B power station. In areas of the Sizewell C Main Development Site located away from roads and Sizewell B power station, noise levels were found to be low, typical of a rural setting.

Table 4.6.1: Summary of Noise and Vibration Baseline Studies Undertaken to Date

Study	Scope of Study
Noise survey	Noise survey at eight locations around the Sizewell C Main Development Site at positions agreed with Suffolk Coastal District Council, Suffolk County Council and the Environment Agency (see <b>Figure 4.6.1</b> , <b>Appendix B</b> ). The survey work took place between March and April 2010, with monitoring durations from 24 hours up to a week.

Table 4.6.2: Summary of Noise Monitoring Results – March to April 2010

Location	Period	Ambient Noise Level, $L_{Aeq}$ , dB
NML1	Day	50-52
	Evening	48-49
	Night	42-52
NML2	Day	46-51
	Evening	45
	Night	52
NML3	Day	50-56
	Evening	43-48
	Night	41-55
NML4	Day	52-54*
	Evening	46*
	Night	36*
NML5	Day	47-52*
	Evening	44
	Night	43
NML6	Day	48-52
	Evening	35-44
	Night	45-48
NML7	Day	47-49
	Evening	37-46
	Night	44-51
NML8	Day	41-53
	Evening	38-44
	Night	38-40

\*Measurements not for full period

N.B. This is initial noise monitoring data and will be subject to further survey.

#### **i. Human Receptors in the Area Surrounding the Sizewell C Main Development Site**

4.6.5 The main human receptors for noise and vibration from the Sizewell C Main Development Site comprise of dwellings and other noise-sensitive land uses, in particular:

- Ash Wood Cottages and The Round House, which would be immediately adjacent to the construction working areas;
- Abbey Cottage in the vicinity of the access road junction;
- Potter's Farm located immediately to the north-west of the Sizewell C Main Development Site;
- Upper Abbey Farmhouse and Barn;

- PRowS and permissive rights of way etc.;
- Old Abbey Farm and Leiston Old Abbey Residential Care Home, which would be immediately adjacent to the western boundary of the construction working areas; and
- Leiston Abbey to the west of the B1122 near to the proposed access road entrance and construction working areas further to the east, but is sensitive due to its status as a historic monument and its use as a music school.

4.6.6 Other potential human noise receptors around the Sizewell C Main Development Site are the dwellings to the south of the construction working areas around Leiston Common and Reckham Pits Wood and Rosery Cottages to the south. Premises in the villages of Sizewell, Theberton and Eastbridge are also relatively close to construction working areas, as are properties in the north and east of Leiston on Valley Road, King George's Avenue and Abbey Road. Potential significant noise impacts on such properties will be fully investigated and mitigated as appropriate.

#### ii. Human Receptors along Transport Corridors

4.6.7 Noise- and vibration-sensitive human receptors are also located along transport routes to and from the Sizewell C Main Development Site (see **section 3.2**). These receptors include residential properties and other sensitive receptors, such as schools, located close to the B1119, B1122, A12 and close to the railway line between Saxmundham and Leiston. The locations of these receptors will be identified more comprehensively when further information is available on predicted changes to traffic flows during each phase of the Project, and when options for the use of rail to transport construction materials have been progressed (see also **sections 3** and **5**).

#### iii. Non-human Receptors

4.6.8 In addition to potential human receptors of noise, there are numerous non-human receptors such as birds, fish, marine mammals and land-based animals, including bats, that will need to be assessed against noise and vibration impacts where appropriate and subject to formal EIA scoping. Further information on these ecological receptors is provided in **section 4.2** (Terrestrial Ecology and Ornithology) and **section 4.14** (Marine Ecology).

### b) Key Environmental Considerations

4.6.9 This section sets out the key considerations relating to noise and vibration identified as relevant to the design and assessment of the Sizewell C Project. The early findings have influenced the evolution of the Sizewell C Main Development Site masterplans, for example, including the identification of buffer zones.

#### i. Sizewell C Main Development Site

4.6.10 The potential noise impacts on human and ecological (terrestrial and marine) receptors around the Sizewell C Main Development Site during each phase of the Project will be a key consideration. For example, activities to be considered during the construction phase would include piling, vehicle movements on site, demolition, excavation and earth moving, and operation of plant such as generators,

compressors and mixers. Mitigation measures will be developed to reduce impacts where appropriate.

- 4.6.11 It is not expected that vibration would be a significant issue for human or the majority of ecological receptors in relation to the construction and operation of the power station itself, given the separation distance to the nearest human receptors and the low sensitivity of the majority of ecological receptors to vibration effects. However, further consideration may be required for some ecological receptors that may be sensitive to vibration effects particularly during the construction phase, for example, bats and marine mammals.

**ii. Transport Routes**

- 4.6.12 As for the Sizewell C Main Development Site, potential noise impacts on human and terrestrial ecological receptors along road and rail transport corridors will be a key consideration for all phases of the Project. Appropriate mitigation measures will be developed as necessary.

- 4.6.13 Vibration will be an important consideration in relation to proposed options for the greater use of the Saxmundham to Leiston railway line for transporting construction materials (see **section 5**). The use of the railway to transport construction materials would be likely to reduce noise impacts associated with road traffic (particularly heavy goods vehicles). It would be assessed against the noise and vibration impacts that it may generate through its use, in particular with regard to any proposed extended rail routes into the construction site. Potential noise and vibration impacts associated with construction and operation phase traffic will also be considered in future assessment work and the potential requirement for appropriate mitigation measures will be considered in this context.

**iii. Further Studies**

- 4.6.14 In order to inform the noise and vibration assessments, additional surveys are planned to provide a comprehensive set of baseline data (see **Table 4.6.3**). The scope of survey work will be discussed and agreed with relevant stakeholders during the EIA scoping stage.

Table 4.6.3: Planned Noise and Vibration Baseline Studies

Study	Scope of Study
Noise survey	Further noise survey to include additional locations and timescales. Scope to be agreed with relevant stakeholders taking into account feedback from this Stage 1 consultation.
Vibration study	Vibration surveys to be undertaken in the vicinity of transport corridors at appropriate locations – scope to be agreed with relevant stakeholders taking into account feedback from the Stage 1 consultation process. Identification of sensitive buildings as part of the impact assessment process, including provision for vibration measurements to be undertaken prior to and during construction.

## 4.7 Air Quality

4.7.1 This section sets out the key air quality considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.7.2 The area around the Sizewell C Main Development Site has not been identified as an area of poor air quality by Suffolk Coastal District Council.

4.7.3 Air quality emissions would arise from the construction and operation of the Sizewell C power station itself, and transport and plant associated with the power station. A series of early consultation meetings have been held with Suffolk Coastal District Council and Suffolk County Council to agree how air quality issues associated with the Sizewell C Project will be considered. In particular, the scope of an initial air quality monitoring survey was agreed (and has since been implemented) to gather air quality data to supplement the publically available data for the locality.

4.7.4 The baseline air quality surveys that have been undertaken are summarised in **Table 4.7.1**. Further details of the survey methods and findings are described in the text below. The monitoring locations are shown on **Figure 4.7.1** (see **Appendix B**).

Table 4.7.1: Summary of Air Quality Studies Undertaken to Date

Study	Scope of Study
Air quality surveys	Initial air quality monitoring was undertaken at nine locations around the Sizewell C Main Development Site and along current transport routes to Sizewell (six background locations (away from notable sources of pollutants) and three roadside locations) in 2010 (March 2010 to September 2010) using continuous monitors and diffusion tubes. This period of monitoring was adjusted to 2009 annual averages. Additional diffusion tube monitoring was subsequently undertaken between January 2011 and January 2012 at 13 locations around the Sizewell C Main Development Site and along transport routes to Sizewell. This monitoring data was reported as an average of 2011 pollutant concentrations. Some of these locations continue to be monitored (see <b>Table 4.7.2</b> ).

4.7.5 At the background locations monitored in the initial study, a combination of pollutants were measured including particulate matter with a diameter of less than 10µm (known as PM<sub>10</sub>), nitrogen oxides (in the form of nitrogen dioxide) and sulphur dioxide, all of which are pollutants that would be emitted during the construction and operation phases of the Project and that have defined standards for the protection of human health or ecological receptors. The results from the initial monitoring, adjusted to a 2009 annual average, are shown in **Table 4.7.3**.

Table 4.7.2: Initial Baseline Monitoring Programme Locations and Results

Site Location	Site Type	2009 Annual Mean			
		NO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )
AML1	Rural background	15.4	21.4	8.6	23.3
AML2	Rural background	14.1	No Data	5.9	No Data
AML3	Rural background	16.3	No Data	7.1	No Data
AML4	Rural background	15.6	No Data	9.1	No Data
AML5	Rural background	15.2	No Data	7.1	No Data
AML6	Roadside	16.8	No Data	5.7	No Data
AML8	Ecological Background	12.9	No Data	11.4	No Data
AML11	Roadside	63.0	No Data	5.3	No Data
AML12	Roadside	39.8	No Data	6.2	No Data

Note: The initial seven month monitoring period in 2010 was adjusted to a full 2009 annual average in the initial survey. This is because the monitoring data required to calculate a full 2010 annual average was not available at the time of the initial study.

Table 4.7.3: Supplementary Baseline Monitoring Programme Locations and Results

Site Location	Site Type	2011 Annual Mean	
		NO <sub>2</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )
AML6	Roadside	13.4	No Data
AML11	Roadside	36.2	No Data
AML12	Roadside	25.4	No Data
AML13	Roadside	22.1	No Data
AML14	Roadside	27.2	No Data
AML15	Roadside	15.7	No Data
AML16	Roadside	14.5	No Data
AML17	Roadside	15.0	No Data
AML18	Roadside	21.6	No Data
AML19	Rail side	14.9	9.5
AML20	Roadside	18.5	No Data
AML21	Roadside	50.5	No Data
AML22	Roadside	13.8	No Data

4.7.6 Monitoring was undertaken at a range of locations to provide a geographical spread of information. All survey locations were monitored for nitrogen dioxide and sulphur dioxide using diffusion tubes. PM<sub>10</sub> and nitrogen dioxide concentrations were also recorded using continuous monitoring techniques at one site (the existing Sizewell B Training Centre) to calibrate the diffusion tube results and therefore provide an effective method of understanding the air quality across the survey area. In this way both the temporal and spatial trends in pollutant concentrations were observed.

- 4.7.7 The initial survey found that at all but two of the monitoring locations, pollutant concentrations were well within the relevant air quality standards<sup>47</sup>. For two roadside monitoring sites (both on the A12, at Little Glemham and Farnham), elevated nitrogen dioxide concentrations were recorded and following these findings, it was agreed with Suffolk Coastal District Council and Suffolk County Council that additional diffusion tube monitoring was required.
- 4.7.8 All 13 locations used for the additional monitoring survey (which included the two roadside locations on the A12 where high results were previously measured and another roadside location on Lover's Lane) were monitored for nitrogen dioxide. One location at the Leiston Railhead was also monitored for sulphur dioxide to better understand the potential effects of rail traffic (see **sections 3.3** and **5** for discussion of potential rail options).
- 4.7.9 The additional diffusion tube monitoring in 2011-2012 found that the average nitrogen dioxide concentrations were within the annual average objective at all but one of the 13 monitoring locations. The average concentration of nitrogen dioxide at Orwell Crossing Lorry Park on the A14 exceeded the national annual average air quality objective. This roadside monitoring location does not represent a location of long term public exposure (such as residential properties). The next highest nitrogen dioxide concentration was recorded along the A12 (Little Glemham and Farnham) but the annual average concentration was within the national air quality objective.
- 4.7.10 The higher concentrations monitored in Little Glemham and Farnham in the initial study (relative to other locations along the A12) can be explained by prevailing conditions in the immediate vicinity of these roadside locations, including road inclines and the presence of vegetation, which would reduce the efficiency of pollutant dispersion.
- 4.7.11 The average concentration of sulphur dioxide at the Leiston Railhead location was around half the relevant sulphur dioxide objective.
- 4.7.12 Sensitive receptors around the Sizewell C Main Development Site include residential properties, areas accessible to the public (such as public rights of way – see **section 4.4** (Recreation)) and ecological receptors. The locations of residential properties and other sensitive receptors around the Sizewell C Main Development Site are described in **section 4.6** (Noise and Vibration). These include a number of isolated properties around the construction working areas and access road, as well as the residential areas of Sizewell, Leiston, Theberton and Eastbridge.
- 4.7.13 Residential properties are also located along current transport routes to and from Sizewell. For example, there are properties along the B1119, B1122 and A12, as well as the Saxmundham to Leiston railway line.
- 4.7.14 Locations around the Sizewell C Main Development Site where members of the public may be present for shorter periods (hours at a time rather than days or weeks) include public rights of way, such as the pedestrian route along the adjacent beach to the east of the Sizewell C Main Development Site (see **section 4.4**, Recreation).

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<sup>47</sup> National Air Quality Strategy Objectives as defined in the Air Quality Standards Regulations 2010, SI 2010/1001, HMSO, 2010.

- 4.7.15 Designated ecological sites (see **section 4.2** (Terrestrial Ecology and Ornithology) and **section 4.14** (Marine Ecology)) and habitats in proximity to the Sizewell C Main Development Site and associated transport corridors may also be sensitive to changes in air quality.

**b) Key Environmental Considerations**

- 4.7.16 The key receptors that will be considered throughout the ongoing air quality assessment for this Project include the locations of potential long-term and short-term public exposure and ecological receptors.
- 4.7.17 These key receptors will be considered in terms of potential air quality (including dust) effects associated with Sizewell C construction and operational activities and to support the parallel Habitat Regulations Assessment process (see **Appendix A**) and other permitting requirements. Additional vehicle trips on the transport routes to and from the Sizewell C Main Development Site; construction activities, including earthworks and materials storage; and emissions from any new sources on the power station site itself will be taken into account in the assessment and design processes. A full list of possible air quality pollutant sources and the proposed approach to their assessment will be established in the EIA scoping process.
- 4.7.18 Effects on humans will be considered with reference to national air quality objectives. The effects of air quality (including dust) emissions on ecological receptors will be considered with reference to national objectives for the protection of vegetation and ecosystems, and critical levels and critical loads for different types of habitat.
- 4.7.19 The surveys that have been undertaken provide baseline data for future assessment work. The existing air quality data are being augmented by a continuation of monitoring at several of the survey locations to better understand the baseline air quality in the locality (see **Table 4.7.4**). The duration and scope of the ongoing monitoring will be agreed in consultation with relevant stakeholders, including as part of the EIA scoping stage.

Table 4.7.4: Summary of Planned Air Quality Studies

Study	Scope of Study
Air quality surveys	Continuation of diffusion tube monitoring to measure nitrogen dioxide at several of the previously used monitoring locations around the Sizewell C Main Development Site and potential transport routes.

**4.8 Soils and Agriculture**

- 4.8.1 This section sets out the key soils and agriculture considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

**a) Environmental Baseline**

- 4.8.2 Arable agricultural land covers approximately two thirds of the Sizewell C Main Development Site. A survey of agricultural land quality has been undertaken which will inform future assessment work (see **Table 4.8.1**).

Table 4.8.1: Summary of Soils and Agriculture Studies Undertaken

Study	Scope of Study
Agricultural land quality survey	An Agricultural Land Classification assessment was undertaken in February 2011, covering the majority of the Sizewell C Main Development Site. Soil sampling was carried out at a rate of one sample per two hectares of land. Over 100 samples were collected and tested, and maps were developed to show the results.

4.8.3 The geological composition of the soils is further described in **Table 4.9.2**.

4.8.4 The Agricultural Land Classification system published by Natural England divides agricultural land into five different grades based on a combination of factors including texture, colour, consistency, structure, stoniness, vegetation type/cover, slope angle, direction of the slope (aspect) and wetness. These grades are summarised in **Table 4.8.2**. For reference purposes, approximately one third of the agricultural land in England and Wales falls into Grades 1, 2 and 3a, known as ‘best and most versatile’ agricultural land.

Table 4.8.2: Summary of Agricultural Land Classification Grades

Grade	Quality	Description
1	Excellent	Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown. Yields are high and show little variability.
2	Very good	Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops. The level of yield is generally high but may be lower or more variable than Grade 1.
3	3a Good	Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including less demanding horticultural crops.
	3b Moderate	Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops, or high yields of grass which can be grazed or harvested over most of the year.
4	Poor	Land with severe limitations which significantly restrict the range of crops and/or yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops); the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
5	Very poor	Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

4.8.5 The 2011 survey concluded that all of the existing agricultural land surveyed within the Sizewell C Main Development Site is underlain by Subgrade 3b (moderate quality) soils, indicating that the land does not comprise best and most versatile agricultural land.

4.8.6 Non-agricultural soils are not strictly classified according to the Agricultural Land Classification grading system, however, based on the general characteristics of the

soil types in other areas, agricultural soil quality in other parts of the Sizewell C Main Development Site was estimated as follows:

- Sizewell Marsh: Grade 4 (poor quality soil) – soil is acidic, waterlogged peat and clay;
- Sand dunes: Grade 5 (very poor quality soil) – soil is very loose, contains little to no organic matter and prone to erosion and drought;
- Forestry plantation areas: Subgrade 3b (moderate quality soil) – soil is typically sandy loam like the majority of the site which is currently used as agricultural land; and
- Area north of Sizewell B buildings: Grade 4 – 5 (poor to very poor quality soil) – made ground is gravelly and currently contains stones, bricks and concrete rubble.

4.8.7 **Figure 4.8.1** (see **Appendix B**) shows the Agricultural Land Classification from the 2011 Survey.

#### b) Key Environmental Considerations

4.8.8 The poor quality of some of the agricultural land is a factor that has been taken into account by EDF Energy in the emerging landscape strategy for the Sizewell C Project and, in particular, with regard to the potential permanent reversion of some land to managed (non-arable) heathland habitat in the future, where appropriate.

4.8.9 Potential changes to agricultural soil quality will be the key consideration for the soils and land use assessment as the Project progresses. Measures to reduce impacts on soil quality in these areas through appropriate soil handling (for example, in relation to soil stripping and stockpiling) and sustainable use of soil resources will be developed in consultation with relevant stakeholders, in accordance with established principles such as the Defra Code of Practice ‘Protecting Our Water, Soil and Air’.

4.8.10 The results of the 2011 survey have been reviewed by Natural England and comments have been provided on the scope of further survey work. Natural England has highlighted some differences between survey findings from a study undertaken in 1993 and the 2011 EDF Energy survey, notably identifying some Subgrade 3a and 4 land, as well as Subgrade 3b. A further survey is proposed to inform the future assessment and development of soil handling measures (see **Table 4.8.3**).

Table 4.8.3: Summary of Planned Soils and Agriculture Studies

Study	Scope of Study
Agricultural land quality survey	A follow up Agricultural Land Classification is proposed, taking account of the observations made by Natural England and including areas of the Sizewell C Main Development Site not previously surveyed. The survey will be undertaken in accordance with the standard Agricultural Land Classification methodology.

## 4.9 Geology and Ground Contamination

4.9.1 This section sets out the key geology and potential ground contamination considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.9.2 The geological and ground contamination baseline for the Sizewell C Main Development Site has been informed in part by the surveys set out in **Table 4.9.1**.

Table 4.9.1: Summary of Geology and Ground Contamination Studies Undertaken

Study	Scope of Study
Site investigations and contaminated land assessment	<p>Site investigations and analysis were carried out in 2010-2012, including chemical testing of soil and gas samples for contamination. Samples were taken from over 150 locations across the Sizewell C Main Development Site (including the power station site, construction and access road areas but excluding some areas, such as the SSSI) and in its vicinity and tested for a wide range of contaminants.</p> <p>As part of this work, gas monitoring wells were installed at nearly forty locations across the Sizewell C Main Development Site.</p>

4.9.3 In addition to site-specific data, published geological maps and borehole records have been used to provide further information on the stratigraphical sequence at the Sizewell C Main Development Site and the surrounding region. This information is summarised in **Table 4.9.2**.

Table 4.9.2: Summary of Geological Conditions at the Sizewell C Main Development Site from British Geological Society Maps

	Name	Description	Location
Superficial deposits	Peat	Highly organic soil, with variable clay, silt and sand content	North-eastern part of the Sizewell C Main Development Site branching towards the central northern part of the Sizewell C Main Development Site, coincident with areas of marsh, including Sizewell Marsh and the Sizewell Belts.
	Lowestoft formation	Diamicton (boulder clay), overlying sands and gravels	Present mainly on higher ground in an arc from the north-west through to the southwest and south of the existing Sizewell A and Sizewell B power stations. Diamicton is present at the surface in the west; as ground levels decrease to the east, the sands and gravels are exposed. The Lowestoft Formation is absent in lower-lying areas immediately to the west of the existing power station site.
	Beach deposits	Sands and gravels	Narrow strip (approximately 100m) along the eastern (coastal) side of the Sizewell C Main Development Site.
	Tidal flat deposits	Silt and clay	Eastern part of the Sizewell C Main Development Site, extending approximately 500m inland (west) of the beach deposits.

	Name	Description	Location
Bedrock	Crag Group (Red Crag Formation)	Sand, with minor gravel, silt and clay layers	Present along the eastern coast of Norfolk and Suffolk and as such, underlies the entire Sizewell C Main Development Site. Overlain in western areas of the Sizewell C Main Development Site by the Lowestoft Formation, Peat or other superficial deposits. In parts of the eastern and northern sections of the Sizewell C Main Development Site, no superficial deposits overlie the Red Crag.  The Red Crag is not homogeneous and contains two low permeability layers within the Sizewell C Main Development Site, one of which is known as Chillesford Clay, the other is unnamed.
	Palaeogene Deposits (Harwich and Lambeth Group)	Layered deposits comprising sands, silts, clays, volcanic ash and pebble beds	The Palaeogene Deposits underlie the Sizewell C Main Development Site area and are present throughout the region, thinning to the west and become absent at a distance of approximately 8-10km west of the Sizewell C Main Development Site.
	Chalk	Soft, white porous limestone with extensive fissuring, flint beds, marl layers and hard ground ("Chalk Rock").	Chalk is present throughout the region and as such, underlies the entire Sizewell C Main Development Site. The Chalk is overlain by the Palaeogene Deposits at the Sizewell C Main Development Site, however to the west, where the Palaeogene Deposits are absent, Chalk is overlain by the Red Crag.

- 4.9.4 The uppermost layer of bedrock in the Sizewell C Main Development Site area is the Red Crag, part of a sequence of Crag deposits present along the Norfolk and Suffolk coastline. This is separated from the underlying Chalk by Palaeogene deposits, including the Harwich Formation and the Lambeth Group. Bedrock geology at the Sizewell C Main Development Site and surrounding region dips towards the south-east. The Palaeogene deposits become thinner in a westerly direction from the site, becoming absent at a distance of approximately 8-10km.
- 4.9.5 As well as the natural strata, made ground is expected to be present to the north of the existing Sizewell B power station since this area was used during its construction. Up to 6m depth of made ground is anticipated to be present.
- 4.9.6 Much of the Sizewell C Main Development Site is agricultural and is therefore considered to have a low risk of contamination, however, some parts of the Sizewell C Main Development Site have a somewhat higher risk of contamination due to historic activities. Possible sources of contaminants that may be associated with potential historical site activities are summarised in **Table 4.9.3**.

Table 4.9.3: Potential Sources of Contamination from Historical Site Activities

Potential source of contamination	Associated contaminants
Agricultural land including widespread application of fertilisers, pesticides etc., localised spills of fuel from machinery	Pesticides and fertilisers. Oils and diesels.
Infilled former small scale aggregate workings	Various contaminants from filling materials, depending on material used/deposited. Ground gas (methane/carbon dioxide).
Spoil/construction materials from construction of the Sizewell A power station	Various contaminants from spoil, depending on what the spoil contained. Potential for ground gas generation if organic/biodegradable materials present.
Rifle range	Potential for small-scale lead depositions from shot.
Contractors' storage/works area, including machinery storage, concrete batching	Diesel/oils. Various contaminants from storage areas, depending on what was used/stored.

4.9.7 Ground contamination can affect a range of receptors, including humans, wildlife, water resources (such as streams and groundwater), plants and buildings. The results of the site investigations have been reviewed to assess the risks to these receptors (see **Table 4.9.4**). The level of risk stated within **Table 4.9.4** was assessed following the Department for Environment, Food and Rural Affairs (Defra) and Environment Agency guidance<sup>48</sup>.

Table 4.9.4: Summary of Contaminated Land Risk Assessment

Receptor	Level of risk	Explanation
Humans (human health)	Low to very low	A small number of soil samples showed contaminant concentrations above the initial screening criteria <sup>49,50</sup> , however, the risk of human exposure is very low assuming appropriate materials management arrangements and use of personal protective equipment, as necessary. The majority of the gas-producing materials (made ground and peat) are expected to be removed during construction.

<sup>48</sup> *Contaminated Land Report 11 Model Procedures for the Management of Land Contamination*, Defra and Environment Agency, 2004.

<sup>49</sup> *R&D Publication SGV 10*, Environment Agency, 2002.

<sup>50</sup> *BS 3882:2007 Specification for Topsoil and requirements for use*, British Standards Institute, 2007.

Receptor	Level of risk	Explanation
Built environment (e.g. buried concrete structures, buried potable (drinking) water pipes)	Low to very low	Elevated sulphate concentrations can compromise the integrity of buried concrete structures over time. Some slightly elevated sulphate concentrations were measured in soil samples from the site, particularly in the eastern part of the site, in an area of peat. Petroleum hydrocarbons in isolated samples of made ground in the same area were slightly above screening criteria for potable water pipes. However, the majority of the made ground and peat are expected to be removed from the Sizewell C Main Development Site platform during construction as they are not suitable founding materials.
Ecological receptors (e.g. sensitive sites)	Very low	A small number of samples had some metal concentrations slightly above the Environment Agency's published background concentrations for England. However, the concentrations in made ground at the site were consistent with concentrations in natural ground, indicating that these are typical for the area.
Plants and animals	Very low	Some soil samples had pH values outside of the typical range for healthy plant growth. However, these samples included natural peat which is acidic. Risk to plants can be minimised by ensuring that soils with an appropriate pH level is used for the type of habitat being created.
Controlled waters (e.g. streams, groundwater, North Sea)	Very low	No anthropogenic sources of contamination have been identified that could significantly affect the quality of groundwater resources beneath or around the site (although further studies are planned to confirm this). It is, however, recognised that the naturally acidic peat could have a deleterious effect, if used widely during landscape restoration works.

## b) Key Environmental Considerations

4.9.8 The ground investigation indicates that the potential risks from ground contamination at the Sizewell C Main Development Site are generally very low, assuming that appropriate personal protective equipment is worn by construction workers, and that ground gas protection measures are incorporated into the proposals (e.g. removal of peat and some fill material or installation of hydraulic cut-offs). In addition, further consideration will be given to the potential contaminative effects of using peat in landscape restoration on site.

4.9.9 **Table 4.9.5** identifies future planned studies in relation to ground contamination for the Sizewell C Project. Further studies will inform the EIA and findings will be incorporated into the design going forward.

Table 4.9.5: Summary of Planned Geology and Ground Contamination Studies

Study	Scope of Study
Site investigation and contaminated land assessment	A further site investigation is proposed to provide more data on targeted areas of interest (based on the 2010-2012 investigations) and to include parts of the Sizewell C Main Development Site that were not previously surveyed. This may include land within the existing Sizewell A and B power stations identified for the relocation of buildings and uses at the northern periphery of Sizewell B power station, necessary to accommodate Sizewell C. The detailed scope of this investigation will be discussed with relevant stakeholders.

## 4.10 Groundwater

4.10.1 This section sets out the key groundwater considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.10.2 A variety of groundwater studies have been undertaken as set out in **Table 4.10.1** below.

Table 4.10.1: Summary of Groundwater Studies Undertaken

Study	Scope of Study
Site investigations	The site investigations described in <b>Table 4.9.1</b> (Geology and Ground Contamination) have provided an indication of groundwater levels.
Pumping test	A pumping test was undertaken in the Red Crag Aquifer at the Sizewell C Main Development Site during 2010 and 2011.
Groundwater Monitoring Report (Sizewell C Main Development Site)	Groundwater level monitoring was undertaken during a total of 13 rounds over a period of approximately 13 months. Local groundwater quality has been evaluated through the screening of samples against standards for Water Framework Directive Priority Substances.
Ground and surface water modelling	A detailed 3D ground and surface water model has been produced and undergone several recalibrations and improvements in consultation with the Environment Agency. Additional data are currently being collected to support the final verification of the model.

4.10.3 The geology beneath the Sizewell C Main Site Development is discussed in **section 4.9** (Geology and Ground Contamination) and summarised in **Table 4.9.2**. Consideration was also given to regional geology, beyond the boundary of the Sizewell C Main Site Development in order to identify certain key aspects of the environmental baseline for groundwater. **Figure 4.10.1** (see **Appendix B**) presents a schematic cross-section through the superficial and bedrock geology in the Sizewell area, showing the spatial relationships between aquifer units, the Sizewell C Main Site Development boundary and the position of the existing power station site.

4.10.4 As set out in **Table 4.10.1**, EDF Energy has commissioned the production of a detailed 3D hydrological and hydrogeological model, which has involved the merging of a number of existing models covering smaller areas to the south and west of the proposed Sizewell C main power station platform. A broader geographic coverage for the model has been agreed with the Environment Agency and this model continues to be refined. This is nearing 'fit for purpose' status subject to the input of supplementary groundwater data relating to the Sizewell Marshes SSSI corridor between Goose Hill and the proposed main power station platform.

4.10.5 The work undertaken to date in building this model, which will be used to test the impact of development upon the groundwater and surface water environment around the Sizewell C Main Development Site, has identified areas where groundwater and surface water bodies interact. The completion of this model in close consultation with the Environment Agency will be critical in understanding potential effects of the proposed development. It will also be important in enhancing understanding of any

ecological impacts arising from changes to these hydrological conditions and equally any interrelationships that might arise, for example, with potential flood water conveyance. The need for a robust understanding is particularly important with regard to the reduced area of Sizewell Marshes SSSI between the Sizewell C main power station platform and Goose Hill.

- 4.10.6 The geology beneath the Sizewell C Main Development Site is discussed in **section 4.9** (Geology and Ground Contamination) and summarised in **Table 4.9.2**. This knowledge is critical in supporting the baseline understanding for groundwater. The Red Crag is designated as a Secondary Aquifer, whilst the Chalk is designated as a Principal Aquifer. The sand and gravel component of the Lowestoft Formation is also designated as a Secondary Aquifer. Principal Aquifers provide a high level of water storage and support water supply and river flows on a strategic scale. The properties of Secondary Aquifers are more variable and as such they may be of local rather than strategic importance as sources of water supply. Secondary Aquifers often constitute important sources of flow to rivers and associated wetlands. Variations in properties of the Red Crag, including two low permeability layers (one named as the Chillesford Clay, the other unnamed), are likely to result in local variations in vertical and lateral flows of water within the Crag. The Palaeogene deposits which overlie the Chalk at the Sizewell C Main Development Site and surrounding region are considered to act as a confining layer for groundwater in the Chalk. Further to the west, where the Palaeogene deposits are absent, groundwater in the Chalk and Crag Aquifers will interact directly.
- 4.10.7 Groundwater source protection zones for major abstraction boreholes are located to the south-west of the Sizewell C Main Development Site. These Zones extend westwards from borehole locations in Leiston and Coldfair Green. Another source protection zone is present to the west of Aldeburgh. Both the Red Crag and the sands and gravels of the Lowestoft Formation provide a water source to streams and wetlands in the study area. It is considered that the depth at which the Chalk is encountered, together with the low permeability of the overlying Palaeogene deposits, means that the Chalk does not contribute to surface water flows in the Sizewell C Main Development Site area.
- 4.10.8 Although not classified as an aquifer, the peat deposits in the Sizewell area also retain water. Water stored within the peat is likely to have originated from groundwater and surface water sources.
- 4.10.9 Regional groundwater contours for the Crag and Chalk indicate approximately south-easterly groundwater flow directions in both aquifers, with elevations of approximately 0m AOD in the Sizewell C Main Development Site area. Additional monitoring within the vicinity of the Sizewell C Main Development Site showed groundwater levels in the Crag to be on average 0.66m AOD, with some evidence of tidal variation.
- 4.10.10 The groundwater quality data obtained through these investigations show that groundwater in the Crag is typically neutral to alkaline, with evidence to show interactions between inland surface and coastal waters in some areas. There is potential for contamination to be present in groundwater in areas in which contamination is present in overlying soils (**Table 4.9.4**).

## b) Key Environmental Considerations

- 4.10.11 The groundwater investigations set out above have highlighted the need to develop a robust understanding of the hydrological and hydrogeological conditions within and beyond the Sizewell C Main Development Site boundaries, including both horizontal and vertical interactions and, for example, the ecological receptors at the surface environment. In particular, the need to retain a viable hydrological and ecological 'corridor' between the proposed main power station platform and Goose Hill requires further refinement of the hydrological and hydrogeological model that is under development. EDF Energy is already progressing further borehole analysis to further this understanding and have necessarily sought to limit the land take from the SSSI corridor to ensure it continues to support these key hydrological and ecological dependencies.
- 4.10.12 It is also notable that the enhanced understanding of the groundwater regime, and its potential interactions with the surface environment, has resulted in a more cautious approach to the previously considered incorporation of excavated peat across the EDF Energy estate (as part of the landscape strategy). Due to the risk of leachate contamination of groundwater arising from large scale peat incorporation, alternative landscape improvement and restoration methods are considered more appropriate to ensure water quality standards are unaffected. These methods include natural reversion of former arable land or application of amendments to manage soil pH.
- 4.10.13 Dewatering of groundwater would be required during the construction phase. The potential effects of dewatering on groundwater levels, abstractions and associated ecological receptors such as Sizewell Marshes SSSI (see **section 4.2** (Ecology and Ornithology)), will need to be considered. There will also need to be an iterative process of design and assessment of groundwater impacts associated with bridge designs across the SSSI (permanent and temporary). The groundwater and surface water model will provide a useful source of data for evaluating these potential impacts.
- 4.10.14 Potential changes to infiltration rates to underlying aquifers, due to changes to surface topography and natural land cover, will also be an important consideration as the design and environmental studies progress.
- 4.10.15 A robust understanding of the hydrogeological regime and relationships between the Sizewell C Main Development Site and potential receptors will be key factors in ensuring that re-used or imported materials do not present unacceptable risks to groundwater quality and that existing water quality standards are not compromised. Equally, establishing the baseline groundwater quality will help to identify and eliminate risks to the development from existing sources of contamination. Additionally, the significance of any future releases of contamination during the construction or operational phases to groundwater will depend in part on the current qualitative status of the groundwater units present on site.
- 4.10.16 Groundwater studies to inform the future assessment and design development work described above are summarised in **Table 4.10.2**.

Table 4.10.2: Summary of Planned Groundwater Studies

Study	Scope of Study
Site investigation/ groundwater monitoring	Further site investigation is proposed which will include groundwater monitoring within the Sizewell Marshes SSSI and other areas as necessary.
Ground and surface water model	Verification of the model will be undertaken to ensure that it is fit for purpose. Subsequently, the model will have applications in investigating the effects of dewatering on local groundwater levels and also contributing to design of the SSSI replacement habitat.

## 4.11 Surface Water and Flood Risk

4.11.1 This section sets out the key surface water and flood risk considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation. Information on drainage and utilities is provided in **section 2.8**.

### a) Environmental Baseline

4.11.2 Initial studies have been undertaken to inform the consideration of surface water and flood risk issues relevant to the Sizewell C Main Development Site. These are summarised in **Table 4.11.1**.

Table 4.11.1: Summary of Surface Water and Flood Risk Studies Undertaken

Study	Scope of Study
Hydrogeological and hydrological study	Initial studies into the hydrogeological and hydrological behaviour of the area around the Sizewell C Main Development Site have been undertaken in order to provide information on likely long-term flows for rivers and marsh drains (see also <b>section 4.10</b> (Groundwater)). Further development of these studies is underway and is being undertaken in consultation with the Environment Agency and other relevant stakeholders.
Water quality sampling	Water quality sampling was undertaken in 2010 and 2011 with the aim of establishing surface water quality conditions. The scope of this study was discussed and agreed with both the Environment Agency and Natural England, and covered the Sizewell C Main Development Site and surrounding watercourses.  The relevant legislative requirements were considered (for example, the Water Framework Directive, UK Environmental Quality Standards and general physico-chemical parameters, such as pH and salinity) to determine the scope. In total, 24 visits (one per month) were undertaken.
British Energy Estuarine and Marine Studies (BEEMS) Programme	This ongoing programme covers a range of marine and coastal environmental studies relevant to the Sizewell C Project, and provides an important source of information relevant to surface water and flood risk in that the studies increase the level of understanding of local marine and coastal processes locally. Relevant to consideration of flood risk issues are the studies that consider the wave energy changes associated with potential changes in size and position of the offshore sandbanks. Modelling work is also being carried out to allow EDF Energy to better understand the role the Minsmere Sluice has in coastal protection. This understanding will inform the coastal management strategy for the Sizewell C Project. These studies are underpinned by a continuing programme of gathering wave, tidal and bathymetric data, as well the latest available information on climate change.

- 4.11.3 In addition to the Project-specific studies summarised in **Table 4.11.1**, an understanding of the flood conditions and coast at Sizewell and Minsmere has developed through a number of other studies. The Environment Agency has funded work to model flows within the River Minsmere and Leiston Beck. Other models have been constructed to simulate the flow of groundwater and surface water into and through the Sizewell Marshes. Studies have also been undertaken at broader-scales, such as Suffolk's Shoreline Management Plan and a recent Environment Agency study of extreme sea levels around the coast of Great Britain.
- 4.11.4 As described in **section 4.2** (Terrestrial Ecology and Ornithology), part of the Sizewell C Main Development Site falls within the Sizewell Marshes SSSI. This area contains a series of interconnected drainage ditches, which can be generally grouped into two systems; one north-west of Sandy Lane track and one south-east.
- 4.11.5 The main input to the north-western ditch system is the consented discharge from Leiston sewage treatment works (both continuous and storm discharges). Surface runoff from Leiston also produces a peak in discharge during rainfall. An additional input rises on Brick Kiln Farm and joins Leiston Beck immediately downstream of the sewage treatment works. Leiston Beck then crosses the north of the Sizewell Belts. Other, much smaller, ditches are maintained close to the level of the surrounding fields by sluices and pipe overflows.
- 4.11.6 The south-eastern ditch system rises to the south of the Sizewell A and B power stations, near Sizewell village. The majority of flow follows a split channel that runs along the western boundary of the existing power stations.
- 4.11.7 The two systems join a few hundred metres north of the Sizewell B power station, and flow towards the coast around the foot of Goose Hill to the Minsmere Sluice, where they discharge to the sea. The network of ditches and watercourses draining the Minsmere to Walberswick Heaths and Marshes SSSI/SAC and Minsmere-Walberswick SPA/Ramsar site join the Leiston Beck just upstream of the Minsmere Sluice.
- 4.11.8 In addition, there are two small lakes within the Minsmere to Walberswick Heaths and Marshes SSSI which support a dense coverage of reeds.
- 4.11.9 **Figure 4.11.1** (see **Appendix B**) shows the inter-connected nature of the surface waterbodies described above and illustrates important features, such as the ditch systems and Leiston Beck, as well as the assumed main drains in the context of the surface water catchment areas.
- 4.11.10 Overall, the results of the water quality sampling programme indicate moderate to poor water quality typical of lowland, coastal drainage ditches. A number of sites show exceedances relative to appropriate environmental standards (i.e. Water Framework Directive Environmental Quality Standards) for a range of parameters. These include exceedances for ammonia, phosphorous, biochemical oxygen demand, dissolved iron, sulphate and suspended solids. Low dissolved oxygen levels are noted as a particular feature across the entire study area with all monitoring sites failing to achieve the Freshwater Fish Directive (Cyprinid Fish Category) Imperative Standard and falling below the Water Framework Directive 'Poor' Status classification criteria. During consultations with the Environment

Agency, however, it was indicated that low dissolved oxygen concentrations are a typical feature of surface water courses in the vicinity of the Suffolk Coastline. Radiochemical analysis results do not indicate hazardous levels of radioactivity.

- 4.11.11 The existing infrastructure for the Sizewell power stations includes a dedicated potable water supply and sewage treatment plant.
- 4.11.12 In relation to flooding and flood defences, most of the footprint of the Sizewell C Main Development Site is flat and low-lying, and has the potential to be subject to flooding from both its landward side and, to a very much lesser degree, from seaward. The Sizewell coastal frontage incorporates a 'soft' flood defence, which comprises two lines of embankment (in general appearance, vegetated dunes) fronting the Sizewell B power station and the Sizewell C Main Development Site. The landward embankment reaches a height of 10m, and this is fronted (on its seaward side) by a smaller embankment that reaches a height of 5m. The design concept behind this configuration is that, under extreme storms, the 5m structure would collapse into the beach to mitigate erosion of the 10m structure.
- 4.11.13 The Minsmere Levels were once an estuary but, to the south of the Minsmere Sluice, are now fronted and protected by a vegetated belt of sand dunes. The coast here is in a largely natural condition, although its form is influenced by the presence of the Minsmere Sluice. Such barrier coasts may breach under extreme storms.
- 4.11.14 The nearshore wave climate and tidal surge are influenced by the bathymetry (seabed morphology). Offshore sandbanks situated off the Sizewell coast play a role in reducing wave energy at the shore and influencing tidal flows. Movements of these offshore banks are likely to impact upon the wave climate and tidal flow at the coast. The banks are presently observed to be pivoting anti-clockwise around an 'anchor point' at Thorpeness, and moving westwards (see **section 4.12** (Coastal Geomorphology and Hydrodynamics)).
- 4.11.15 UK Climate Change Projections (UKCP09) produced by the Met Office are for sea-level rise to accelerate in the future. Wave energy and the characteristics of tidal surge may also be liable to change.

#### **b) Key Environmental Considerations**

- 4.11.16 In considering the hydrological and hydrogeological behaviours of surface and groundwater at the Sizewell C Main Development Site, studies undertaken to date have emphasised the need for EDF Energy to limit the extent of proposed land take within the Sizewell Marshes SSSI south of Goose Hill. This is to ensure that the any impacts of the development on hydrological (both in terms of natural flows and flood risk) and ecological parameters of the SSSI corridor are reduced as far as practicable. Options for the potential disposal of surface waters during all phases of the development are also being developed as a result of the information gathered on existing drainage patterns. These options will be considered further as the drainage strategy for the Sizewell C Main Development Site progresses.
- 4.11.17 The potential for pollution of watercourses (for example, as a result of a fuel leakage or contaminated runoff) will also be a key consideration and measures will be developed to manage these risks. The development of the site drainage strategy, mentioned above, will be critical to successfully controlling surface water runoff (see **section 2.8**).

- 4.11.18 A key issue with respect to surface water and flood risk will be consideration of the possible changes to the position and alignment of the Sizewell shore (see **section 4.12** (Coastal Geomorphology and Hydrodynamics) below). Breaching of the sea defences and the eventual loss of the Minsmere Sluice could eventually lead to the re-activation of the former Minsmere Estuary and conversion of the Minsmere Levels from a freshwater to saline habitat.
- 4.11.19 Flood risk issues will be considered in a detailed flood risk assessment, with a particular focus on the key issue of coastal flooding, including consideration of the influence of offshore sandbanks movements on the wave climate and tidal flows, sea level rise, wave energy and tidal surge and future of Minsmere Sluice. These processes drive coastal flood risk and will be considered together with the marine elements of development associated with the Sizewell C Project (jetty, cooling water intake and outfall, and sea protection works) as assessment studies and design progress. A scoping process for the flood risk assessment has been initiated.
- 4.11.20 A site drainage strategy for each phase of the Sizewell C Project (construction, operation and decommissioning) will be developed and this will inform the surface water and flood risk assessments (see **section 2.8**). Given the overall timeframe until Sizewell C would be decommissioned, the strategy will need to take account of potential changes to existing drainage features such as Leiston Beck and associated drainage ditches, and Minsmere Sluice. Drainage would be required to protect against flooding, to ensure no increase in the risk of flooding elsewhere (including at the Sizewell B power station), and to protect water quality. EDF Energy will work closely with key stakeholders (in particular the Environment Agency and Office for Nuclear Regulation) to produce a drainage strategy.
- 4.11.21 A summary of further planned surface water and flood risk studies to inform the future assessment and design processes is provided in **Table 4.11.2**.

Table 4.11.2: Summary of Planned Surface Water and Flood Risk Studies

Study	Scope of Study
Surface water quality: Water Framework Directive monitoring	Further monitoring of surface water quality campaigns as agreed with the Environment Agency regarding, specifically, Water Framework Directive parameters.
Verification and validation of surface and ground water model	Collection of further information in order to validate the surface and ground water model as agreed with the Environment Agency.
Surface water drainage strategy	Surface water drainage strategy in preparation to inform both the surface water and flood risk elements of the proposals.
Review and development of fluvial hydraulic model	Review of the Environment Agency fluvial hydraulic model to understand in greater detail flood risk related to the River Minsmere and Leiston Beck including potential for further development of the model to inform the development proposals.
Continued development of tide, wave and morphological models	Further modelling work will be carried out to consider potential impacts on the development proposals, including the impact of climate change.
Wave overtopping modelling	Information from the coastal modelling will be required to inform the development of an overtopping model aimed at addressing concerns related to future water levels and the development proposals.

Study	Scope of Study
Flood Risk Assessment	Key information from the modelling described above will be used to develop a Flood Risk Assessment.

## 4.12 Coastal Geomorphology and Hydrodynamics

4.12.1 This section sets out the key coastal geomorphology and hydrodynamics considerations, early study findings, ongoing and planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.12.2 The shoreline at Sizewell forms part of a longer 16km coastal bay defined by headlands at Southwold in the north and Thorpeness in the south. This bay has a classic coastal curvature, with a long southern arm, extending between Thorpeness and Dunwich aligned approximately north/south, and a shorter northern arm aligned approximately north-east/south-west. The concrete outfall to Minsmere Sluice (built in 1830) also acts as a minor headland, resulting in a shallow bay between the Sluice and Thorpeness. Hence, the coast comprises two 'nested' bays within a larger bay.

4.12.3 Approximately 1.5km offshore from the coast is the Sizewell-Dunwich Bank, a sand bank system anchored to the south on the rocky spurs that stretch across the seabed from Thorpeness, which is currently pivoting anti-clockwise around that anchor point and moving slowly towards the shore.

4.12.4 The British Energy Estuarine and Marine Studies (BEEMS) programme has been conducted at Sizewell since 2008 and is ongoing. Studies undertaken to date, on coastal geomorphology and hydrodynamics, are summarised in **Table 4.12.1**.

Table 4.12.1: Coastal Geomorphology and Hydrodynamics Studies Undertaken

Study	Scope of Study
Site characterisation and shoreline behaviour	Study of the Southwold to Thorpeness frontage.
Sizewell-Dunwich Bank	Desk-based study of the morphology of the Sizewell-Dunwich Bank and the associated changes in the shoreline at Sizewell.
Sediment	Studies to identify sediment sources, sinks, transport pathways and particle size at Sizewell. Also mineralogical assessment of suspended sediments.
Bathymetry	Development of a series of future bathymetric (seabed morphology) scenarios for consideration as possible configurations of the coast at the Sizewell C Main Development Site over the next 100 years.
Coastal evolution	A study of coastal evolution and response to anthropogenic change (as a result of coastal structures), including consideration of potential 'extremes', such as abnormally high water levels and changes in coastal and nearshore morphology.
Seabed morphology	Bathymetric (seabed) and hydrographic (waterbody characteristics) surveys have been undertaken to develop maps of seabed morphology.

Study	Scope of Study
Water movements	Hydrodynamic and thermal plume models have been run, taking into account both likely long-term geomorphological change and the need to avoid recirculation of discharged cooling water from the Sizewell B or C power stations.

- 4.12.5 The latest available bathymetry (sonar image), depth contours and seabed morphology are shown in **Figures 4.12.1 – 4.12.3** (see **Appendix B**).
- 4.12.6 Between Southwold and Thorpeness the coastal landscape is controlled by the interaction between cliff erosion, alongshore sediment supply and transport, the movement of nearshore sand banks, tidal flows, waves and storm surges. The complex shore system at Sizewell is maintained by sediment transport processes, which begin with the input of sediment from cliff erosion to the north. This sediment is then transported south by low energy waves towards Thorpeness, where partial deposition of sediment occurs. It is then possible that the sand component is transported offshore to the Sizewell-Dunwich Bank leaving the gravel component forming the core of Thorpeness.
- 4.12.7 Although there is significant gross transport of sediment both to the north and south along the Southwold to Thorpeness shoreline, the net volume of sediment moving to the south along the coast is relatively small. Potential alongshore sediment transport rates between Southwold and Thorpeness were modelled in 2010. This suggests that net transport to the south decreased from a rate of approximately 11,050m<sup>3</sup>/year at Minsmere to 3,500m<sup>3</sup>/year at Sizewell to 300m<sup>3</sup>/year at Thorpeness.
- 4.12.8 The Southwold to Thorpeness beaches are composed of sand and gravel and their general form is sensitive to changes in wave energy and sediment supply, which can cause quite large fluctuations in beach position. The coastline is frequently affected by storm surges which can result in significant beach, dune and cliff erosion. The beach and frontal dunes immediately north of the Sizewell C Main Development Site were relatively stable up to 1970, but have since been eroded. The sensitivity of the beaches to fluctuations in wave energy and sediment supply means they are sensitive to engineering interventions elsewhere along the shore (including Minsmere Sluice). The importance of alongshore sediment transport also means that the shore is sensitive to migration of nearshore banks, which influence patterns of wave approach and, therefore, sediment transport.
- 4.12.9 The Sizewell-Dunwich Bank represents a natural wave break preventing larger waves from propagating inshore and thus reducing erosion rates along this shoreline. As a result, the Bank forms an integral component of the shore defence and provides stability of the Sizewell coastal system. It appears that the height and position of Sizewell-Dunwich Bank has varied over time, including an anti-clockwise rotation of the bank system with the northern part migrating landwards and the southern end anchored to the seabed and Thorpeness headland outcrops of Coralline Crag. The northern (Dunwich) end of the bank system is not closely attached to a headland and is more variable in its position, height and width.

- 4.12.10 The Sizewell-Dunwich Bank is rotating westwards because wave action transports sediment from the crest into the adjacent trough to the west. This transport is likely to be most significant under the influence of north-easterly storms, and the rate of migration will vary with storm attributes and existing bank morphology.
- 4.12.11 Studies of the evolution of the Sizewell-Dunwich Bank have identified that during periods of higher wave energy, cliff erosion to the north supplies relatively large volumes of sediment to the coastal zone to the south. Alongshore transport delivers sediment onto the Sizewell beaches and then possibly to the Sizewell-Dunwich Bank from Thorpeness, raising its height and offering more protection from waves to the adjacent coastline. Cliff erosion (at least from Dunwich cliffs) and sediment supply to the Bank will then reduce in response to the higher bank and lowered inshore wave climate. In turn, bank volume and height will decline with time, and inshore wave energy levels and cliff erosion will rise again.

#### **b) Key Environmental Considerations**

- 4.12.12 The BEEMS studies undertaken to date have determined the indicative zone for the proposed jetty as shown on **Figure 2.1.1** (see **Appendix B**). Coastal processes will be an important consideration in the ongoing design and assessment of the Sizewell C Project, particularly in relation to temporary and permanent coastal and marine structures. These could include the jetty, the cooling water outfall and intake structures, flood defence and coastal protection works.
- 4.12.13 The presence of the temporary beach landing facility associated with Sizewell B resulted in interruption of sediment transport and localised erosion to the south. Maintenance dredging of the immediate approaches may also have resulted in some loss to nearshore sediment budgets. These will be key considerations for the Sizewell C Project.
- 4.12.14 Other key considerations are summarised as follows:
- Potential for physical changes to the seabed due to dredging and deposition of dredged sediment;
  - The future management and maintenance of the Minsmere Sluice in terms of its inadvertent coastal protection function, which influences the alignment of the shore between Sizewell and Minsmere cliffs and thus the risk of tidal inundation of Minsmere Levels. The Sluice and adjoining flood defences are currently maintained by the Environment Agency and its future condition, function and management will be important considerations for the Project going forward;
  - Changes to existing sea defences (due to natural or anthropogenic causes), which could change Minsmere Levels from a freshwater to saline habitat, as well as affecting coastal processes, sediment transport and nearshore morphological change in the adjoining nearshore and offshore areas. The Shoreline Management Plan proposes managed realignment of the defences along Minsmere Levels. The effects on the adjacent receptors of this potential managed realignment will be a key issue for the Sizewell C Project;

- Changes to the Sizewell-Dunwich Bank size and height and increases in sea level or the frequency, strength and duration of northerly and north-easterly waves, which could occur over the next 100 years and would affect coastal erosion, with changes in the morphology of the Sizewell-Dunwich Bank probably being most important. Hence, potential future losses of volume and lowered crest height could potentially be of concern to the Sizewell C Project, given the importance of the Bank as a wave break to the Sizewell shore;
- The effects of climate change and associated sea level rise. Central estimates of projected future relative sea-level rise for Sizewell up to 2100 reported by the UK Climate Impacts Programme ranged from 0.6m for the low emissions scenario to 0.9m for the high emissions scenario (relative to a 2009 baseline), with rates of change increasing during the second half of the 21<sup>st</sup> century. These changes are predicted to occur within the lifetime of the Project and would not just affect the Project by creating greater water depths along the coast, but also by increasing wave heights and storm levels; and
- Changes to the coastal and marine environment caused by other marine developments including offshore wind farms and dredging activities.

4.12.15 The consideration of potential changes to coastal geomorphology and hydrodynamics will form part of the Water Framework Directive assessment (see **Appendix A**) as well as the EIA.

4.12.16 In addition to the studies identified in **Table 4.12.1**, several data collection and modelling exercises are currently underway to support work going forward (as identified in **Table 4.12.2**). The scope of these surveys and the modelling is subject to discussion with the relevant regulators including as part of the EIA scoping process.

Table 4.12.2: Planned Coastal Geomorphology and Hydrodynamics Related Studies and Surveys

Study	Scope of Study
Local wave climate	A Wavenet buoy is currently deployed off the Sizewell-Dunwich Bank to provide real-time data on the local wave climate. This has been complemented by shorter-term deployments of instruments in shallower water.
Sea-level rise	A tide gauge has been installed on the Sizewell B intake structure to monitor both sea-level rise in the longer term and the local behaviour of surge events.
Coastal evolution	A radar-based remote sensing system will be deployed on land for real-time monitoring of waves, currents and sand bank and coastal evolution.
Sizewell-Dunwich Bank	A morphological model of the Sizewell coastline and bank system is being developed, which will support continuing studies on the potential long term evolution of the Sizewell-Dunwich Bank and geomorphology.

## 4.13 Marine Water Quality and Sediments

4.13.1 This section sets out the key marine water quality and sediments considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

## a) Environmental Baseline

- 4.13.2 The shore local to the Sizewell C Main Development Site is particularly uniform in terms of both marine water quality and sediments. It runs roughly north to south, is of consistent slope and cross section, and is composed of coarse gravel and shingle. Sediments are unlikely to be contaminated due to their coarse nature and the relatively rural nature of the surrounding coastline.
- 4.13.3 The seabed local to the site is dominated by sand and the Sizewell-Dunwich Bank, also formed of sand, lies approximately 1.5km offshore.
- 4.13.4 A summary of marine water quality and sediments surveys and the studies that have been completed to date is provided in **Table 4.13.1**.

Table 4.13.1: Marine Water Quality and Sediments Studies Undertaken

Study	Scope of Study
Thermal plume modelling	Informed the geographical extent of the marine water quality survey. The study area was established as between Walberswick in the north and Orfordness in the south and was undertaken in 2010-12.
Marine water quality	A one year survey was undertaken in 2010-11 to assess the variability in water quality at different locations (see <b>Figure 4.13.2, Appendix B</b> ) and times of year, including tidal and depth variation. A small number of surface sediment samples were also collected and analysed for chemical contaminants.  The study area for the survey was established using thermal plume predictions and knowledge of the coastal processes operating in the area.

- 4.13.5 Existing port activities in the same region as the Sizewell C Main Development Site, including Lowestoft, Felixstowe and Ipswich, have historically been associated with increased metal inputs to sediments so could potentially provide a source of fine material and contaminants. Shipping and boating activity has led to a legacy of contamination from antifouling compounds, particularly tributyl tins in sediments and, more recently, to the input of copper and zinc. In the past, sewage inputs were also thought to have been a source of cadmium, causing exceedances of Environmental Quality Standards in the water. However, the risk of any significantly raised levels of marine sediment contamination around the Sizewell C Main Development Site is low due to the nature of these local sediments and the distance from the nearest port (33km away in the Stour and Orwell Estuaries).
- 4.13.6 In terms of nutrients and dissolved oxygen, inputs from agriculture are thought to have had a significant influence on water quality and, in particular, have contributed to the elevation of nutrient concentrations in rivers and estuaries in the region. Dissolved oxygen levels in the marine waters around the Sizewell C Main Development Site itself are considered to be relatively high.
- 4.13.7 Designations within the area that relate specifically to water quality arise from the European Water Framework Directive (see **Figure 4.13.1, Appendix B**) and Bathing Water Directive. Relevant provisions of the revised Bathing Water Directive will come into force in 2015, including more stringent Water Quality Standards and increased provision of public information. Compliance will be measured using the classes 'poor', 'sufficient', 'good' and 'excellent', and all bathing waters will be required to achieve the 'sufficient' class. In 2012 the Environment Agency began a four-year

monitoring programme to enable classification in line with the revised Bathing Water Directive to be made in 2015.

- 4.13.8 The closest designated bathing waters are at Southwold, which is approximately 15km to the north of the Sizewell C Main Development Site. The Environment Agency’s monitoring and testing of these bathing waters has identified that they pass the minimum standards.
- 4.13.9 The marine Water Framework Directive waterbody relevant to the Sizewell C Main Development Site is the coastal water body referred to as ‘Suffolk’. In terms of water quality supporting elements, the water body is considered to have good chemical status, although concentrations of dissolved inorganic nitrogen, probably related to agricultural impacts, have been highlighted as a concern.
- 4.13.10 The marine water quality survey concluded that the coastal water body in the study area is generally well mixed, with little differences in onshore or offshore water quality. Some exceedances of marine Environmental Quality Standards were noted within the water column but sediment samples did not indicate elevated levels of contaminants. Radiological contaminants were found to be at natural background levels (for further details on radiological contaminants see **section 4.17**).
- 4.13.11 Other relevant water bodies in the study area include the Minsmere lagoons and the small semi-natural brackish ponds behind the coastal flood defences.

**b) Key Environmental Considerations**

- 4.13.12 The key issues that will need to be considered for the ongoing design and assessment of the Project (including the EIA and Water Framework Directive assessment – see **Appendix A**) include:
  - Changes in water turbidity (cloudiness) and quality due to the re-suspension of marine sediments into the water column due to construction activities;
  - Discharges to surface waters which enter the marine environment, both during construction and operation;
  - Changes to sea water temperature as a result of cooling water discharges; and
  - Potential changes to marine water quality as a result of chemicals that may be used in the commissioning, operation and maintenance of the Sizewell C Project.
- 4.13.13 **Table 4.13.2** identifies future planned studies in relation to marine water quality and sediments for the Sizewell C Project. The scope of these surveys and the modelling proposed are matters of continuing discussion with the relevant stakeholders (including as part of the EIA scoping process).

Table 4.13.2: Planned Marine Water Quality and Sediments Related Studies

Study	Scope of Study
Water quality modelling	Predictive numerical modelling of potential thermal and chemical changes is being undertaken to inform the design of the cooling water infrastructure, as well as to inform the assessment of the cooling water discharge under different operating scenarios of the Sizewell C power station, together with consideration of existing discharges from Sizewell B. The modelling outputs will also be relevant to the marine ecology studies described in <b>section 4.14</b> .

Sediment quality survey	Core sediment samples will be taken and tested to determine if any contamination exists at depth.
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## 4.14 Marine Ecology

4.14.1 This section sets out the key marine ecology considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.14.2 Environmental baseline information relevant to marine ecology has been gathered through a number of surveys and studies undertaken to date.

4.14.3 Site-specific benthic surveys of the area adjacent to the Sizewell power stations were undertaken in 1991. A further series of offshore marine biological and fisheries surveys was then undertaken between 2008 and 2010 to characterise the baseline marine intertidal and subtidal environment further in the vicinity of the Sizewell C Main Development Site. Further studies are now being undertaken to validate these findings (see **Table 4.14.2**).

4.14.4 Sidescan and swath sonar surveys of the seabed and hydrographic surveys have been completed (see also **section 4.12**). The sonar images of the seabed have allowed the detailed mapping of both the seabed topography (bathymetry) and the distribution of seabed habitats (see **Figure 4.14.1, Appendix B**). Data on that bathymetry and from the hydrographic surveys has supported the development of numerical models describing local tidal flows that will inform ecological assessments.

4.14.5 A summary of surveys and studies completed to date is provided in **Table 4.14.1**.

Table 4.14.1: Marine Ecology Studies Undertaken

Study	Scope of Study
Habitat mapping	Mapping of seabed morphology and associated marine biotopes (see <b>Figure 4.14.1, Appendix B</b> ) based on sonar survey data, from 2008–2009.
Benthic survey	Survey of the area adjacent to the Sizewell power stations in 1991.
Intertidal	Surveys of marine invertebrate populations in 2009.
Subtidal	Nearshore beam trawl surveys for fish and mobile invertebrates, plankton and ichthyoplankton (fish larvae) surveys, benthic surveys and monitoring of cetaceans (marine mammals), extending variously between 2008 and 2011.
Impingement and entrainment	Impingement sampling for fish and crustaceans has been maintained at Sizewell B since 2009 and an entrainment monitoring programme was established in 2011. Laboratory based entrainment studies also begun in 2009.
Thermal and chemical plume modelling	Two 3D numerical hydrodynamic models have been developed during 2010 – 2011 in order to understand likely cooling water plume behaviours. These will inform the ecological assessments.

4.14.6 **Figure 4.14.1** (see **Appendix B**) shows the marine ecological habitats present off Sizewell, based on information from sonar surveys described in **section 4.12**

(Coastal Geomorphology and Hydrodynamics), and using the European Nature Information System (EUNIS) Level 3 habitat classification method.

- 4.14.7 There are a number of internationally and nationally designated nature conservation sites in the vicinity of the Sizewell C Main Development Site (see also **section 4.2** (Terrestrial Ecology and Ornithology)). The international sites in the vicinity of the Sizewell C Main Development Site that are of particular relevance to marine ecology include:
- Alde-Ore Estuary SPA and Ramsar site;
  - Alde-Ore and Butley Estuaries SAC;
  - Benacre to Easton Bavents Lagoons SAC;
  - Minsmere to Walberswick SPA and Ramsar site;
  - Minsmere to Walberswick Heaths and Marshes SAC;
  - Orfordness to Shingle Street SAC; and
  - Outer Thames Estuary SPA.
- 4.14.8 The locations of these international sites are shown on **Figure 4.2.1** (see **Appendix B**). There are also two recommended Marine Conservation Zones (supporting wintering red-throated diver, *Gavia stellata*) which are within the vicinity of Sizewell, referred to as Orford Inshore and the Alde-Ore Estuary. Both of these sites are shown on **Figure 4.2.1**. Orford Inshore is some 14km offshore whilst the Alde and Ore Estuaries are isolated from the sea behind the length of Orford Ness itself.
- 4.14.9 A number of protected coastal habitats listed in Annex I of the Conservation of Habitats and Species Regulations (known as Annex I habitats) are included within these designated sites, including mudflats, sandflats, bar-built estuaries, Atlantic salt meadows, coastal lagoons and annual vegetation of drift lines. Although no qualifying Annex I habitats are present within the Sizewell C Main Development Site, there may be features in the wider study area. Other habitats in the wider study area include coastal sand dunes, beaches and shingle.
- 4.14.10 Some key elements of infrastructure for the Sizewell C Project, including cross-shore (on or across the shore) works and the seabed cooling water intake and outfall structures, would be located within the Outer Thames Estuary SPA. The main qualifying feature of this SPA is the red-throated diver, which along with other designated species in the area (including redshank (*Tringa totanus*), avocet (*Recurvirostra avosetta*), Sandwich tern (*Sterna sandvicensis*) and little tern (*Sterna albifrons*) rely on marine prey resources, such as sprat (*Sprattus sprattus*), whiting (*Merlangius merlangus*), sandeels (*Ammodytes tobianus*), crustaceans, molluscs and other benthic invertebrates.
- 4.14.11 Surveys of the fish and shellfish resource in the area found that the main species were brown (edible) crab (*Cancer pagurus*), sole (*Solea solea*), sprat and whiting. In addition, the area is a spawning ground for sole and a nursery ground for plaice (*Pleuronectes platessa*) and herring (*Clupea herengus*).
- 4.14.12 The benthic survey undertaken in 1991 found that the organisms living on and/or in the seabed were typical of the southern North Sea and that the communities present

reflected the physical characteristics and features of that seabed. This understanding has been confirmed by the more recent surveys. These surveys also found that the inshore region near Sizewell was dominated by three species; the polychaete worm *Nephtys hombergii*, and two bivalve molluscs *Nucula nitidosa* and *Nucula nucleus*. The polychaete worm *Scalibregma inflatum* was occasionally found in very large numbers in the samples but was not a consistent feature of the invertebrate community at Sizewell. The biotopes present within the vicinity of Sizewell are illustrated in **Figure 4.14.1** (see **Appendix B**).

- 4.14.13 Near Sizewell there are large inshore areas of sand with occasional patches that may support the tube building Ross worm (*Sabellaria spinulosa*). There are a few areas of gravel and exposed rock (see **Figure 4.12.3**, **Appendix B**). The Ross worm is a Biodiversity Action Plan (BAP) species and when many of these worms build tubes that combine to form a single reef structure, it represents a priority habitat ('biogenic reefs') under the European Habitats Directive. It is a common species which forms 'crusts', which in many cases are temporary features that break up in seasonal storms. No reef structures have been identified local to Sizewell by the surveys undertaken to date.
- 4.14.14 The intertidal fauna has low biodiversity, typical of a coarse sand/shingle environment and is predominantly composed of opportunistic species (largely benthic species that live in both marine and freshwater habitats).
- 4.14.15 There is some vegetated shingle (also a BAP habitat) on the foreshore, which has been known to support breeding little tern (refer to **section 4.2** (Terrestrial Ecology and Ornithology)).

#### **b) Key Environmental Considerations**

- 4.14.16 In relation to the marine fish, plankton, mammals and benthic communities in the Sizewell area, the key considerations for the ongoing design and developing assessments of the Sizewell C Project (including EIA and Water Framework Directive – see **Appendix A**) will be the likelihood and consequence of alterations to habitats and communities due to specific marine elements of the development. These elements would include the construction of cooling water intake and outfall tunnels and structures, the proposed jetty and associated dredging, the abstraction of cooling water, the thermal discharges from the cooling water outfall, and the discharge of other chemicals potentially introduced for the control of biological fouling of the station's cooling water circuits. Continuing marine environmental studies will inform the design and assessment of these elements of the development.
- 4.14.17 Abstraction of cooling water and the potential effect on fish and mobile invertebrate populations have been considered previously at Sizewell. Large volume cooling water systems, such as that proposed for Sizewell C, would result in the capture of larger fish on cooling water screens ('impingement') and the passage of smaller organisms through the cooling water system and their subsequent return to the sea ('entrainment'). Countermeasures and assessments at Sizewell have, in the past, focused on juvenile sole as this species is the target of an important fishery in the southern North Sea (see **section 4.15**). The Sizewell B power station offshore intake was deliberately placed in deep water and was specifically designed to reduce impingement in comparison to the Sizewell A power station. The Sizewell B power station also employs an early form of return system which allows many of the more

robust fish, including juvenile sole, to survive. Options to replicate and improve on these design approaches will be explored during the development of the Sizewell C Project in parallel with the fish impingement assessments.

- 4.14.18 Where smaller fauna, such as fish eggs and larvae (ichthyoplankton), and other plankton, are carried into the cooling water system with the seawater and are small enough to pass through the cooling water screens, they would travel through the entire cooling water system before being returned to sea. This is a further consideration when estimating the effect of the Sizewell C cooling water system on local fish populations.
- 4.14.19 The construction of the offshore cooling water infrastructure would involve the placement of a number of cooling water intake and outfall structures on the seabed. To connect the cooling water intakes to the power station it is proposed that a series of tunnels would be bored under the seabed from land. Vertical shafts would then be cut down from the seabed to join the tunnels offshore. For the outfall structures, which would be placed closer to shore, it is likely that a cut and fill operation would be used in order to introduce culverts connecting these structures to the power station. This operation may require a temporary offshore store on the seabed to hold the fill material. Past experience with a very similar cut and fill operation during the construction of Sizewell B has shown that the influence of this activity on seabed fauna has been very limited.
- 4.14.20 The Outer Thames Estuary SPA, which supports wintering red-throated diver, will also be a key consideration (see **section 4.2** (Terrestrial Ecology and Ornithology)). Relevant habitats include shallow coastal waters and areas in the vicinity of subtidal sandbanks. The Sizewell C Project is considered unlikely to affect these SPA designated bird interests directly, but effects upon prey species (fish, including sprat which are found in the area) will be considered.
- 4.14.21 As described in **section 4.12** (Coastal Geomorphology and Hydrodynamics), some of the marine elements of development associated with Sizewell B were found to cause changes to coastal processes, which could in turn affect intertidal and subtidal habitats. The conclusions of the coastal geomorphology and hydrodynamics studies will therefore be relevant to the marine ecology studies.
- 4.14.22 Work will continue to provide additional information on existing marine ecological features, including characterisation of the intertidal fauna, characterisation of the subtidal fauna, reviews of marine fauna impingement and entrainment data associated with the Sizewell B cooling water system, and reviews of other relevant data.
- 4.14.23 **Table 4.14.2** summarises future planned marine ecological studies for the Sizewell C Project. The scope of these surveys and the associated numerical modelling activities is a matter of continuing discussion with the relevant stakeholders.

Table 4.14.2: Planned Marine Ecological Related Studies

Study	Scope of Study
Subtidal ecology	Further studies to characterise shallow subtidal resources, fish larvae abundance and food webs. Habitat mapping to be extended to the south of Thorpeness.

Study	Scope of Study
Cooling water	Continuing studies on rates of cooling water impingement and entrainment of fish and shellfish at Sizewell B power station.

## 4.15 Commercial Fisheries

4.15.1 This section sets out the key commercial fisheries considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.15.2 Environmental baseline information in relation to commercial fisheries has been gathered from a desk-based study as detailed in **Table 4.15.1**.

Table 4.15.1: Summary of Commercial Fisheries Related Studies Undertaken

Study	Scope of Study
Fishing activity	Information has been gathered on different gear types, vessel sizes and ports used, as well as the species caught. Due to the seasonal nature of commercial fisheries, information has been obtained from a variety of sources. Fisheries data are available up to 2009/2010.

4.15.3 The marine part of the Sizewell C Main Development Site falls within the jurisdiction of the eastern Inshore Fisheries Conservation Association. The UK inshore fisheries management area extends out to sea to six nautical miles (nm). Within the 6-12nm limit, fishing by non-UK boats is restricted to those with historical rights to specific fisheries. The marine part of the Sizewell C Main Development Site is located within the International Council for the Exploration of the Sea rectangle 33F1. However, in order to place the local commercial fishery into a more regional context, rectangles 32F1, 32F2, 33F2, 34F1 and 34F2 are also relevant.

4.15.4 The wider coastal area includes several fishing ports between Lowestoft in the north to Felixstowe in the south (see **Figure 4.15.1, Appendix B**). Within this coastal belt the estuaries at Lowestoft, Southwold, Orford, Felixstowe and Ipswich are considered to be the only safe berths or anchorages. In other areas fishing boats are beach launched, including those at Sizewell.

4.15.5 The majority of boats fishing in the inshore area are less than 10m long and tend to use passive gear, such as fixed and drift nets, long-lines and pots. The main fishing period for fish and shellfish species is related to seasonal temperature variations. Generally lobster (*Homarus gammarus*), brown (or edible) crab (*Cancer pagarus*), sole (*Solea solea*) and bass (*Dicentrachus labrax*) are targeted in spring, summer and early autumn and the inshore cod (*Gadus morhua*) fishery operates during the winter. Other species are caught at various times, as detailed below.

4.15.6 Lowestoft, the largest port in the District, accounts for the majority of demersal species (those living on/near the seabed) landings. There are approximately 12 full-time boats, mostly less than 10m long, which fish inshore for cod all year using long-lines and fixed nets. March to November is the main season for catching sole and

rays using fixed nets. Bass, grey mullet (*Chelon labrosus*), herring (*Clupea harengus*), mackerel (*Scomber scombrus*) and sea trout (*Salmo trutta trutta*) are caught using driftnets. Lobster and brown crab may also be caught with pots. **Figure 4.15.1** (see **Appendix B**) shows the distribution of some of the main fisheries for species of fish caught.

- 4.15.7 Beach-launched boats operate from Pakefield and Kessingland, all of which are part time and sell directly from beach stalls. Using various fixed nets, cod, whiting (*Merlangius melangus*), sole and plaice (*Pleuronectes platessa*) are caught at various times of the year, and long-lines are set for cod, whiting, rays and spurdog (*Squalus acanthias*). During the winter months of January and February the boats fish for sprat and herring and later, in March, rod and lines are used for cod and bass. Between April and June herring are caught using driftnets, as well as grey mullet, red mullet (*Mullus surmuletus*) and pilchards (*Sardina pilchardus*); following this bass and sea trout are caught using net fishing. During the summer months, July to September, fishing for brown shrimp (*Crangon crangon*) and potting for brown crab and lobster takes place.
- 4.15.8 Further south is the Suffolk port of Southwold, where three commercial boats (using mainly driftnets) catch bass, grey mullet and sea trout in the summer and sole from spring using fixed trammel nets. Beam trawlers catch brown shrimp and five, under-10m stern trawlers, take sole, plaice, rays, dab (*Limanda limanda*) and flounder. During the year a variety of species are caught using various methods, from long-lining for cod and ray in winter and, from spring onwards, potting for lobster and crab and netting for sole, red mullet and brill (*Scophthalmus rhombus*). In autumn, sole and bass are caught with driftnets and trawls and then most boats catch herring and sprat during November.
- 4.15.9 There is a single (less than 10m long) boat based at Sizewell and Dunwich. The mainstay for the industry here is the potting fishery (mainly summer) which targets European lobster and edible and brown crab, as well as the velvet swimming crab (*Necora puber*) and whelk (*Buccinum undatum*). It is also within the principal drift net grounds for herring and sprat (in winter), and bass, herring, sole, mackerel and thornback ray (*Raja clavata*) in summer. Commercial fishing tends to cease during the winter period mainly due to lack of quota.
- 4.15.10 Aldeburgh has a similar fishery to the other ports, with nine commercial boats using driftnets and long-lines for sole, cod, ray, bass and mullet in summer and cod and bass in winter. Occasionally fykenets are used to catch eel in the River Alde, where there are also mussel beds. The River Alde flows into the River Ore at Orford where there are three or four boats fishing between this area and Sizewell for sole, bass, thornback ray and sea trout, as well as potting for lobster and crab. There is also a commercial cultivation of pacific oysters (*Crassostrea gigas*) and native oyster (*Ostrea edulis*) in the river.
- 4.15.11 Felixstowe has an active fishing fleet of seven boats targeting cod, plaice, rays, bass sole, edible crab and lobster using trawls, long-lines and pots. Fishing for shrimp, sole and eel (*Anguilla anguilla*) is common in the river estuaries of the Deben, Stour and Orwell. Furthest south in Shotley, on the banks of the Orwell Estuary, there are four full-time under-10m boats using long-lines and trammel nets for cod, whiting, dogfish, rays, sole and bass. Pots are also set for lobster.

- 4.15.12 **Table 4.15.2** provides a summary of the main fishing activities within the 6nm limit within the study area and associated with the Sizewell C Project. The number of fishing boats each year depends on the availability of resources, fuel price, the markets and the number of boats being decommissioned. Therefore, the figures presented are approximate only.
- 4.15.13 The value of landings in rectangle 33F1 for boats under 10m varied slightly between 2004 and 2010; with the lowest being approximately £500,000 in 2009 and the highest £790,000 in 2010. The main species targeted were cod, sole, plaice and skate, as well as crustacean species, namely crab and lobster. The main gear types used include netting, long-lines, pots and demersal trawls.
- 4.15.14 Analysis of vessel monitoring system data shows that there is a considerable amount of seine netting, long-lining and potting activity just offshore in the vicinity of the Sizewell C Main Development Site. The number of pots set for lobster and crab varies with the season, with 620 pots set off Sizewell each month between May and October. Just within the 6nm limit there is significant shrimping activity and between the 6nm and 12nm limits the main activity is scallop dredging. The majority of vessels are UK licensed, although Belgian and French vessels also have fishing rights within the 6-12nm limits.

Table 4.15.2: Initial Overview of Fishing Activity in the Vicinity of the Sizewell C Main Development Site

Port	Fleet Size/ Type	Main Target Species	Overview of Activity in Region of Sizewell C Project	Estimated Fishing Effort in Region of Sizewell C Project
Lowestoft	12 to 13 vessels (long-line, netting, potting and trawling).	Dover sole, cod, rays, bass and dogfish. Lobster, whelk and edible crab.	All vessels have some exploitation within the Sizewell C Main Development Site area. Sizewell C Main Development Site area is also exploited by two trawlers and long-line vessels.	One vessel (trawler) indicated 150 days.
Southwold	Five vessels (long-line, netting, trawling).	Dover sole, cod, rays, bass and dogfish.	All vessels have some exploitation of the area.	Vessels fish up to 100 days per year (average) around the site location.
Sizewell	One vessel (long-line, netting, potting).	Cod, bass, sole and shellfish.	Vessel has significant exploitation within the area.	Vessel fishes up to 150-200 days per annum with 75% time in and around the site location.
Aldeburgh	Six vessels (long-line, netting, potting and trawling).	Cod, bass, sole and shellfish.	All vessels have some exploitation of the area.	Vessels have significant exploitation in site location area approx. 30-50% of time. One vessel has potting gear within the site area with potentially 75% of gear affected. Up to 180 days on site.

Port	Fleet Size/ Type	Main Target Species	Overview of Activity in Region of Sizewell C Project	Estimated Fishing Effort in Region of Sizewell C Project
Orford	Three or four vessels (long-line, netting, potting).	Dover sole, cod, rays, shellfish, bass and dogfish.	All vessels have some exploitation of the area.	Approximately three to four months can be spent on or around the bank areas targeting bass/cod/ray and spurdog subject to weather constraints. 30-50 days on site per vessel.
Felixstowe	Up to 10 vessels (five full-time) (long-line, netting, potting and trawling).	Dover sole, cod, rays, shellfish, bass and dogfish.	Vessels have very limited exploitation of the site area. Some on site activity may occur when cod fishery occurs in these areas.	Not quantified

#### b) Key Environmental Considerations

- 4.15.15 During the construction phase, there would be commercial fishery considerations relating to the potential presence of exclusion zones and controls on navigation around offshore and cross-shore construction areas, and the movement of vessels associated with construction. Consideration will be given to any changes to traditional fishing grounds and displacement to other fishing grounds as a result of the Project, changes to steaming times for vessels and the presence of new marine structures, as well as any potential changes to commercially exploited fish and shellfish populations. Navigation safety issues for fishing vessels will be considered as part of the navigation studies (see **Table 4.15.3** and **section 4.16** (Navigation)).
- 4.15.16 During operation, as described in the Marine Ecology section (**section 4.14**), there is the potential for impacts on fish and shellfish populations, some of which may relate to commercial fishery interests, due to the abstraction and discharge of cooling water. This includes the impingement of fish on cooling water screens and the entrainment of smaller organisms, including ichthyoplankton, through the cooling water system. As well as using the commercial fisheries data described above, data on both impingement and entrainment are continuing to be collected from the Sizewell B power station and offshore. These data will inform assessment of impacts from Sizewell C alone, as well as potential cumulative impacts with Sizewell B.
- 4.15.17 **Table 4.15.3** identifies future planned studies in relation to commercial fisheries for the Sizewell C Project. The scope of these surveys will continue to be discussed with the relevant stakeholders (including as part of the EIA scoping process). The studies described in **Tables 4.14.1** and **4.12.1** are also relevant to these assessments.

Table 4.15.3: Summary of Planned Commercial Fisheries Studies

Study	Scope of Study
Fishing activity	Further data on fishing activity will be gathered, including updated fisheries statistics from the Marine Management Organisation (such as annual/monthly catch, species and value and vessel management system data for UK vessels over 15m in length), information on fishing vessel activity within the site gathered between June 2008 and August 2009 and consultation with local fishermen and their associations (individual and group meetings).
Navigation studies	Information on vessel movements will be updated from Marine Management Organisation surveillance data, and on-site vessel traffic surveys.

## 4.16 Navigation

4.16.1 This section sets out the key navigational considerations, early study findings and ongoing planned studies necessary to support the formal EIA scoping process to follow the Stage 1 consultation.

### a) Environmental Baseline

4.16.2 Environmental baseline information relevant to navigation for the Sizewell C Project has been gathered from an initial desk study, as detailed in **Table 4.16.1**.

Table 4.16.1: Navigation Studies Undertaken

Study	Scope of Study
Desk-based study	Initial investigation to identify the main shipping and navigational features, using data from sources including Automatic Identification System data, the Royal Yachting Association's UK Coastal Atlas (see <b>Figure 4.16.1</b> , <b>Appendix B</b> ), and other publicly available documents (for example, aggregate dredging reports and published reports for offshore windfarms).

4.16.3 The principal study area for identifying the main shipping and navigational features comprises the open water area within a 10nm (18.5km) buffer around the Sizewell C Main Development Site.

4.16.4 The wider study area extends much further to the north and south along the coast, and much further offshore, to capture the other shipping and navigational features associated with activities such as commercial shipping, recreational sailing and cruising, commercial fishing, aggregate dredging, and offshore wind farm development and operation.

4.16.5 Commercial navigation activity in the vicinity of the Main Development Site comprises various vessel movements and activities at varying distances offshore, including cargo vessels, passenger vessels (e.g. the Harwich–Esbjerg ferry route) and tankers. The principal ports along England's east coast include the Medway ports (e.g. Sheerness and Chatham), London ports (e.g. Tilbury), Harwich Haven ports (e.g. Felixstowe, Harwich and Ipswich), the Humber ports (e.g. Immingham) and Teesport. Vessels passing southwards also head for the Dover Strait and ports beyond.

4.16.6 To the south of the Main Development Site there is a clear pattern of cargo vessels passing east-west across the North Sea, between ports such as Felixstowe, Harwich and London and ports such as Antwerp in Belgium and Rotterdam in the Netherlands

(for example the Harwich - Hoek van Holland ferry route). Vessel movements in the approaches to Harwich Haven and the River Thames are managed for the purposes of safety, with defined approach and departure routes and areas for temporary anchorage. For example, in the area known as the 'Sunk Area' there are five sets of approach and departure routes (the Sunk Traffic Separation Scheme North, East and South, the Sunk Recommended Route for Ferries, and the Long Sand Head Two Way Route), which are managed by the Dover Coastguard using the Sunk Vessel Traffic System. In addition, there are a number of anchorages in the waters east of Felixstowe including the Sunk Deep Water Anchorage used by large ships (particularly container vessels) approaching the Port of Felixstowe. Further inshore are the Bawdsey, Cork and Platters Anchorages.

4.16.7 Dredging for aggregates also takes place in offshore waters, with vessels sailing to and from designated extraction areas situated inside and just beyond the 12nm territorial sea limit within the following regions:

- East Coast Region, at various locations off Great Yarmouth/Lowestoft and as far north as Winterton and off Southwold; and
- Thames Estuary Region, at various locations off Orford and as far south as the Thames Estuary.

4.16.8 Fishing vessels operate out of a number of home ports along the east coast to the north and south of the Main Development Site. According to the Marine Management Organisation's UK vessel lists for 1 September 2012, there are:

- Forty-two vessels of over 10m in length that are registered with Lowestoft as their administrative port. All but eight of these vessels have other ports (Blakeney, Brancaster, Burnham-on-Crouch, Canvey Island, Great Yarmouth, Harwich, Leigh-on-Sea, Pagelsham, Walton-on-Naze, Wells and West Mersea) as their home ports; and
- Two hundred and nine vessels of less than 10m length that are registered with Lowestoft as their administrative port. All but 35 of these have other ports (Aldeburgh, Blakeney, Bradwell, Brancaster, Brightlingsea, Burnham-on-Crouch, Canvey Island, Clacton, Colchester, Cromer, Dunwich, Felixstowe, Great Wakering, Great Yarmouth, Harwich, Ipswich, Leigh-on-Sea, Maldon, Orford, Rochford, Sheringham, Sizewell Beach, Southend-on-Sea, Southwold, Tollesbury, Walton-on-Naze, Wells, West Mersea, Winterton and Wivenhoe) as their home ports.

4.16.9 The distribution of fishing vessels' home ports reflects the nature of commercial fishing along the east coast, where many of the smaller vessels under 10m length are used for inshore fishing (for example, netting, potting, demersal trawling and long-lining) and larger vessels are used for fishing further offshore (for example, beam trawling). Of note, one vessel under 10m length is registered as having Sizewell Beach as its home port.

4.16.10 A number of windfarms have been constructed offshore, including the Greater Gabbard Offshore Windfarm, or are being planned and/or proposed, including the Galloper Offshore Windfarm and the East Anglia One Offshore Windfarm. Various changes to navigation (such as shipping routes) and additional movements (for

example, plant and supplies associated with offshore windfarm construction, operation and maintenance activities) are associated with these developments.

- 4.16.11 Recreational navigation activity in the vicinity of the Main Development Site includes various activities involving different forms of watercraft, and is based at a number of coastal locations to the north and south of the Main Development Site. **Figure 4.16.1** (see **Appendix B**) presents information derived from the Royal Yachting Association's UK Coastal Atlas and identifies the locations of marinas, clubs and training centres, areas for sailing and racing, and cruising routes.
- 4.16.12 Recreational navigation activity (see also **section 4.4** (Recreation)) tends to be highly seasonal and generally restricted to daylight hours, and includes:
- Sea kayaking and canoeing and sailboarding in the creeks and minor rivers;
  - Dinghy and other small boat sailing (and training) in rivers and offshore all coasts up to about 15nm;
  - Cruising (both passage making and day sailing) under motor and sail between shore facilities; and
  - Personal watercraft use in inshore waters.
- 4.16.13 **Figure 4.16.1** (see **Appendix B**) shows the principal recreational sailing routes. However, the actual routes taken are dependent on factors such as winds and tidal streams, so the routes shown only provide an indication of the average courses taken by recreational vessels. The Royal Yachting Association classifies the sailing routes taking into account their usage, as heavy, medium and light routes.
- 4.16.14 Two medium recreational routes – the Coastal Route North and the Long Distance Route North – pass the Sizewell C Main Development Site. The inshore route – the Coastal Route North – passes between Sizewell B's cooling water intake and outfall head structures and Sizewell Bank. To the south of the Sizewell C Main Development Site, at a point off the River Deben, the Coastal Route North becomes a heavy recreational route, while the Long Distance Route North remains a medium recreational route. To the north of the Sizewell C Main Development Site; the Coastal Route North remains a medium recreational route while the Long Distance Route North becomes a heavy recreational route.
- 4.16.15 The coastal waters extending northwards from Aldeburgh and well beyond Sizewell and Southwold are classed as a racing area by the Royal Yachting Association.
- 4.16.16 Recreational activity is particularly popular to the south of the Sizewell C Main Development Site – and particularly south of the River Deben – where heavy recreational routes include the Coastal Route North and other routes connecting the Coastal Route North to the Rivers Deben, Orwell and Stour and to Hamford Water, where there are a number of sailing clubs, training centres and marinas. Hollesey Bay and beyond is classed as a sailing area by the Royal Yachting Association. The Rivers Ore and Alde are medium recreational routes and there are a number of sailing clubs along them. Medium and light recreational routes extend across the North Sea towards popular sailing destinations in the Netherlands and Belgium.

4.16.17 Recreational activity is also popular to the north of the Sizewell C Main Development Site on the River Blythe around Southwold and Walberswick, and as far north as the larger facilities at Lowestoft (connection point into the Norfolk Broads) and Great Yarmouth.

#### **b) Key Environmental Considerations**

4.16.18 The key considerations in respect to navigation will be potential interactions between vessel traffic that would be associated with the Sizewell C Project and other navigation activities and facilities associated with commercial shipping, fishing and recreation. This will include consideration of ship collision risk (with marine structures and other ships) both inshore and offshore, and changes to navigation routes.

4.16.19 In order to enable construction of marine elements of the Sizewell C Project, there would be a need to manage marine traffic approaching and departing from the jetty, and vessels associated with construction of the cooling water infrastructure. It is anticipated that a level of control over other vessel movements would be required, particularly in the immediate vicinity of offshore construction activities, and it is likely that this would be secured through the establishment of temporary buffer zones, notified via Notice to Mariners.

4.16.20 Further navigation studies will be informed by consultation with key stakeholders including:

- Maritime and Coastguard Agency;
- Trinity House (responsible for the safety of shipping and the well being of seafarers);
- Chamber of Shipping;
- Commercial fishing representatives (for example the National Federation of Fishermen Organisations);
- Aggregates extraction companies (including Cemex Marine, Hanson Aggregates);
- Royal Yachting Association and the Cruising Association;
- Harwich Haven Authority;
- Hutchison Ports UK (Port of Felixstowe, Harwich International Container Terminal);
- Associated British Ports (Port of Ipswich, Port of Lowestoft);
- Various local harbour authorities and stakeholders covering fishing harbours, marinas, clubs, moorings and other facilities, particularly on the Rivers Deben, Ore and Alde, and Southwold Harbour; and
- Offshore wind farm developers and notably the developers of the Galloper, Greater Gabbard and East Anglia One offshore wind farms where the grid connection cables come ashore at Sizewell.

4.16.21 Further data will be collated and reviewed to inform the navigation studies, as detailed in **Table 4.16.2**.

Table 4.16.2: Planned Navigation Related Studies

Study	Scope of Study
Navigation Risk Assessment	Further information will be collected on the baseline navigation features and vessel activity in the study area to inform the Navigation Risk Assessment.

## 4.17 Radiological Effects

4.17.1 This section summarises the data gathered on the background radioactivity levels found in the vicinity of the Sizewell C Main Development Site and highlights key considerations for the ongoing design and assessment of the Sizewell C Project of radiological impacts from routine operations.

4.17.2 Everyone in the UK is exposed to background levels of ionising radiation from both natural and man-made sources. The 2005 review of ionising radiation in the UK by the Health Protection Agency<sup>51</sup> evaluated the overall average annual dose as approximately 2.7millisieverts (mSv) (a measure of radiation dose). Natural contributions (e.g. from radon gas and cosmic rays) vary according to location, whilst exposure to man-made sources varies according to occupation, lifestyle and location. Natural sources contribute on average 84% of the total annual dose to members of the public. The highest man-made contributor to dose is medical exposure (e.g. medical X-rays) providing on average 15% of the total annual dose. On average discharges of radioactivity into the environment from industry contributes less than 0.04% a year of the total dose received.

### a) Environmental Baseline

4.17.3 EDF Energy has undertaken surveys and monitoring programmes in order to obtain a more detailed understanding of the background radioactivity levels around the Sizewell C Main Development Site and of the potential implications of any planned radiological discharges.

4.17.4 A summary of surveys and studies completed to date with respect to human and non-human radiological effects is provided in **Table 4.17.1**.

Table 4.17.1: Studies Completed on Human and Non-Human Radiological Effects

Study	Scope of Study
Desk study of data sources for background radioactivity levels	Background radioactivity data has been gathered. These data include a review of the most recent Environment Agency and the Foods Standards Agency 'Radioactivity In Food and the Environment' (RIFE) annual reports. These reports contain the results of radiological sampling and monitoring programmes of food and the environment in the UK.
Radiological walkover survey	A survey, using instruments that can measure levels of radioactivity at and near the ground surface, was undertaken across the Sizewell C Main Development Site in 2010.

<sup>51</sup> *Ionising Radiation Exposure of the UK Population: Review 2005*, S.J. Watson, A.L. Jones, W. B. Oatway and J. S. Hughes, Health Protection Agency, 2005.

Study	Scope of Study
Phase 2 intrusive radiological investigation	Radionuclide concentrations in shallow and deeper soils within the Sizewell C Main Development Site have been determined from soil sampling surveys undertaken from July 2010 to 16 March 2011.
Groundwater monitoring programme	Radionuclide concentrations in groundwater have been assessed. Six groundwater monitoring rounds were carried out between December 2010 and October 2011.
Surface water monitoring	Radionuclide concentrations in the surface freshwater features (ditches and streams) within the study area have been determined from 17 rounds of radiological sampling and in-situ radiological screening undertaken between January 2010 and May 2011, allowing potential seasonal variations to be assessed.
Marine water monitoring	Radionuclide concentrations in marine waters, in the North Sea in the vicinity of the Sizewell C Main Development Site, have been analysed from four separate sampling surveys between May 2010 and February 2011. These results have been compared to routine local Environment Agency monitoring.
Preparatory work to support radiological impact assessment from permitted discharges on humans	<p>This work included the:</p> <ul style="list-style-type: none"> <li>Stack height sensitivity study, using the Atmospheric Dispersion Modelling System (ADMS), was performed to model the atmospheric dispersion of aerial discharges from Sizewell C UK EPR reactors.</li> <li>Evaluation of methodology and parameters for determining the effect of permitted radioactive discharges on the surrounding human population, including calculating realistic Candidates for the Representative Person doses to adult, child (10 year old) and infant (1 year old).</li> </ul>
Preparatory work to support radiological impact assessment from permitted discharges on non-human species	Evaluation of methodology and parameters for determining the effect of permitted radioactive discharges from the proposed Sizewell C development, including assessment of impacts on habitats that are representative of the range of habitats in the locality of Sizewell (i.e. marine, freshwater, terrestrial, coastal and marshland).

## i. Background Radioactivity

- 4.17.5 The historical and current permitted discharges from the Sizewell A and Sizewell B power stations contribute to the background radioactivity levels around the Sizewell C Main Development Site. Through the desk study into background radioactivity levels, data sources were reviewed for appropriateness and mean background values and ranges were established for various radioactive determinands.
- 4.17.6 The levels of radionuclides present in samples, collected by walkover survey close to these locations, were generally consistent with background levels.
- 4.17.7 During 2010, soil samples were taken for radiochemical analysis. The comparison of radiochemical analysis results with adopted background activity and screening values indicated that the soil collected from the study area is consistent with background activity levels and that there is no evidence to indicate the presence of elevated levels of either anthropogenic or naturally occurring radionuclides.

- 4.17.8 Although there are no known drinking water abstractions within the study area and it is considered highly unlikely that the groundwater from the study area would be consumed as drinking water, the groundwater has been screened against drinking water standards. The radiochemical analysis results from the groundwater monitoring programme indicate that the groundwater is not contaminated with anthropogenic radionuclides and that the groundwater does not present a hazard to human health.
- 4.17.9 The radiochemical analysis results indicate that surface waters do not present a hazard to human health. The only anthropogenic radionuclide detected in any of the samples was caesium-137. This radionuclide was detected at a level close to the limit of detection and significantly below its associated WHO guideline value.
- 4.17.10 The radionuclide results from analysis of marine waters indicate that radionuclide concentrations are low and consistent with routine local Environment Agency radionuclide monitoring.

#### ii. Human Receptors

- 4.17.11 The Generic Design Assessment (GDA), undertaken by the UK Government, determined the potential doses to members of the public from the operation of an UK EPR reactor unit for a 'generic' new build nuclear power station site in the UK. This work demonstrated to the regulatory authorities that doses, to members of the public due to discharges of radioactivity from the UK EPR reactor design, would be well within relevant regulatory limits and constraints. This work, carried out as part of the GDA, is expected to bound any site-specific assessment. Work will be undertaken to produce a site-specific radiological assessment.
- 4.17.12 The best available information will be used to determine realistic and relevant characteristics for representative population groups whose habits make them subject to the highest doses. These groups will include different ages: adult, child (10-year-old) and infant (1-year-old).

#### iii. Non-human Receptors

- 4.17.13 Statutory and non-statutory designated sites for nature conservation surround the Sizewell C Main Development Site. Field and desk studies have been completed to determine the types of habitats and species surrounding the Sizewell C Main Development Site (see **sections 4.2** and **4.14**).
- 4.17.14 Relevant habitats will be identified and evaluated for inclusion in the assessment of radiological effects on non-human receptors. During this evaluation, consideration will be given to the dispersion pattern of radioactivity discharged into the atmosphere. The locations of the habitats will be selected to include ecologically designated sites or those where radionuclide concentrations would be highest.
- 4.17.15 Using the ecological survey data and data from Centre for Environment, Fisheries and Aquaculture (CEFAS), an assessment of radiological impacts will be undertaken using the Environmental Risk from Ionising Contaminants: Assessment and Management (ERICA) tool. The identified species will be matched with generic reference organisms available within ERICA. This approach is considered appropriate when modeling the radiological impact of radioactive discharges on non-human species, as detailed radiological parameters of the species actually present in the local environment may not be available.

## **b) Key Environmental Considerations**

4.17.16 Once the proposal for the Sizewell C Main Development Site design has been developed further and the annual discharges for the Sizewell C reactors defined, the next stage of radiological assessments can be undertaken. Details of these assessments are outlined below.

### **i. Human Radiological Effects**

4.17.17 A stack height sensitivity study identified that a minimum stack height of 70 metres<sup>52</sup> would reduce off-site ground level air concentrations and estimated the environmental concentrations at the receptor points, namely habitations and farms based on this minimum stack height. These findings will be incorporated into the design of Sizewell C.

4.17.18 Assessments of doses using predicted environmental concentrations will be undertaken for representative population groups from permitted liquid discharges from Sizewell C into the marine environment and for gaseous discharges into the atmosphere. Relevant exposure pathways will be assessed as a result of routine, continuous discharges to the environment.

4.17.19 For the Sizewell C Project, site-specific assessments will be undertaken to determine the following radiological impacts:

- Doses to the selected representative population groups from routine, continuous releases of liquid and atmospheric discharges;
- Annual doses to the most exposed members of the public from direct radiation exposure to the proposed radioactive waste stores;
- Collective doses to the UK, European and world populations from routine releases of liquid and atmospheric discharges and representative 'per caput' doses (the latter refers essentially to the average dose to individuals within each of these large populations);
- Potential doses to the Representative Person as a result of short-term operational atmospheric discharges;
- Doses due to potential build-up of radionuclides in the environment as a result of discharges during the whole of the proposed period of operation of Sizewell C; and
- Other relevant radiological impact assessments to support construction and operation; such as transport.

4.17.20 The Sizewell A and B power stations will also be taken into account for site dose calculations and to inform an assessment of in-combination effects.

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<sup>52</sup> The final stack height will be determined via ongoing safety and environment case design processes, including regard to the issues of cost, technical limitations, construction and maintenance, civil engineering, visual impact, planning permission and worker dose.

- 4.17.21 For the assessment of radiological impact on humans, the calculated doses will be compared against the radiological protection criteria for public exposure as set by the regulatory authorities (Radioactive Substances Regulation under the Environmental Permitting (England and Wales) Regulations 2010 (as amended)).
- 4.17.22 The assessment of human radiological impacts will build on the work which has already been done during the GDA process. The GDA process included an assessment of human radiological impacts for the operation of an UK EPR reactor unit for a 'generic' new nuclear power station site in the UK. The GDA assessment concluded that the human impact was well within regulatory limits and constraints. The site-specific radiological impact assessment for the proposed operation of Sizewell C is expected to be well within the envelope set in the GDA.

#### ii. Non-human Radiological Effects

- 4.17.23 Air, soil and water activity concentrations in the selected habitats presented above will be calculated using dispersion models. ERICA assessments will be performed for each of the habitat locations and for each of the power station authorised discharge limits.
- 4.17.24 ERICA assesses routine continuous discharges and calculates doses for the non-human species. The assessment will be compared against relevant regulatory guidance.
- 4.17.25 The assessment of radiological impacts on non-human species will take into account the particular characteristics of the natural environment in the locality of Sizewell. The assessment follows up the work which has already been done during the GDA process. The GDA has determined the potential doses to a range of non-human species from the operation of an UK EPR reactor unit for a 'generic' new nuclear power station site in the UK. The GDA assessment concluded that the impact on non-human species was negligible. The site-specific radiological impact assessment for non-human species for the proposed operation of Sizewell C is expected to be well within the envelope set in the GDA.

#### iii. Summary of Planned Studies

- 4.17.26 A summary of the survey and radiological assessment work that is proposed to be undertaken is provided in **Table 4.17.2**.

Table 4.17.2: Planned Studies to be Undertaken with Respect to Human and Non-Human Radiological Effects

Study	Scope of Study
Site-specific assessment of human radiological impacts from discharges	<ul style="list-style-type: none"> <li>• Dose calculations will be undertaken using PC CREAM 08<sup>53</sup>.</li> <li>• Assessments of doses using predicted environmental concentrations will be undertaken for Candidates for the Representative Person as a result of liquid discharges from Sizewell C into the marine environment and for gaseous discharges into the atmosphere.</li> <li>• Review of groundwater and surface water receptors against potential follow-up site investigations</li> </ul>
Site-specific assessment of non-human radiological impacts from discharges	<ul style="list-style-type: none"> <li>• Air, soil and water activity concentrations will be calculated using dispersion models.</li> <li>• ERICA assessments will be performed for each of the habitat locations and with regard to each of the power station authorised discharge limits.</li> <li>• Contributions from noble gases will be calculated using the Environment Agency R&amp;D128 method.</li> <li>• Review of groundwater and surface water receptors against potential follow-up site investigations.</li> </ul>

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<sup>53</sup> HPA-RPD-058 describes The Methodology for Assessing the Radiological Consequences of Routine Releases of Radionuclides to the Environment Used in PC-CREAM 08.

# 5. OFF-SITE ASSOCIATED DEVELOPMENT SITE OPTIONS

## 5.1 Introduction

5.1.1 This section of the ER presents preliminary environmental information for each potential off-site associated development option. The preliminary environmental information presented in this section has been principally drawn from desk study and site visits and is considered sufficient to allow the key likely environmental issues associated with each option to be identified and taken account of in the selection of preferred sites. The sites that are taken forward following the Stage 1 consultation will be subject to detailed assessment as part of the EIA process.

5.1.2 The associated development requirements include:

- a large temporary accommodation campus to house between about 2,000 and 3,000 non-home-based construction workers who would build Sizewell C;
- two temporary park and ride sites for around 1,000 cars; these would be located close to the A12 with one intercepting traffic coming from the north and one intercepting traffic coming from the south. In addition, a postal consolidation facility and construction induction centre may be located at the same site as the park and ride; and
- a temporary freight management facility with space for around 50 to 100 HGVs to help control traffic flows in and out of the Sizewell C Main Development Site and provide somewhere to hold vehicles temporarily, for example, if there is an incident on the highway network. It is not yet certain if there is need for such a facility, but if there is, EDF Energy's preferred option is to co-locate it with the southern park and ride as it would avoid development of another site and any consequential environmental effects, although sites for a standalone facility on the A14 are also being considered.

5.1.3 EDF Energy has been through a robust process to identify potential suitable sites for associated development and then to consider their advantages and disadvantages in terms of their location, size and technical and environmental considerations. On the basis of this work, EDF Energy is confident that the site options that are proposed are, on balance, preferable to alternatives that have been considered and discounted.

5.1.4 The search area for potential accommodation campus sites was defined to the north by Theberton, and to the south by Leiston. Sites further afield were not considered because this would not deliver the advantages of a close to site accommodation campus in terms of convenience for workers, efficiency of operation and significant benefits in terms of limiting traffic impacts on local communities.

5.1.5 The search area for the northern park and ride sites was defined to the south by the A12/B1122 road corridor north of Theberton. The search area for the southern park and ride was defined by the A12 road corridor between Woodbridge and Friday Street (the existing A12/A1094 road junction).

- 5.1.6 The identification and appraisal of each site option has been informed by a range of data sources, including Ordnance Survey mapping, aerial photography, Envirocheck reports, Natural England and Environment Agency data, Local Development Plans and site visits. This has enabled the principal environmental constraints and opportunities to be identified to inform the site selection process and the Schematic Zoning Diagrams for each site, subject to further consideration following the Stage 1 consultation.
- 5.1.7 In addition to the aforementioned associated development categories, EDF Energy envisages that rail would play an important role in delivering freight to site. The Stage 1 consultation sets out a number of proposals for enhancing the scope for rail freight movements (including providing support to Network Rail to construct a new passing loop at Wickham Market station) and invites views on:
- a new rail terminal and freight laydown area north of King George’s Avenue; and
  - EDF Energy’s preferred option of temporarily extending the rail line into the construction site.
- 5.1.8 The potential environmental issues associated with these rail options, and the key considerations should they be taken forward, are presented in **section 5.6**.
- 5.1.9 The Stage 1 consultation also considers the need for potential improvements to the A12 as a result of Sizewell C generated road traffic. It concludes that existing issues associated with the narrow bend in the village of Farnham could be exacerbated by Sizewell C traffic during peak construction periods. The **Transport Strategy and Supporting Information** document identifies three possible solutions:
- a Farnham Bypass;
  - road widening at Farnham bend; and
  - HGV traffic controls at Farnham bend.
- 5.1.10 The potential environmental issues associated with these options are presented in **section 5.7** of this ER.
- 5.1.11 The final category of associated development to be considered within this ER is the proposed Visitor Centre. The Visitor Centre would be a joint facility with Sizewell B, eventually replacing the one associated with the existing power station. Three possible locations have been identified, one within the Sizewell C Main Development Site and two off-site, and the potential environmental issues associated with each are presented in **section 5.8**.

## 5.2 General Environmental Considerations

- 5.2.1 A key aspect of the site selection process has been the desire to avoid and reduce potential adverse environmental effects. This has been manifest in the process of site identification as well as in the drawing up of site boundaries and Schematic Zoning Diagrams. As a consequence, the majority of site options have the following characteristics:
- the majority of the sites are arable land in a rural or semi-rural setting;

- there are no ecological designations within any site (and with only two exceptions there are none within the immediate proximity of the site);
- all sites are within Flood Zone 1, i.e. there is little or no flood risk, although it is recognised that further work will be required for those sites that are taken forward to ascertain how surface water is to be managed, especially in relation to the use of Sustainable Drainage Systems (SuDS). This will include early discussions with Suffolk County Council as the Lead Local Flood Authority, as well as ascertaining if there are any historical surface water flooding issues affecting any of the sites. The Environment Agency has provided EDF Energy with district level surface water flood maps for the Suffolk Coastal and Ipswich areas. Two rainfall events have been modelled and mapped (one with a 1 in 30, and the other with a 1 in 200 chance of occurring in any year), showing areas where surface water would be expected to flow or pond. These maps show areas at risk from flooding and provide an important data source which will inform future assessment and management of surface water issues; and
- generally there are no watercourses on or near the sites.

5.2.2 Despite efforts to avoid potential environmental constraints and sensitive receptors, there are a number of general considerations that affect some or all the site options, including:

- some sites are located within the Suffolk Coast and Heaths AONB. Sites have only been identified within the AONB where no reasonable alternatives exist, other than those included in this consultation. It is noted that EDF Energy's preferred campus option is located outside but adjacent to the AONB;
- there would be potential effects on landscape character and visual amenity at some sites;
- there would be potential effects on areas of ecological value at some sites;
- there would be potential effects on heritage assets at some sites;
- there would be potential effects on public rights of way at some sites; and
- there are likely to be some localised noise, dust and lighting issues at some sites.

5.2.3 This does not mean that the potential adverse environmental effects of the proposed sites are in all cases less significant than those for discounted sites. However, on balance, EDF Energy considers that the proposed sites best meet the strategic needs of the Project whilst avoiding or reducing likely significant adverse effects.

5.2.4 There are certain matters, that relate to all the sites, which will require further investigation (during the EIA process) once preferred locations have been identified, but are not key determining factors in the site selection process. These include the requirements for raw water supply and sewage treatment (particularly in relation to the accommodation campus) which may mean that existing raw water supplies and wastewater treatment facilities need to be upgraded or reinforced, or bespoke facilities provided to serve the associated development, such as package treatment. Early consultation will be carried out with Anglian Water regarding the possibility of connecting to the foul sewer, especially in relation to the preferred campus option.

5.2.5 Further investigation will also be required to define the ground conditions at the preferred sites, including the depths to, and quality of, groundwater, and the

underlying geology. Amongst other things, this will assist in determining the appropriateness and design of sustainable drainage measures. The geology underlying the majority of campus and park and ride sites is likely to consist of Lowestoft Till (Superficial Lowestoft Formation), in places underlain by Glaciofluvial Deposits, underlain by Crag Group (Crag Sand). The geology underlying the freight management sites is likely to consist of Kesgrave Formation (Kesgrave Catchment Subgroup) and Glaciofluvial Deposits, both underlain by Crag Group (Red Crag).

- 5.2.6 Although a significant amount of further work on the layout of the preferred sites will be required, initial consideration has been given to opportunities for retaining existing trees and hedgerows, where practicable, in order to help screen and integrate the sites, to provide new screen woodland planting and also to locate 'softer' uses such as soil storage close to nearby sensitive receptors such as properties in order to help screen them from potential adverse environmental effects. Consideration has also been given, during site selection and examination of initial site layouts, to the restoration of the sites after construction of Sizewell C is completed, and the potential for legacy uses that may benefit the local community.
- 5.2.7 The proposed off-site associated development site options have not been considered in isolation but in the context of potential constraints and opportunities associated with development of the Sizewell C Project as a whole, including the northern access road and construction areas associated with the Sizewell C Main Development Site.
- 5.2.8 **Figure 5.2.1** shows the location of the accommodation campus, park and ride and freight management site options.

Figure 5.2.1: Location of Off-site Associated Development Site Options



## 5.3 Campus Accommodation

### a) Introduction

5.3.1 A construction workforce profile (see **section 3**) has been developed to understand the volume and nature of workforce requirements during the construction phase. This has been used to help formulate accommodation and transportation strategies for the Project.

5.3.2 The indicative specification for the campus accommodation is as follows:

- between about 2,000- and 3,000-bed capacity;
- a site in excess of 30 hectares;
- security fencing and lighting;
- 3-4 storey accommodation buildings;
- ancillary buildings, such as canteen and building services;
- bus terminus and car-parking;
- internal circulation roads;
- external recreational areas;
- drainage attenuation;
- soil storage for site restoration; and
- landscape areas.

### b) Site Options

5.3.3 Three potential campus sites are proposed as follows (see **Figure 5.3.1, Appendix B** and **Figures 5.3.2 – 5.3.4**):

- Option 1 – Development Site Campus;
- Option 2 – Sizewell Gap Campus; and
- Option 3 – Leiston East Campus.

5.3.4 The following sections present a description of the known environmental features and constraints within and in close proximity of each of the site options, and outline the key aspects to be addressed should the site be taken forward as the preferred location for the Accommodation Campus following the Stage 1 consultation.

#### i. Option 1 – Development Site Campus

5.3.5 Option 1 comprises two parcels of land totalling approximately 34 hectares in size and is located just to the north of the proposed construction site entrance off Abbey Road (B1122) (see **Figure 5.3.2**). It adjoins the Sizewell C Main Development Site construction area to the east and to the south. This would mean that workers could walk to work, thereby avoiding the need for buses and, consequently, reducing traffic generation. The site is split into two areas – a western area and an eastern area. The two areas are separated by a minor road (which is also the route of a Sustrans regional cycle route 42), which runs between the B1122 and the nearby village of Eastbridge. This public road would be kept open.

Figure 5.3.2: Accommodation Campus Option 1 – Schematic Zoning Diagram



- 5.3.6 The Sandlings Walk bridleway runs along the site's eastern boundary.
- 5.3.7 The site is generally flat with a slight slope from south to north. The western area is in arable use. The eastern area was also under arable use until recently but has since been mostly grass-seeded and has been managed by EDF Energy as a potential site for the translocation of reptiles captured within the Sizewell C Main Development Site construction area. The reptile mitigation strategy will now be reviewed in light of the proposed Sizewell C Main Development Site access arrangements and campus accommodation requirements.
- 5.3.8 There is a small former sand or clay working located on-site midway along its eastern boundary. It is envisaged that if this site were taken forward, this working would be infilled to maximise the built development area of the campus site.
- 5.3.9 The eastern boundary of the site abuts the Suffolk Coast and Heaths AONB and is within and at the eastern tip of the extensive Minsmere River Special Landscape Area (SLA). Woodland to the west of the site would limit adverse effects on landscape character due to its enclosing nature, but the effects on the AONB and SLA will need to be considered further, together with the effects of the Sizewell C Main Development Site construction area, if this site is taken forward.
- 5.3.10 The development would be set back into the site around the Round House, a private residence located to the north east of the site, and the intervening site boundary would be screened, to help minimise potential adverse environmental effects.
- 5.3.11 The site is not in immediate proximity of protected sites of importance for nature conservation (Sizewell Marshes SSSI is located approximately 900m south-east of the site and Minsmere-Walberswick Heaths and Marshes SSSI 800m to the north) but is close to known barbastelle bat commuting routes and roosts and other features

of conservation importance including a Natterer's bat breeding roost and a known hibernation roost. The importance and sensitivity of the site's eastern boundary is recognised and will be taken into account in the masterplanning of the site.

- 5.3.12 Upper Abbey Farmhouse and the Barn (both Grade II Listed Buildings) are located in the south-eastern most part of the site. The Farmhouse is currently undergoing repair following a fire. The need to protect and enhance the setting of these assets is recognised by EDF Energy and the existing perimeter screening would be retained. There may be the potential to improve these buildings for administrative offices or another suitable use as part of the campus development. This will be considered following the Stage 1 consultation.
- 5.3.13 Part of the site has previously been subject to an archaeological geophysical survey. The bridleway (Sandlings Walk) which runs to the east of the site is potentially an important Historic Landscape feature. The potential for heritage assets will require further investigation if this site is taken forward.
- 5.3.14 The site is located approximately 330m north of Leiston Abbey, which comprises a Grade I Listed Building and Scheduled Monument. There would be no direct effects on Leiston Abbey and existing and proposed planting on the boundary of the site in the south-west corner and southern edge would reduce the potential effects on setting. This has been further assisted by locating the potentially more visible accommodation within the eastern parcel of land, and the external recreation area and car parking on the western parcel away from the more sensitive southern boundary of the site.
- 5.3.15 The site is not crossed by any watercourses, although a licensed groundwater abstraction is located within the site boundary at Upper Abbey (general farming and domestic).
- 5.3.16 In summary, the key environmental considerations are as follows:
- the site is generally well enclosed by mature woodland and trees, however, the potential visibility of structures and lighting will be important;
  - the relationship of the site within the Suffolk Coast and Heaths AONB and the Minsmere River SLA;
  - the presence of protected species, particularly bats and their corridors for movement; and
  - the setting and positive use of the listed Abbey Farm complex.

## ii. Option 2 – Sizewell Gap Campus

- 5.3.17 Option 2 is approximately 45 hectares in size and is located to the east of Leiston and to the north of Sizewell Gap. This site is also one of the three potential locations for a Visitor Centre (see **Figure 5.3.3**). The site is predominantly arable land (Grade 4), although it also contains small areas of grassland, scattered trees and tree planting along the road. The site is generally flat with a slope from west to east of approximately 5m and a slope in the north-south direction. The arable land along the site's eastern boundary has been avoided as this area is identified by Galloper Wind Farm Ltd as a potential site for landscaping associated with their proposed Galloper Offshore Wind Farm nationally significant infrastructure project.

Figure 5.3.3: Accommodation Campus Option 2 – Schematic Zoning Diagram



- 5.3.18 In defining the site boundary, EDF Energy has sought to avoid the higher value semi-natural grassland and open heathland that exists immediately to the north-east.
- 5.3.19 The site lies within the Suffolk Coast and Heaths AONB. Potential effects on the AONB, including landscape effects, views in and out and the effect of lighting on the AONB will be key considerations if this site is taken forward. Although temporary development of this site would delay the delivery of the emerging landscape strategy, some habitat creation could take place in the northern parts of the site during the construction phase.
- 5.3.20 Visual effects could be experienced by local residents, users of trails and public rights of way; and visitors to the area, including those on route to Sizewell beach. There is existing semi-mature woodland planting on the southern and western boundaries of the site, which would assist in creating a buffer/screen between the campus and nearby properties and Sizewell Gap.
- 5.3.21 There is a Site of Special Scientific Interest (Sizewell Marshes SSSI) within 50m of the north-eastern boundary of the site and another (Leiston-Aldeburgh SSSI) within 20m to the south beyond some residential properties. The ecological area to the south is also designated at European level (Sandlings SPA). The site to the south is grassland, scrub and open heathland, which supports rare birds such as nightjar and woodlark that are sensitive to disturbance. Part of the northern-most area of this SPA, close to the site, also includes a field grazed by horses. It is unlikely that the proposed campus would have any direct adverse effects on any of these designated sites but indirect effects, e.g. due to disturbance or lighting, are possible and will need to be carefully examined if the site is taken forward.
- 5.3.22 There are no designated heritage assets located within the site boundary, however, archaeological remains relating to the medieval period were found to the east of the site during investigations associated with the onshore works for the Greater Gabbard

Windfarm project. There is therefore the potential for archaeological assets within the site and this will require further investigation if this site is taken forward.

5.3.23 The site is not crossed by any watercourses and no abstraction points are located within the site boundary; a number of groundwater abstraction points are present in the vicinity, but all are more than 200m from the site.

5.3.24 In summary, the key environmental considerations are as follows:

- the site's location within the Suffolk Coast and Heaths AONB;
- the proximity to Sizewell Marshes SSSI and Leiston Aldeburgh SSSI (also Sandlings SPA) and potential for disturbance due to lighting in particular;
- the potential for archaeological assets within the site; and
- the potential for visual effects at nearby residential properties and from public rights of way.

### iii. Option 3 – Leiston East Campus

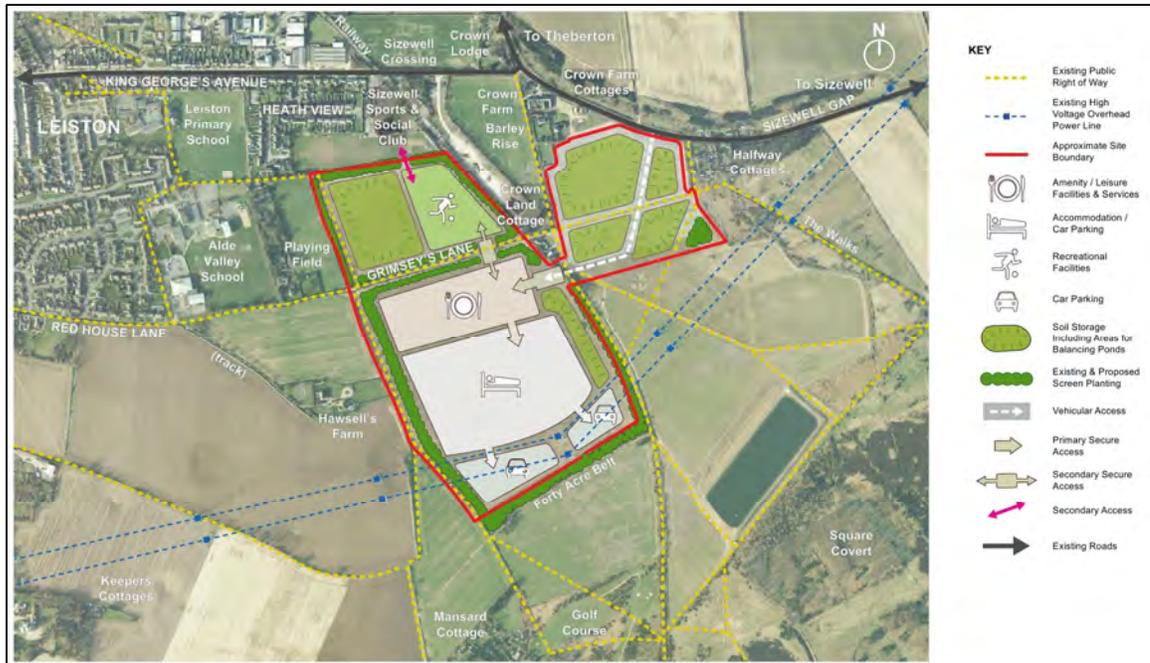
5.3.25 Option 3 is approximately 41 hectares of principally Grade 3 arable land and is located to the east of Leiston, with the main part of the site positioned to the west of existing rail head and dismantled railway. The northern boundary of the site lies to the rear of the Sizewell Sports and Social Club that is owned by EDF Energy. The north-western boundary abuts a school sports field with residential properties beyond the school. Within the southern end of the plot there are existing high voltage overhead power lines along with a pair of pylon structures (see **Figure 5.3.4**). The site is generally flat with a slight slope from west to east, and is separated by a public bridleway (Grimsey's Lane). If the site were to be taken forward, the bridleway would be kept open.

5.3.26 Given the close proximity of the site to Leiston, this campus accommodation option has the greatest potential to benefit local businesses (although it is also acknowledged that there would be an increase in demand for public services and community resources). This will be subject to more detailed socio-economic assessment if this site is taken forward.

5.3.27 There is a single private residence (Crown Lands Cottage) located next to Grimsey's Lane at the corner between the Sizewell C Main Development Site area and the proposed access corridor from Sizewell Gap. This property would be susceptible to potentially adverse effects from the development from noise, dust, traffic, lighting etc. Careful masterplanning of the site, and mitigation during the construction and operational phases, will be needed to minimise these potential nuisance effects, if the site is taken forward.

5.3.28 Likewise there would be similar potential effects on the nearest residential area at Heath View and also on Crown Farm Cottages, Halfway Cottages and the few other scattered properties within a few hundred metres of the site which will also need to be carefully assessed and appropriate mitigation provided.

Figure 5.3.4: Accommodation Campus Option 3 – Schematic Zoning Diagram



- 5.3.29 In addition to Grimsey's Lane, there is a network of bridleways and footpaths within and around the site. Subject to further, more detailed, design of the site layout, the intention is that these would be kept open and retained in their current alignment.
- 5.3.30 The eastern part of the site is within the Suffolk Coast and Heaths AONB. Although the main function for this part of the site would be to create new access from Sizewell Gap and for soil storage, rather than accommodation, the potential for direct effects and the effects on AONB from the campus overall will be an important consideration if this site is taken forward.
- 5.3.31 There is a Site of Special Scientific Interest (Leiston-Aldeburgh SSSI) within 200-250m of the proposed site to the south. The designation also extends to the east of the site and adjoins the proposed road corridor to Sizewell Gap. This area to the south and east is also designated at European level (Sandlings SPA). The designated area includes grassland, scrub and open heathland, which support rare birds such as nightjar and woodlark that are sensitive to disturbance. Part of the northern-most area of this SPA, close to the site, also includes a field grazed by horses. It is unlikely that the proposed campus would have any direct adverse effects on any of these designated sites but indirect effects, e.g. due to disturbance or lighting, are possible and will need to be carefully examined if the site is taken forward.
- 5.3.32 Although the site is largely arable land, possible wildlife corridors, including mature hedgerows around the site and the Forty Acre Belt to the south, will need to be examined to ensure that potential adverse effects on wildlife are reduced.
- 5.3.33 There are no designated heritage assets located within the site boundary or within 250m of the site.

5.3.34 There are no watercourses in close proximity of the site, although a number of groundwater abstraction points lie close to the site boundary. Construction and development works would need to take into account possible impacts on the quality and quantity of existing groundwater abstractions.

5.3.35 In summary, the key environmental considerations are as follows:

- the site's proximity to Leiston and a number of close-by residential properties and community facilities and the potential for effects on amenity;
- the site's location partly within the Suffolk Coast and Heaths AONB;
- the adjacent SPA/SSSI, especially disturbance to rare birds; and
- potential effects on PRowS.

## 5.4 Park and Ride

### a) Introduction

5.4.1 Land requirements for park and ride facilities have been estimated based on the following:

- Car parking areas with up to approximately 1,000 spaces per site;
- Bus terminus and parking, including shelters;
- Perimeter security fencing and lighting;
- Welfare building including toilets, drivers rest room, and security and administration offices;
- On-site soil storage pending site restoration once Sizewell C is built;
- External areas including roadways, footways and landscape planting; and
- A 5-10m buffer between built development and the site boundary.

5.4.2 Additionally, the possibility of co-locating an induction centre for construction workers and a postal consolidation facility - either within the northern or southern park and ride - is being considered. Should a freight management facility also be required (see **section 5.5** for more details) it may also be located on the southern park and ride, although sites for a standalone facility on the A14 are also being explored.

5.4.3 Six potential park and ride sites have been identified close to the A12, three to the north of the Sizewell C Main Development Site and three to the south, as follows:

#### i. Northern Park and Ride Sites

- Option 1 – Yoxford Road;
- Option 2 – Darsham; and
- Option 3 – A12/A144 Junction.

5.4.4 **Figure 5.4.1** (see **Appendix B**) shows the locations of the proposed northern park and ride sites. **Figures 5.4.2 – 5.3.4** show the Schematic Zoning Diagrams for the proposed northern park and ride sites.

Figure 5.4.2: Park and Ride North Option 1 – Schematic Zoning Diagram



Figure 5.4.3: Park and Ride North Option 2 – Schematic Zoning Diagram



Figure 5.4.4: Park and Ride North Option 3 – Schematic Zoning Diagram



## ii. Southern Park and Ride Sites

- Option 1 – Wickham Market;
- Option 2 – Woodbridge; and
- Option 3 – Potash Corner.

5.4.5 EDF Energy has identified Option 1 Wickham Market as its preferred southern park and ride site due to the shorter distance to the Sizewell C Main Development Site and ease of access.

5.4.6 The following section presents a description of the known environmental features and constraints within and in close proximity of each of the site options, and outlines the key aspects to be addressed should the site be taken forward as the preferred location for the northern or southern park and ride following the Stage 1 consultation.

5.4.7 **Figure 5.4.5** (see **Appendix B**) shows the locations of the proposed southern park and ride sites. **Figures 5.4.6 – 5.3.8** show the Schematic Zoning Diagrams for the proposed southern park and ride sites.

Figure 5.4.6: Park and Ride South Option 1 – Schematic Zoning Diagram



Figure 5.4.7: Park and Ride South Option 2 – Schematic Zoning Diagram



Figure 5.4.8: Park and Ride South Option 3 – Schematic Zoning Diagram



## b) Northern Park and Ride Options

### i. Option 1 – Yoxford Road

- 5.4.8 Option 1 is approximately 23 hectares and located next to the B1122 (Yoxford Road), north of Littlemoor Road and approximately 1.5km to the southeast of Yoxford. This option is well placed to intercept southbound commuter traffic from the A12 near Yoxford. It is also ideally placed to intercept commuters travelling east along the A1120 without the need to divert north along the A12, as would be required with the other two options. The site would not have any beneficial impact on traffic flows through Yoxford but would reduce traffic passing through Theberton.
- 5.4.9 The site has no public rights of way passing through it or adjoining its boundary. The closest public right of way is located on the opposite side of the B1122 near Moor Farm.
- 5.4.10 The site is made up of arable fields (Grade 2), separated by hedges, and is generally well screened locally by small blocks of woodland and established hedgerows. The topography is flattest and highest in the southern-most field from where the land falls away in a northerly and north-easterly direction towards to B1122 road.
- 5.4.11 Owing to the local topography and existing vegetation, the southern half of the site and the section along the B1122 frontage are reasonably well screened locally, whereas the central portion, on inclining ground, is more open in aspect, with potential long-distance views from the generally higher ground to the north of the Yoxford Road. If this site is taken forward, this will need to be taken account of in masterplanning. There is potential to optimise site layout using the existing natural screening. Consideration will be given to retaining and reinforcing existing hedgerows

along internal field boundaries, and also to new hedgerow and woodland planting to improve screening of the development from long-distance views.

- 5.4.12 The site lies approximately 2.5km to the west of the Suffolk Coast and Heaths AONB at its closest point and there would be no effects on the AONB due to topography, distance and intervening vegetation. The site lies less than 150m to the south of the Minsmere River SLA. The potential effects on the SLA will need to be considered. Rookery Park, a locally registered Park and Garden, lies approximately 500m to the north-west, although wooded areas mean there is no inter-visibility. As for all the park and ride options, careful design of lighting will be required to limit unwanted light spill beyond the sites.
- 5.4.13 There is a residential property and a care home called Norwood House at the junction between the B1122 and Littlemoor Road at the site's eastern corner. The care home is registered to provide care for older people and people suffering from dementia and other mental health issues. It is anticipated that the eastern part of the site close to these receptors would be used for soil storage and landscape mitigation.
- 5.4.14 There are no ecological designations within 1km of the site. The site is arable land bound by scattered hedgerow supporting mature trees; small woodland blocks adjoin the northwest and west of the site. There are ponds present on-site and within 500m of the site, which could support breeding great crested newt. Woodland and trees which border the site have the potential to support roosting bats and will be a key consideration if this site is selected. Such potential ecological receptors will need to be investigated but are unlikely to present an insurmountable constraint to development of the site.
- 5.4.15 There are no designated heritage assets located within the site, although there are three listed buildings within 500m of the eastern boundary and one at just over 500m from the western boundary. Further consideration will need to be given with respect to the setting of these assets if this site is taken forward.
- 5.4.16 There are no licensed discharges within 500m of the site boundary. The nearest licensed abstraction is located approximately 700m to the north of the site at Trustans Farm (surface water, spray irrigation licence). The site is served by perimeter drainage ditches (draining to ground) on the north and western boundaries.
- 5.4.17 In summary, the key environmental considerations include:
- The presence of a residential care home at the site's eastern corner;
  - Potential landscape and visual effects, especially in relation to Minsmere River SLA to the north;
  - Habitats within and bordering the site, which have the potential to support protected species; and
  - The setting of listed buildings within the site's vicinity.

## ii. Option 2 – Darsham

- 5.4.18 Option 2 is approximately 28 hectares in area and is a triangular-shaped site located to the north of Darsham Station, with the A12 to the east and the railway line to the west. It is the most southerly of the northern park and ride sites located on the A12 and is well positioned for the A12 and A144. Subject to train and worker shift times, the proximity of the railway station may provide opportunities for workers to travel by train and use the park and ride facilities to get to and from the Sizewell C Main Development Site. The site has no public rights of way passing through it or adjoining the site boundary.
- 5.4.19 The site is predominantly arable land (Grades 2 and 3). The northern half is generally flat in a north-south direction and has a slope from east to west of up to 5 to 6m. Within the southern half of the site the land falls significantly from north-east to south-west by up to 10m. Consideration will therefore need to be given to 'cut and fill' balancing to minimise the production of surplus spoil.
- 5.4.20 The site is quite open in aspect and is generally without hedgerows marking field boundaries. There are a number of properties along the site's A12 frontage which are, however, screened from the site by mature planting. The proximity of these properties will require further consideration if this site is taken forward.
- 5.4.21 The site lies approximately 4km to the west of the Suffolk Coast and Heaths AONB at its closest point. As a consequence of distance and topography, there would be no adverse effects on the AONB. The site lies approximately 600m to the north of the Minsmere River SLA. The site benefits from being partially screened by the woodland that exists along part of its western boundary as well as vegetation to the east, associated with the existing properties. The potential effects on the SLA will need to be considered further if this site is taken forward.
- 5.4.22 There are no statutory ecological designations within 1km of the site. The woodland could potentially support roosting bats and this will need to be investigated further if this site is taken forward.
- 5.4.23 There are no designated heritage assets located within the site boundary or the 250m study area around the site.
- 5.4.24 The nearest consented discharge to freshwater is a sewage disposal into a tributary of the River Yox, located approximately 160m to the south-east of the site. There are no surface water abstractions within 500m of the site boundary. Several groundwater abstractions are present, the nearest of which is located approx 60m to the west of the site. A small watercourse is located approximately 250m to the south-west of the site and flows into the Minsmere Old River, which is approximately 1250m downstream. The Minsmere Old River forms part of the 'Leiston Beck and Minsmere Old River' Water Framework Directive (WFD) (heavily modified) waterbody.
- 5.4.25 In summary, the key environmental considerations include:
- The site's proximity to residential properties along the site's A12 frontage;
  - The presence of Minsmere River SLA approximately 600m to the south;
  - The potential for woodland to support protected species; and

- The presence of several groundwater abstractions in the vicinity of the site.

### iii. Option 3 – A12/A144 Junction

- 5.4.26 Option 3 is approximately 15 hectares in area and is located to the east of the A12 opposite the A12/A144 junction. It includes the former ‘Little Chef’ (now closed) on the existing minor road junction. The site is in arable use (Grade 3) and is generally flat with a slight slope from west to east.
- 5.4.27 The site has no public rights of way passing through it or adjoining the site boundary. The closest public rights of way are located west of Peacock Farm (on the other side of the A12) and south of Lymballs Lane (to the south of the site).
- 5.4.28 The site lies a little over 2.5km to the west and south-west of the Suffolk Coast and Heaths AONB. Visual effects on the AONB are unlikely at this distance. The site lies approximately 1.7km to the north of the Minsmere River SLA.
- 5.4.29 There are a number of residential properties close to the site that will need to be considered further in terms of potential effects from noise, air quality and lighting if this site is taken forward. This is reflected in the initial Schematic Zoning Diagram (see **Figure 5.4.4**), which indicates car parking in the centre of the site and allows for soil storage and planting on the site boundaries.
- 5.4.30 There are no ecologically designated sites within 1km of the site and, given the arable nature of the site itself, there is unlikely to be significant ecological interest.
- 5.4.31 There are no designated heritage assets located within the site, however, there is one Grade II Listed Building (Stone Cottage) that is located within 250m (on the other side of the A12 at the junction between the A12 and A144). Further Grade II Listed Buildings are present in the wider vicinity. A moated site at Lymball’s Farm (Scheduled Monument) is located approximately 700m south-east of the site boundary. The potential for below ground archaeological remains will be an important consideration and further studies, surveys and consultation with Suffolk County Council Archaeological Conservation Team may be required.
- 5.4.32 There are two licensed discharges within the study area and a pollution incident is reported to have occurred on site in 1998. The discharges are listed as to surface waters, however, there is no evidence of watercourses from examination of OS maps and site visits.
- 5.4.33 In summary, the key environmental considerations include:
- the presence of a number of residential properties close to the site;
  - the potential for below ground archaeological remains (a Scheduled Monument is present approximately 700m south-east of the site);
  - the setting of nearby Grade II Listed Buildings; and
  - the presence of Minsmere River SLA approximately 1.7km to the south.

## c) Southern Park and Ride Options

### i. Option 1 – Wickham Market

- 5.4.34 Option 1 is approximately 25 hectares in area and is located at the grade separated junction between the A12 and B1078/B1116 to the north-east of Wickham Market. The site comprises two areas: one which is located to the north of the northbound A12 merge slip road lane; and one which is located between the slip road and the A12 dual carriageway. This is the preferred southern park and ride option due to its shortest journey time to the Sizewell C Main Development Site, and good existing access arrangements.
- 5.4.35 The site is approximately 4.5km to the north-west of the Suffolk Coast and Heaths AONB at its closest point and at this distance, given the intervening landscape, would not result in impacts upon this designation. The site is adjacent to the River Deben SLA, which lies to the west. The site occupies elevated ground, and woodland to the north and topography means there are long-distance views only from the south, south-east and south-west. The site would be visible from footpaths and potentially from some dwellings on the northern and south-east edges of Wickham Market. If this option is selected these sensitivities will be taken account of in masterplanning, lighting and planting proposals.
- 5.4.36 There are no residential properties near the site boundary, with the closest private residential property located more than 100m away (on Main Road to the west); Glevering Lodge lies approximately 180m to the west. The locally registered Glevering North Park is located to the west of the site, beyond the B1116 road.
- 5.4.37 There are no public rights of way crossing the site, although a public bridleway runs along a short stretch of its south-eastern boundary - to a disused pit - before veering off to the far side of an adjacent field and then returning to rejoin the eastern edge of the site at Wonder Grove, linking to the B1116.
- 5.4.38 There are no statutory ecological designations within 1km of the site. The site consists of arable land (Grade 3), so ecological value is limited. There are, however, woodland blocks (Wonder Grove and Within Belt) that adjoin the site boundary to the north and east, which could support bat roosts, and there is a pond on-site (which could support breeding great crested newts) with others present within 500m of the site. These will be key considerations if this site is taken forward.
- 5.4.39 There are no designated heritage assets located within the site boundary or 250m of the site. However, as is indicated on the OS base mapping and from previous discussions held with Suffolk County Council Archaeological Conservation Team, there is a 'Settlement (site of)' at or adjacent to this location. A Romano-British Settlement (Hacheston), which was partly excavated in the early 1970s along the line of the Wickham Market Bypass (A12) and this settlement is likely to extend onto the site. An archaeological geophysical survey is planned in order to help characterise the nature and extent of any archaeology. This will help inform the scope of any intrusive investigations of the site if this site is taken forward.
- 5.4.40 There are three Grade II Listed Buildings within 500m of the site boundary, the closest of which is approximately 250m to the south.

- 5.4.41 The site lies within ground water Source Protection Zone 2, which should not present a constraint to development of the site provided appropriate design/construction management in order not to provide pathways for potential pollution.
- 5.4.42 The nearest consented discharge is to land (groundwater) and is located approximately 55m to the north-east of the site boundary. The nearest consented discharge to surface waters is located approximately 350m to the south-east of the site and relates to sewage disposal from domestic properties. The nearest surface abstraction is from Marsh Drain at Bridge Farm, for spray irrigation purposes.
- 5.4.43 In summary, the key environmental considerations include:
- habitats within and bordering the site, which have the potential to support protected species;
  - the potential for below ground archaeological remains (based on nearby findings during construction of the A12);
  - the visibility of the site from the south and south-west;
  - the setting of nearby Grade II Listed Buildings (beyond the A12);
  - the presence of a public bridleway along parts of the site boundary; and
  - the site's location within a groundwater Source Protection Zone 2.

#### **ii. Option 2 – Woodbridge**

- 5.4.44 Option 2 is approximately 34 hectares in area and is located to the west of the A12 and to the north-west of Woodbridge. Access to the site would be achieved via the existing A12/A1152 roundabout.
- 5.4.45 The site falls approximately 8m from east to west towards the bottom of a shallow valley; the eastern half of the site is relatively flat, however. There are long-distance views from the footpaths crossing the land to the west on the other side of the valley, which could be quite difficult to mitigate given the local topography. Development would therefore focus on the flatter, higher ground on the eastern half of the site, as far as practicable, with the western land used primarily for appropriate landscape mitigation including land shaping and woodland planting. The site lies approximately 100m to the east of a SLA, which includes the grounds of Hasketon Manor. The potential effects on the SLA will need to be considered further if this site is taken forward.
- 5.4.46 The field boundaries within the site are generally marked with hedgerows and sometimes also by mature trees that offer screening.
- 5.4.47 There are only very limited views of the site from the nearest properties on the eastern (Woodbridge) side of the A12 due to the presence of mature existing screening. Because of the existing traffic on the A12, noise associated with any development of the site is also unlikely to be an issue at these properties.
- 5.4.48 There are a small number of properties on the western side of the A12 in the vicinity of the site and potential impacts on these would, as far as possible, be taken account of in the masterplanning and proposed new screening of the site, if it is taken forward.

- 5.4.49 There are two public rights of way crossing the site: one running from the A12 opposite Haugh Lane in a north-westerly direction along a hedgerow that marks a field boundary; and another that runs along a short stretch of the site's north-western extent along the watercourse. EDF Energy would endeavour to retain these along their existing alignments, although diversions may be needed during construction.
- 5.4.50 There are no ecologically designated sites within 1km of the site. The site consists of arable land (Grade 2) with hedgerows with occasional mature trees around the boundary and grassland to the north-west. There is a pond present on-site (which may support breeding great crested newts) and a number of other ponds within 500m of the site. Trees on-site may have some potential to support roosting bats.
- 5.4.51 There are no designated heritage assets located within the site boundary or within 250m of the site.
- 5.4.52 There are no licensed discharges or abstractions within 500m of the site boundary, although the site is located within a groundwater Source Protection Zone 2, which should not present a constraint to development of the site provided appropriate design/construction management in order not to provide pathways for potential pollution.
- 5.4.53 The site's western boundary is in close proximity to an unnamed watercourse, which flows into the River Lark approximately 2.5km downstream. The 'Lark' forms the local WFD waterbody, which is currently defined at 'moderate' status for fish and phosphate conditions are 'poor'. Given the site topography, it is reasonable to assume that the site surface water run-off drains into the watercourse. The site is almost wholly within Flood Zone 1 and is unlikely to pose a particular flood risk issue, but flood risk will need to be considered if works are proposed at this location. The north-eastern corner of the site, next to the watercourse, appears to be in Flood Zones 2 and 3. Surface water runoff from the site could be controlled by SuDS and attenuation and consideration will need to be given to the quality of water discharges.
- 5.4.54 The southern-most field within the site shows evidence of being artificially landraised although there are no records of any landfill. This will be investigated further if the site were to be taken forward.
- 5.4.55 In summary, the key environmental considerations include:
- potential amenity effects on local residential properties;
  - landscape and visual effects especially in relation to long distance views from the west;
  - the presence of two public rights of way which cross the site;
  - habitats within and bordering the site, which have the potential to support protected species; and
  - the site's location within a groundwater Source Protection Zone 2.

### **iii. Option 3 – Potash Corner**

- 5.4.56 Option 3 is located at Potash Corner on Scott's Lane, which is situated to the west of the A12 close to the village of Bredfield, which lies to the north. The site comprises

arable farmland (Grades 2 and 3) covering approximately 24 hectares. The northern half of the site falls gently to the west.

- 5.4.57 The site has been selected because it is well placed to intercept Sizewell C bound traffic heading north up the A12. However, as with Option 2, journey times to Sizewell C would be longer than those from Option 1 near Wickham Market.
- 5.4.58 Hedgerows and woodland mark some of the field boundaries and provide some screening. There are a few residential properties near the site, including a number at Potash Corner and others to the north and west, which overlook the northern fields, beyond boundary vegetation.
- 5.4.59 It is envisaged that the proposed facilities would be positioned in the eastern part of the site, along the A12, to keep the built development as far away as possible from the residential properties located to the west. The western part of the site would be used for soil storage that would be grassed over, with woodland planting belts along the perimeters of the main built elements. This would help create a buffer between the facility and nearby properties, which include the listed Blue Barn Farmhouse close the northern boundary. Existing hedges would be retained within the site, where possible, to help subdivide the site and facilitate restoration.
- 5.4.60 There are two public rights of way crossing the site that would need to be accommodated within the site layout and/or diverted.
- 5.4.61 There are no statutory ecological designations within 1km of the site. The site consists of arable fields, so ecological value is limited, although there are ditches within the site that may be of ecological interest. A woodland block (Horse Close Wood) adjoins the north boundary which has some potential to support bat roosts. This will require further consideration if this site is taken forward.
- 5.4.62 Suffolk Wildlife Trust's Foxburrow Farm – an education centre and working farm managed for wildlife - is situated nearby, located on the opposite side of the A12.
- 5.4.63 There are no designated heritage assets within the site, but there are a number of listed buildings in the area. In addition to Blue Barn Farmhouse, there are four further listed properties within 500m, including the Grade II\* Listed Building Bredfield House Stables.
- 5.4.64 The site is not served by any watercourses or groundwater abstractions. One surface water abstraction point (from a stream/pond) is located just beyond an unnamed road at the southern tip of the site for spray irrigation. One discharge consent for treated sewage effluent is present on the site at Potash Corner, which records indicate discharges to 'a freshwater stream, a tributary of the River Deben', although this record is from 1979 and the surface water feature is not evident from maps. Two further discharge consents are present (approx. 200m to the south-east beyond the A12 and approximately 250m to the south-west), both for discharge of treated sewage effluent to a freshwater stream/river.
- 5.4.65 In summary, the key environmental considerations include:
- the presence of residential properties near the site, including a number at Potash Corner and others to the north and west;

- two public rights of way which cross within the site boundary;
- a woodland block adjoining the northern boundary, which has some potential to support protected species; and
- the setting of a number of nearby listed buildings.

## 5.5 Freight Management Facilities

### a) Introduction

5.5.1 A transport strategy (see **Transport Strategy and Supporting Information** document) has been developed which identifies a possible need for a temporary freight management facility with space for up to 100 HGVs to help control traffic flows in and out of the Sizewell C Main Development Site and provide somewhere to hold vehicles temporarily, for example, if there is an incident on the highway network. It is not yet certain if there is a need for such a facility, but if there is, EDF Energy's preferred option is to co-locate it with the southern park and ride as it would avoid development of another site although sites for a standalone facility on the A14 are also being considered.

5.5.2 The indicative specification for any such facility is as follows:

- an area of 11-12 hectares;
- space for 50-100 HGVs;
- access and circulation roads;
- security fencing and lighting;
- a welfare building including toilets, a rest room and administration and security offices;
- drainage attenuation;
- soil storage;
- landscape planting; and
- a 5-10m buffer between built development and the site boundary.

### b) Current Options

5.5.3 In addition to the option of co-location of any freight management facility with the southern park and ride, three standalone options have been identified as follows:

- Option 1 – Orwell Lorry Park West;
- Option 2 – Orwell Lorry Park East; and
- Option 3 – A12/A14 Seven Hills Junction.

5.5.4 **Figure 5.5.1** (see **Appendix B**) shows the locations of the standalone proposed freight management sites. **Figures 5.5.2 – 5.5.4** show the Schematic Zoning Diagrams for these sites.

Figure 5.5.2: Freight Management Site Option 1 – Schematic Zoning Diagram



Figure 5.5.3: Freight Management Site Option 2 – Schematic Zoning Diagram



Figure 5.5.4: Freight Management Site Option 3 – Schematic Zoning Diagram



#### i. Option 1 – Orwell Lorry Park West

- 5.5.5 Option 1 (shown in **Figure 5.5.2**) is approximately 11 hectares in area and is located immediately to the north-west of the existing Orwell Crossing Lorry Park close to Ipswich, which is accessed from the A14 eastbound carriageway before the A12/A14 junction. A railway line borders the site along its northern boundary, beyond which lies the A1156 with residential properties to the north of the road. A large commercial area lies to the west of the site. The site has been allocated by SCDC for employment use. The site is generally flat with a very slight slope from west to east.
- 5.5.6 The site is effectively enclosed by the A1156, railway corridor and residential settlement to the north, the A14 to the south and industrial/mixed land uses to the east and west. The nearby residential properties are relatively well screened from the site by the railway and road although if this site were taken forward additional boundary screening would be required to protect their amenity. There are no public rights of way within or adjoining the site boundaries.
- 5.5.7 The site lies approximately 150m to the west of the closest part of the Suffolk Coast and Heaths AONB. The site is largely screened from the AONB due to the presence of intervening woodland, existing development and boundary vegetation.
- 5.5.8 The site comprises arable land (Grade 4) with a field margin of semi-improved grassland with occasional patches of scrub, bare ground and ruderal vegetation, with scattered mature trees around the periphery. Ipswich Heaths SSSI is located approximately 800m to the north of the site, and is not expected to be a constraint to development given its separation distance. There are no other ecologically designated sites within the vicinity.

- 5.5.9 There are no designated heritage assets located within the site or within a radius of 250m. However, prehistoric archaeology (Neolithic/Bronze Age) remains may be present, due to the proximity of the Seven Hills Barrow Cemetery (c. 800m – 1km from the centre of the site to the east). Potential effects of development on any such heritage assets will be considered further if this site is taken forward.
- 5.5.10 There is one active consented discharge within the site boundary and another within 10m of the site boundary that discharge to ground (related to discharge of sewage and other matter) which are likely to be related to small-scale septic tank discharges. There are no consented discharges to surface water within 500m. Registered groundwater abstractions are located over 130m to the east of the site boundary, associated with spray irrigation from the nearby Shepherd and Dog Farm.
- 5.5.11 In summary, the key environmental considerations include:
- the presence of nearby residential properties to the north;
  - the potential for below ground archaeological remains (a Scheduled Monument is present to the east of the site);
  - the location of the site approximately 150m to the west of the Suffolk Coast and Heaths AONB, although the site is largely screened from the AONB by intervening woodland, development and boundary vegetation; and
  - the presence of registered groundwater abstractions in the vicinity of the site.

## ii. Option 2 – Orwell Lorry Park East

- 5.5.12 Option 2 (shown in **Figure 5.5.3**) is approximately 11 hectares in area and is located immediately to the east of the existing Orwell Crossing Lorry Park, near Ipswich, which is accessed from the A14 eastbound carriageway before the A12/A14 junction. The site has a railway line along its northern boundary, beyond which lie residential properties fronting onto the A1156. The Shepherd and Dog Farm and mixed use land lie to the west of the site.
- 5.5.13 Diffusion tube monitoring in 2011 – 2012 (see **Section 4.7**) found that the average concentration of nitrogen dioxide at Orwell Crossing Lorry Park on the A14, adjacent to Option 2, exceeded the national annual average air quality objective. This roadside monitoring location does not represent a location of long term public exposure (such as residential properties).
- 5.5.14 The nearest residential properties are partially screened from the site by existing mature planting which would need to be reinforced if the site is taken forward.
- 5.5.15 The site is generally flat and is within an isolated fragment of the Suffolk Coast and Heaths AONB, cut off from the wider area by the A14 road corridor. The western boundary is marked by a line of mature Scots pine. The site is generally visually contained, although there is the potential for glimpsed views from Nacton.
- 5.5.16 There is a public right of way running diagonally through the middle of the site, arising mid way along the site's southern boundary with the A14 and leaving in the north west corner of the site across the railway. This footpath, which shows no obvious sign of regular use would need to be diverted around the site boundary. Local use of the site's perimeter for walking is evident.

- 5.5.17 The site comprises arable land (Grade 4) with a field margin of semi-improved grassland with occasional patches of scrub, bare ground and ruderal vegetation, with scattered mature trees around the boundary. Ipswich Heaths SSSI is located approximately 1km to the north of the site, and is not expected to be a constraint to development given its separation distance from the site.
- 5.5.18 There are no designated heritage assets located within the site boundary or within a radius of 250m. However, prehistoric archaeology (Neolithic/Bronze Age) remains may be present, due to the proximity of the Seven Hills Barrow Cemetery (c. 800m – 1km from the centre of the site to the east). Potential effects of development on any such heritage assets will be considered further if this site is taken forward.
- 5.5.19 There are three consented discharges to groundwater within 500m of the site, the nearest of which is located approximately 80m from the site boundary (related to the discharge of sewage and other matter). There are registered groundwater abstractions located adjacent to the site, associated with irrigation from Shepherd and Dog Farm. Further groundwater abstractions are located beyond Felixstowe Road to the north-east.
- 5.5.20 In summary, the key environmental considerations include:
- the presence of nearby residential properties to the north;
  - the site's location within an isolated fragment of the Suffolk Coast and Heaths AONB;
  - the presence of a public right of way which crosses the site;
  - the potential for below ground archaeological remains (a Scheduled Monument is present to the east of the site); and
  - the presence of registered groundwater abstractions close to the site.

### iii. Option 3 – A12/A14 Seven Hills Junction

- 5.5.21 Option 3 (shown on **Figure 5.5.4**) is approximately 12 hectares in area and is located to the southeast of the A12/A14 junction near Ipswich with local roads along its western (A1156) and southern (Old Felixstowe Road) boundaries. The site is generally flat with a very slight slope from west to east of up to 2-3m.
- 5.5.22 There are no public rights of way within or adjacent to the site. Seven Hills Crematorium is the principal local constraint, located immediately to the west.
- 5.5.23 The site lies approximately 100m to the north-east of the Suffolk Coast and Heaths AONB and potential adverse effects of development on this designation will be considered if this site is taken forward, albeit there is very limited visibility. The Mill River SLA lies approximately 1km to the north of the site and potential adverse effects on this area will be assessed. Although, preliminary indications are that views toward the site are likely to be contained by the intervening settlement of Bucklesham.
- 5.5.24 The site comprises arable land (Grades 3 and 4), so ecological value is low. There are, however, areas of woodland and trees which border the site to the south and lie to the west, which may support bat roosts and will be considered further if this site is

taken forward. However, there are no ecologically designated sites within 1km of the site.

- 5.5.25 There are numerous Scheduled Bowl Barrows (part of the Seven Hills Barrows Cemetery - Scheduled Monument) in the close vicinity of the site, the nearest of which is approximately 200m west of the site, beyond the A1156/Felixstowe Road. This indicates a high potential for Neolithic and/or Bronze Age archaeology in the immediate and wider vicinity of the site. The potential effects of development on heritage assets will be considered further if this site is taken forward.
- 5.5.26 There are no licensed discharges or abstractions within 500m of the site boundary and no surface water features on or near the site.
- 5.5.27 In summary, the key environmental considerations include:
- the location of the site approximately 100m to the north-east of the Suffolk Coast and Heaths AONB;
  - areas of woodland and trees which border the site have the potential to support protected species; and
  - the potential for below ground archaeological remains (a Scheduled Monument is present to the west of the site).

## 5.6 Freight by Rail

- 5.6.1 EDF Energy considers that rail could play an important role in the delivery of freight during construction, offering an alternative non-road option to the jetty for delivery of many kinds of construction materials. This would offer flexibility and contingency for the freight strategy, further reducing the number of HGV movements likely to be required on the local road network.
- 5.6.2 There is an existing rail terminal at Leiston (south of King George's Avenue) which is at the end of a rail line between Saxmundham and Leiston. This line is not currently part of the passenger rail network but is used for occasional movements associated with the decommissioning of the Sizewell A power station. The rail terminal was also used to bring materials close to site during the construction of the Sizewell B power station.
- 5.6.3 With a modest amount of refurbishment it would be possible to use the existing rail terminal to bring freight deliveries close to Sizewell C – with onwards HGV transfer to the construction site via Lover's Lane. However, the capacity of the existing local rail infrastructure is currently limited to around one freight train per day.
- 5.6.4 EDF Energy is planning a number of investments to facilitate additional rail freight deliveries, particularly by providing funding to Network Rail to help construct a passing loop at Wickham Market station to increase the capacity of the existing railway infrastructure. Views are also invited on the following options to enhance the scope for transporting freight by rail:
- a new rail terminal and freight laydown area north of King George's Avenue; and
  - EDF Energy's preferred option of temporarily extending the rail line into the Sizewell C Main Development Site.

5.6.5 The following sections identify some of the key environmental considerations that will require further examination should these options be taken forward.

**a) New Rail Terminal and Freight Laydown Area North of King George's Avenue**

5.6.6 A new and larger rail terminal north of King George's Avenue is being considered. This would be located on land to the north east of Leiston industrial estate, which is included within the Sizewell C Main Development Site construction area (see **Figure 5.6.1**).

Figure 5.6.1: Proposed Rail Terminal and Freight Laydown Area North of King George's Avenue



5.6.7 A new rail terminal at this location would create substantial additional space for unloading and storing rail freight for onward delivery to the Sizewell C Main Development Site. This location would also avoid use of the level crossing on King George's Avenue and unloading operations would take place further away from residential areas of Leiston and could be screened to further reduce potential adverse effects.

5.6.8 Potential noise and vibration from additional train movements along the line, including through Leiston, will require further examination if this option is taken forward.

5.6.9 Protecting the amenity of residential properties close to the site from noise and visual effects will be a key consideration in the masterplanning of the site. Unloading operations could take place in the south-east of the site away from residential areas of Leiston and earth embankments could be used to screen the development from properties close to the site, for example, on-site soil storage to the west where the ground levels drop away, would provide some screening for the existing residential properties to the north-west.

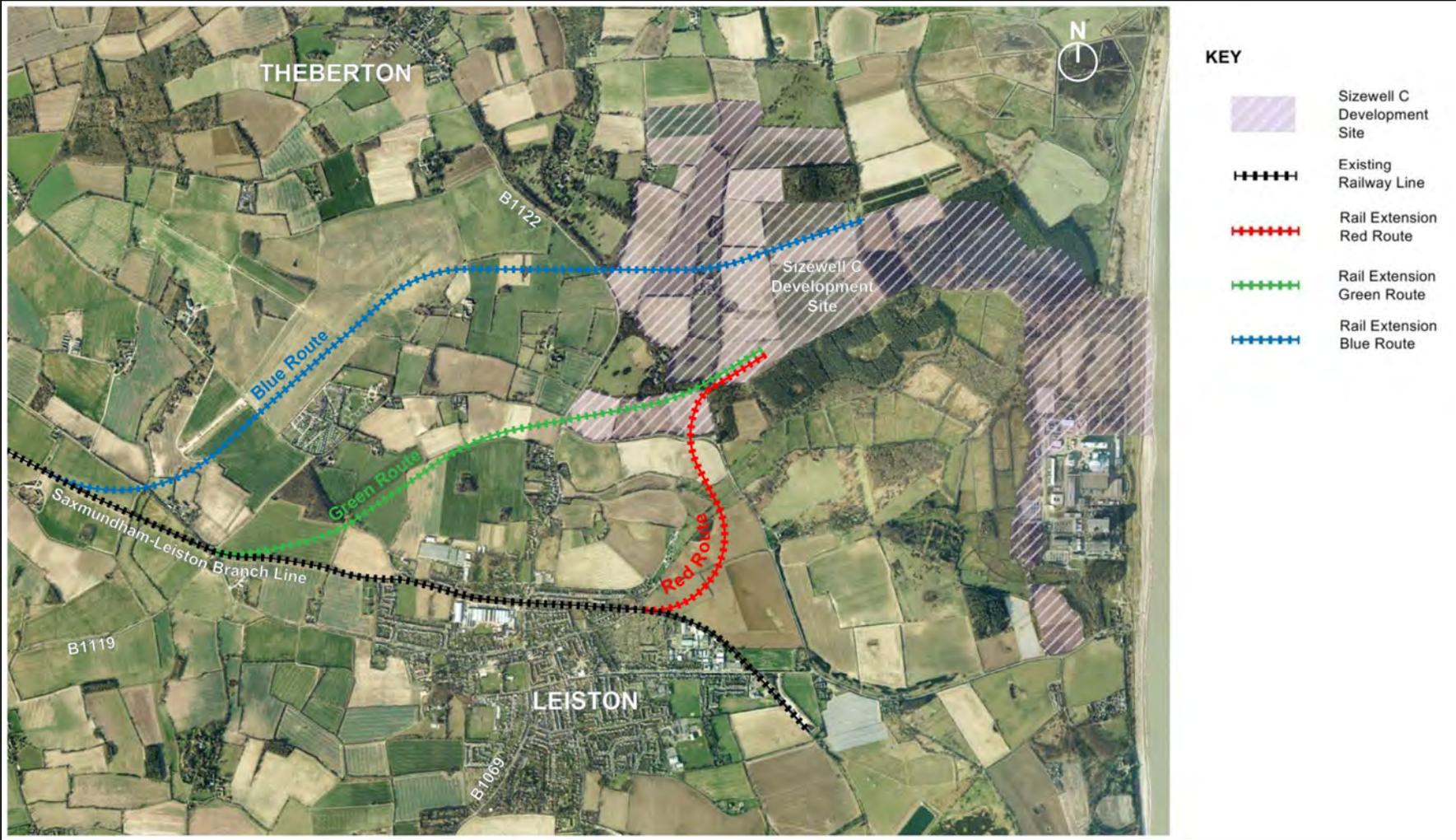
- 5.6.10 The eastern boundary of the site abuts the Suffolk Coast and Heaths AONB and potential effects from lighting, in particular, will require further consideration.
- 5.6.11 There are no public rights of way within the site or along the boundaries of the site. Site road access could be achieved from Lover's Lane. The site is predominantly arable land and close to Leiston, and its ecological value is low.

#### **b) Temporarily Extending the Rail Line into the Construction Site**

- 5.6.12 An alternative to the development of a new rail terminal north of King George's Avenue would be to temporarily extend the rail-line into the construction area.
- 5.6.13 This option would have the same advantages of a new rail-head (i.e. allowing a greater number of freight trains than the current railhead) as well as maximising the efficient use of rail freight as it would bring freight directly to its point of use in the construction site, thereby avoiding the need for additional HGV trips on Lover's Lane.
- 5.6.14 EDF Energy considers that this option would further encourage major contractors involved in the construction of Sizewell C to choose a rail option for freight deliveries over road alternatives. This would have the potential benefit of a further reduction in general HGV movements on the local network. For these reasons, it is EDF Energy's preferred rail option.
- 5.6.15 EDF Energy has looked at a number of route options for such an extension and these are shown in **Figure 5.6.2**. It should be noted that these are indicative route options subject to further design and assessment work and should not at this stage be seen as precise alignment proposals.
- 5.6.16 Two of the routes (the blue and green) would spur off the existing track before Leiston and route through open countryside into the land identified within the construction plot plan. The third (red) route would spur off north of Leiston industrial estate.
- 5.6.17 The red route has the advantage of being a much shorter extension than the other two options, but it would involve (as with the new rail terminal option) the freight trains passing through Leiston along the existing rail corridor with associated potential noise and vibration effects. It would also involve construction across watercourses which feed into the Sizewell Belts and Marshes SSSI, as well as the likely loss of a small amount of habitat close to the Fiscal Policy woodland, with potential effects on protected species.
- 5.6.18 Both the blue and green options would cross a number of roads and public rights of way, requiring cuttings, bridges, crossings and/or diversions. The routes would also pass close to a number of residential properties. The potential adverse effects of these extensions, notably in relation to landscape and visual amenity, heritage, ecology and noise and vibration will require detailed assessment if taken forward.
- 5.6.19 The green route (and to a lesser extent the blue and red routes) would pass close to Leiston Abbey, introducing the potential for direct and indirect effects on the abbey and its setting. The potential for minimising these effects through detailed consideration of its horizontal and vertical alignment will need to be examined.

5.6.20 EDF Energy believes that rail should play an important role in the delivery of freight to support the construction of Sizewell C. The preference is to make best use of this opportunity through extending the rail line into the construction site, but there is recognition that the environmental effects, including issues of noise, landscape, ecological, heritage and other effects, will need further investigation to remove or reduce adverse effects where practicable.

Figure 5.6.2: Route Options for Temporary Rail Line Extension



## 5.7 A12 Improvements – Farnham Bend

- 5.7.1 The A12 between Ipswich and Lowestoft would be the main corridor for much of the Sizewell C-related traffic. Much of the A12 is dual carriageway and EDF Energy's initial analysis suggests that Sizewell C related traffic would not create capacity or congestion concerns on the large majority of the road, including both dual carriageway and single carriageway sections.
- 5.7.2 One exception to this is the narrow bend at Farnham, which is widely recognised to be an area of existing concern. Traffic at Farnham is closer to capacity and the narrow bend creates a potential safety concern when two large vehicles are passing at once. EDF Energy's preliminary assessment is that Sizewell C related traffic would cause some additional capacity constraints/congestion at the Farnham bend at peak network periods, and that the additional HGV traffic associated with the Project could exacerbate safety concerns associated with the narrow bend.
- 5.7.3 For these reasons, EDF Energy considers that mitigation measures to improve the situation at Farnham bend might be justified by the proposed development of Sizewell C. Three improvement options have been considered and these are described, together with the key environmental considerations, in the following sections.

### a) A Farnham Bypass

- 5.7.4 EDF Energy considers that the most appropriate route for a bypass of Farnham would be to the north of the village. It would be approximately 1km in length and composed of a single lane carriageway in each direction with accompanying landscape mitigation. At the southern end of the route it would adjoin the existing A12 close to Stratford St Andrew and northern end it would adjoin the existing A12 north of Farnham. Details of junction arrangements will be subject to further work if this option is taken forward.
- 5.7.5 The bypass would run through agricultural land to the north-west of Street Farm, parts of which are in the flood plain. The route would cross the River Alde and various drainage ditches and pass through or close to areas of woodland, hedgerow and trees along field boundaries. These are features which might support nationally and regionally important habitats and species and will need to be subject to further investigation.
- 5.7.6 The bypass has the potential to affect the setting of Benham Lodge Park (medieval settlement) and opportunities for screening will be examined. The potential for archaeological deposits along the route corridor will also be investigated.
- 5.7.7 A bypass of this kind would remove all existing capacity and safety concerns associated with the current bend at Farnham, improving traffic flow and reducing accident risks. Properties close or adjacent to the road in Farnham would benefit from a large reduction in traffic flows through the village.

## b) Road Widening at Farnham Bend

- 5.7.8 A more limited intervention to improve Farnham bend would be to widen and smooth the existing bend to reduce the potential for traffic congestion at peak times and remove safety concerns associated with the narrowness of the bend.
- 5.7.9 However, to implement this option would require the acquisition and demolition of a small number of properties, including a Grade II Listed Building.
- 5.7.10 With the exception of the direct impact on residential properties, this option would have less of an adverse environmental effect than the bypass. However, whilst it could be effective in addressing the current safety concerns associated with the bend, it would not have the effect of removing traffic from the village of Farnham.

## c) HGV Traffic Controls at Farnham Bend

- 5.7.11 The most limited form of intervention at Farnham bend could involve implementation of a traffic control, warning or signalling system. In principle this could range from a simple warning to a more sophisticated detection and control system with the aim of preventing two HGVs passing through the bend in opposite directions at once.
- 5.7.12 Such a system could be relatively effective in reducing safety risks at Farnham bend and improving the ability of pedestrians and other road users to cross the A12 in this area.
- 5.7.13 However, this type of intervention would have no positive effect on traffic flow through the Bend and indeed could exacerbate the potential for congestion and associated potential adverse air quality effects. In addition, as with a road widening scheme, all A12 traffic would continue to route through Farnham.

## 5.8 Visitor Centre

- 5.8.1 EDF Energy's proposals include a new visitor centre for Sizewell. This would be shared with Sizewell B, eventually replacing the temporary visitor centre at the existing power station. It would mostly be an education centre, although some of the site location options would offer views of the power stations as well.
- 5.8.2 EDF Energy has identified potentially suitable sites for the Visitor Centre and considered their advantages and disadvantages in terms of their location, size and technical and environmental considerations. Three potential sites have been identified (as shown on **Figure 5.8.1**):
- Option 1: Lover's Lane;
  - Option 2: Sizewell Beach; and
  - Option 3: Goose Hill.
- 5.8.3 Option 1 is located on arable land north of Lover's Lane and close to the road. This site is next to the Sizewell Gap Campus option and if both developments are taken forward they would share the same road access. One of the advantages of this site is that there would be distant views of the existing power stations and Sizewell C.
- 5.8.4 The site lies just inside the Suffolk Coast and Heaths AONB and is screened from the road by semi-mature woodland planting. Further to the east of the site is the

bridleway running along Sandy Lane, although no footpaths are in close proximity. There are no known heritage features in close proximity of the site. The site is located in Environment Agency Flood Zone 1 so there is a very low risk of flooding.

- 5.8.5 Option 2 is located at the end of Sizewell Gap road close to the Sizewell Beach car park and café. Current land use is an overspill car park for the beach and semi-natural vegetation (a mix of grassland and bracken/scrub). The site would be well placed to attract wider tourist interest given its proximity to the beach/existing tourist amenities. In addition, visitors would be able to walk along the beach or take a mini-bus tour to view the power stations. While this site would be near to the Sizewell A power station, there would be no direct views of either the Sizewell B or C power stations.
- 5.8.6 The site is situated within the Suffolk Coast and Heaths AONB and is screened from the north by woodland. There is a listed building nearby in Sizewell Village. The site itself is located in Environment Agency Flood Zone 1, although access to the site would need to pass through Environment Agency Flood Zones 2 and 3. The Suffolk Coast Path running along the Suffolk Heritage Coast passes close to the site along the beach.
- 5.8.7 Option 3 is located in Goose Hill next to the proposed car park for Sizewell C and close to the proposed new northern access road. Given its location, it would only be available once Sizewell C is built. It would provide the best view of Sizewell C of any of the options and would be well placed for visitors to walk to the beach.
- 5.8.8 The site is currently managed plantation woodland and located within the Suffolk Coast and Heaths AONB, close to a number of designations including Sizewell Marshes SSSI to the south and the European designations further to the east/north-east. The woodland is of interest for bats and is designated as a CWS. The site is located in Environment Agency Flood Risk Zone 1. The Suffolk Coast Path running along the Suffolk Heritage Coast passes along the beach to the east and the Sandlings Walk (a recreational route) runs to the south of the site connecting the Suffolk Coast Path with Kenton Hills.

Figure 5.8.1: Visitor Centre Location Options



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## 6. GLOSSARY

**Abnormal Indivisible Loads (AILs):** Large loads to be delivered to the site which by their nature cannot be broken into smaller multiple deliveries. Wherever possible, AILs are to be brought in by sea, with any transport to the site by road delivered on a low loader with a Police escort.

**Agricultural Land Classification (ALC):** A classification of agricultural land in England and Wales according to its quality and agricultural versatility. The classifications range from Grade 1 (the best and most versatile), through Grades 2, 3a, 3b, 3c and 4, down to Grade 5 (the least versatile).

**Alongshore Transport:** Movement parallel to the coastline.

**Ambient Noise:** Background noise level in a given situation at a given time usually composite of sounds from many sources near and far.

**Anchorage:** An area off the coast that is suitable for a vessel to anchor.

**Annex I Habitats:** Habitats listed in Annex I of the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) (as amended).

**Anthropogenic:** Man-made.

**Appropriate Assessment (AA):** An assessment required by the EC Habitats Directive of the impacts of a plan, programme or project on the integrity of a Natura 2000 site (i.e. Special Protection Area (SPA), Special Area of Conservation (SAC) or a Ramsar Site).

**Area of Outstanding Natural Beauty (AONB):** AONBs were formally designated under the National Parks and Access to the Countryside Act 1949 to protect areas of the countryside of high scenic quality that cannot be selected for National Park status due to their lack of opportunities for outdoor recreation (an essential objective of National Parks). Further information on AONBs can be found at [www.aonb.org.uk](http://www.aonb.org.uk)

**As Low As is Reasonably Achievable (ALARA):** As Low as Reasonably Achievable (social and economic factors being taken into account). This requires that all be reasonably done to lower radiation exposures below Dose Limits. It requires the employer to provide systems to reduce the radiation dose until or unless the cost of implementing those measures in considered to be greater than the risk averted.

**As Low as is Reasonably Practicable (ALARP):** The ALARP (As Low As Reasonable Practicable) principle requires the employer to provide systems (engineered, management etc.) to reduce the radiation dose until or unless the cost of implementing those measures is considered to be grossly disproportionate to the risk averted. In practice this requires the employer to go beyond the requirements of the ALARA principle in reducing dose.

**Associated Development:** Development which is associated with a Nationally Significant Infrastructure Project (NSIP), as defined in the Planning Act 2008. It should be subordinate to and necessary for the development and effective operation of the NSIP that is subject of the application.

**Bathing Water Directive Quality Standards:** The microbial standards for water quality at popular beaches and inland bathing sites.

**Bathymetric:** Related to topography of the seabed.

**Bathymetry:** The 'topography' of the seabed.

**BEEMS:** An integrated programme of marine environmental evidence-based scientific studies designed and maintained in order to support a consideration of NNB at coastal sites in the UK, initiated by British Energy and continued by EDF Energy.

**Berth:** A designated location where a vessel may be moored.

**Biodiversity Action Plan (BAP):** An agreed plan for a habitat or species, which forms part of the UK's commitment to biodiversity. For further information consult the BAP website: [www.ukbap.org.uk](http://www.ukbap.org.uk)

**Biotope:** An area that is uniform in environmental conditions and in its distribution of animal and plant life.

**Birds Directive:** European Community Directive 2009/147/EC (which codified Directive 79/409/EEC) on the conservation of wild birds. In the UK the Directive is implemented via the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) (as amended).

**Bivalve:** Marine or freshwater mollusc whose body is enclosed between two shells hinged together by a ligament on the dorsal side of the body.

**Catchment:** A surface water catchment is the total area that drains into a river. A groundwater catchment is the total area that contributes to the groundwater component of the river flow.

**Cetaceans:** Marine mammals such as dolphins and porpoises.

**Collective dose:** The collective dose is the summated individual exposures to a population group from a specified source within a specified time period.

**Conservation Areas:** Designated areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.

**Contaminated Land:** Land where there may be a presence on site of a noxious substance, which may give rise to a hazard.

**Controlled Waters:** Waters defined and protected under the Water Resources Act 1991.

**Conventional Island:** Turbine halls and electrical buildings forming part of the UK EPR.

**County Wildlife Site (CWS):** Areas identified and selected for their local nature conservation value.

**Cross-shore:** On or across the shore.

**Cumulative Impact:** The additive and/or interactive impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

**Decibel (dB):** A unit specifying the logarithm of the ratio between the value of a quantity and a reference value (usually used in the measurement of power and intensity). For sound pressure level the reference quantity is 20µPa, which is the threshold of normal hearing (0 dB). 140 dB is the threshold of pain.

**Development Consent Order (DCO):** A DCO is the form by which the Secretary of State grants consent for development applied for under the Planning Act 2008. A DCO removes the need to obtain a range of other separate consents, such as planning permission and listed building consent.

**Diamicton:** Glacial till.

**Disturbance:** A perturbation in the system (either biological, e.g. predation or physical, e.g. storms) which alters the nature of the biological community.

**Drift Nets:** Drift netting is a fishing technique where nets, called drift nets, are allowed to float freely at the surface.

**EDF Energy:** The UK subsidiary of EDF Group, is one of the world's largest energy companies and safely operates the world's largest fleet of nuclear power plants.

**EDF Energy estate:** Land owned by EDF Energy in the Sizewell area.

**EDF Group:** EDF Group is one of the world's largest energy companies and safely operates the world's largest fleet of nuclear power plants.

**English Heritage:** A Government Agency which promotes conservation and understanding of the historic environment and advises Government on the selection of listed buildings and scheduled monuments for protection and provides grant aid for the maintenance of historic buildings and monuments.

**Entrainment:** Term used to describe the passage of marine organisms small enough to go through the cooling water screens through the power station cooling water circuit and then discharged to sea.

**Environment Agency:** A Government Agency responsible for matters relating to contaminated land, waste management, surface water drainage and discharges, flood risk management and water quality and has responsibility for ensuring that new nuclear power station designs meet high environmental standards and use the Best Available Techniques (BAT) to achieve this.

**Environmental Impact Assessment (EIA):** Generically, a process for predicting the effects of a proposed development on the environment that informs decision-makers in relation to planning permissions, consents, licences and other statutory approvals, as required by European Union Directive 2011/92/EU (which codified Directive 85/337/EEC) (the EIA Directive).

**Environmental Scoping Report:** A scoping report is usually produced at an early stage in the EIA process and should contain sufficient information to support a developer's request to a regulator for a scoping opinion.

**Environmental Statement:** The document reporting the process and outcomes of the EIA.

**Fauna:** Animals.

**Geological Disposal Facility:** Disposal underground at a depth of more than about 200 metres (also called "deep geological disposal"). The depth is chosen so as to provide a barrier against the escape of radioactivity and protect the waste from disturbance. This disposal method is appropriate for high level and intermediate level wastes.

**Geomorphology:** The scientific study of landforms and the processes that shape them through an understanding of landform history and dynamics (in particular their nature, origin, processes of development and material composition).

**Gravity Model:** Developed to estimate where non-home-based workers would choose to live and where home-based workers would travel from.

**Gross Value Added (GVA):** Gross Value Added measures the value of goods and services produced in a geographical area, industry or economic sector. It is a measure of economic productivity, calculated by valuing the amount of goods and services that have been produced, less the cost of all inputs and raw materials that are directly attributable to that production.

**Groundwater:** Water occurring below ground in natural formations (typically rocks, gravels and sands).

**Habitats Directive:** The Habitats Directive (more formally known as Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) is a European Union directive adopted in 1992 as a response to the Berne Convention. It is one of the EU's two directives in relation to wildlife and nature conservation (the other being the Birds Directive). It aims to protect over 200 habitats and approximately 1,000 animal and plant species listed in the Directive's Annexes. Annex I covers habitats, Annex II covers species requiring designation of special areas of conservation, Annex III covers the criteria for selecting sites eligible for identification as sites of community importance and designation as special areas of conservation, Annex IV species in need of strict protection and Annex V covers species whose taking from the wild can be restricted by European law. These are species and habitats which are considered to be of European interest, following criteria given in the Directive. The Directive led to the setting up of a network of Special Areas of Conservation which, together with the existing Special Protection Areas, form a network of protected sites across the European Union called Natura 2000.

**Habitat Regulations Assessment:** An assessment to determine compliance of a plan or project with the Habitats Directive (94/43/EEC) and Conservation of Habitats and Species Regulations 2010 (as amended).

**Health and Safety Executive (HSE):** A non-departmental public body, which is responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare, and for research into occupational risks in England and Wales and Scotland.

**Highways Agency:** The Government agency responsible for Strategic Road Network (SRN) building, maintenance and operation and has the power to direct a refusal of a planning application which it believes would adversely affect the operation or safety of an SRN.

**Historic Parks and Gardens:** Parks and gardens identified by English Heritage as being of particular interest and quality by reasons of their historic layout, features and architectural ornaments. Like listed buildings they are graded I, II\* and II.

**Ichthyoplankton:** Fish eggs and larvae.

**Impingement:** Term used to refer to the fish and other marine species becoming trapped on cooling water intake screens.

**Informal Recreation:** Leisure activities which are not undertaken on a formal, organised basis and are generally carried out by individuals or small groups on an intermittent basis with a minimal requirement for supporting facilities.

**Intertidal:** The area of shore between the highest and lowest tides.

**Ionising Radiation:** Radiation, such as alpha, beta, gamma and x-rays, capable of inducing certain changes and effects in materials of living tissues.

**Landscaping:** A general term used for the means by which, where appropriate, development is made to fit visually into its surroundings by control of siting and layout and use of trees, shrubs or grass (soft landscaping) and/or fences, walls or paving (hard landscaping).

**Landscape Character:** A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.

**LiDAR:** Light Detection and Ranging – use of reflected light to make accurate measurements of distance making use of the known wavelength of the light beam, used in aerial surveys to map visible ground levels.

**Listed Buildings:** Buildings and structures which have been identified by the Secretary of State for Culture, Media and Sport as being of special architectural or historic interest and whose protection and maintenance are the subject of special legislation. Their curtilage and setting is also protected. Listed building consent is required before any works can be carried out on a listed building.

**Long-lines:** Long-line fishing is a commercial fishing technique that uses a long line with baited hooks attached at intervals by means of branch lines.

**Main Power Station Platform:** The area containing the principal power station buildings including the two UK EPR's and key ancillary buildings and plant. At Sizewell C, this comprises the area adjacent to Sizewell B power station.

**Marine Environment:** Anything below the mean high water mark.

**Marine Management Organisation:** The executive non-departmental public body established and given powers under the Marine and Coastal Access Act 2009. The Marine Management Organisation (MMO) incorporates the

work of the Marine and Fisheries Agency and acquired new roles for regulating and licensing activity in the marine area.

**Mitigation:** Measures recommended through the EIA process and applied through the regulatory approvals process to avoid, reduce or offset significant adverse effects on the environment.

**Morphology:** Shape or form.

**National Grid:** National Grid run and operate the high voltage electric power transmission network in Great Britain, connecting power stations and major sub-stations and ensuring that electricity generated anywhere in Great Britain can be used to satisfy demand elsewhere.

**National Nature Reserve (NNR):** National Nature Reserves are defined under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended) as land primarily for nature conservation. Such a purpose covers the study, research and preservation of flora, fauna and sites with special geological or physiographical features. The NNRs were established to protect the most important areas of wildlife habitat and geological formations in Britain and as places for scientific research. All NNRs are nationally important and are best examples of a particular habitat/ecosystem.

**Natural England:** A Government Agency that promotes the conservation of England's wildlife and natural features and is responsible for designating National Nature Reserves, identifying Sites of Special Scientific Interest and for advising a wide range of bodies and individuals including the Government on matters affecting nature conservation.

**Nearshore:** Located close to the shore.

**NNB Generation Company Limited (NNB):** NNB Generation Company Limited, part of EDF Energy, is the Company that will be the licensee for the development at Sizewell C.

**Nuclear Island:** Reactor buildings and associated buildings forming part of the UK EPR.

**Office for Nuclear Regulation (ONR):** Department responsible for regulating nuclear industry, part of the Health and Safety Executive.

**On-site Associated Development:** Development which is associated with the Sizewell C NSIP and located within the Sizewell C Main Development Site boundary.

**Off-site Associated Development:** Development which is associated with the Sizewell C NSIP and located outside of the Sizewell C Main Development Site boundary.

**Ordnance Datum (Newlyn) (OD):** The UK reference point for height.

**Passive Gear:** An umbrella term for all fishing methods with static fishing gear in the water, such as lobster pots.

**Piling:** The installation of bored and driven piles and the effecting of ground treatments by vibratory dynamic and other methods of ground stabilisation.

**Plankton:** Organisms suspended in the water column and incapable of moving against water currents.

**Potable Water:** Drinking water.

**Pressurised Water Reactor (PWR):** A type of nuclear power reactor.

**Principal Aquifer:** Layers of rock or deposits with high permeability that provide a high level of groundwater storage.

**Public Access:** Permitted use of land by members of the public. Access can be allowed by a variety of means including: public rights of way (e.g. footpath, bridleway, byway); Acts of Parliament; the granting of conditional access by landowners (e.g. National Trust); custom or tradition.

**Public Rights of Way (PRoW):** These are designated 'highways' under the Countryside and Rights of Way [CRoW] Act 2000, which the public can use at anytime.

**Radionuclide:** Any man-made or natural element which emits radiation in the form of alpha or beta particles, or as gamma rays.

**Ramsar Site:** The Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat (1971) imposes a requirement on the UK Government to promote the wise use of wetlands and to protect wetlands of international importance. This includes the designation of certain areas as Ramsar Sites, where their importance for nature conservation (especially with respect to waterfowl) and environmental sustainability meet certain criteria. Further information can be found on the RAMSAR convention on wetlands website: [www.ramsar.org](http://www.ramsar.org)

**Receptor/sensitive receptor:** Used to refer to environmental features that may be affected by changes arising due to the Project.

**Secondary Aquifer:** Layers of rock or deposits providing lower levels of groundwater storage than a Principal Aquifer.

**Scheduled Monument:** A feature of national, historical or archaeological importance, either above or below the ground, which is included in the schedule of monuments as identified by the Secretary of State. Not all nationally important archaeological remains are scheduled and sites of lesser importance may still merit protection.

**Shoreline Management Plan (SMP):** A non-statutory plan produced to provide sustainable coastal defence policies (to prevent erosion by the sea and flooding of low-lying coastal land) and to set objectives for the future management of the shoreline. They are prepared by the Environment Agency and maritime local authorities, acting individually or as part of coastal defence groups.

**Site of Special Scientific Interest (SSSI):** An area designated as being of special interest by reason of any of its flora, fauna or geological or physiographical features. SSSIs are designated by Natural England under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000.

**Sizewell C Main Development Site:** The site of the proposed nuclear power station development (the main development) and construction areas.

**Source Protection Zones (SPZ):** Defined by the Environment Agency, these zones show the risk of contamination from any activities that might cause pollution in the area.

**Special Area of Conservation (SAC):** A site designated via the European Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) (i.e. the Habitats Directive) to protect rare and endangered habitats and species at a European level. Together with SPAs they form a network of European sites known as Natura 2000.

**Special Protection Area (SPA):** Designated under Article 4 of the European Directive on the Conservation of Wild Birds (2009/147/EC) (i.e. the Birds Directive) to protect the habitats of threatened and migratory birds.

**Subtidal:** Areas below water at all states of tide.

**Suffolk County Council:** County planning authority for the land area including Sizewell and the associated development site options.

**Suffolk Coastal District Council:** Local planning authority for the district including Sizewell and the associated development site options

**Suffolk Heritage Coast:** Areas of coast that are managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors.

**Surface Water:** Terrestrial water bodies that are found above ground level, such as lakes, rivers and ditches, and including fresh and inland brackish water.

**Sustainable Drainage Systems (SuDS):** A sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques (may also be referred to as sustainable drainage techniques).

**Trammel Net:** A fishing net with three layers of netting that is used to entangle fish or crustaceans.

**UK EPR:** The third generation Pressurised Water Reactor design. It has been designed and developed mainly in France and Germany. In Europe this reactor design was called the European Pressurised Reactor and the international name of this reactor is Evolutionary Power Reactor, but is now referred to as EPR.

**Water Framework Directive (WFD):** European Community Directive (2000/60/EC) on integrated river basin management. The WFD sets out environmental objectives for water status based on: ecological and chemical parameters; common monitoring and assessment strategies; arrangements for river basin administration and planning; and a programme of measures in order to meet the objectives. For further detail consult the European Commission website: <http://europa.eu.int>

**Waterfowl:** Wading birds and wildfowl.

## 7. ABBREVIATIONS

AA	Appropriate Assessment
ACT	Archaeological Conservation Team
AILs	Abnormal Indivisible Load
ALC	Agricultural Land Classification
AONB	Area of Outstanding Natural Beauty
AOD	Above Ordnance Datum
AML	Air Quality Monitoring Location
BAP	Biodiversity Action Plan
CRoW	Countryside and Rights of Way Act 2000
CWS	County Wildlife Site
dB	Decibels
DECC	Department Energy Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
EDF Energy	Électricité de France Energy
EIA	Environmental Impact Assessment
EQS	Environmental Quality Standards
ES	Environmental Statement
ER	Environmental Report
GDA	Generic Design Assessment
GVA	Gross Value Added
Ha	Hectare
HRA	Habitats Regulations Assessment
HSE	Health and Safety Executive
ITIS	Integrated Transport Information System
km	Kilometre
km <sup>2</sup>	Kilometres squared
LCA	Landscape Character Assessment
LiDAR	Light Detection and Ranging
L VIA	Landscape and Visual Impact Assessment
MNR	Marine Nature Reserves
mSv	Millisievert
MW	Megawatts
NCA	National Character Area
NCN	National Cycle Network
NML	Noise Monitoring Location
NNB	Nuclear New Build
NNR	National Nature Reserve
NSIP	Nationally Significant Infrastructure Project

OD	Ordnance Datum
PRoW	Public Rights of Way
PWR	Pressurised Water Reactor
RCN	Regional Cycle Network
RIFE	Radioactivity In Food and the Environment
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SLA	Special Landscape Area
SMP	Shoreline Management Plan
SPA	Special Protection Area
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System
UK	United Kingdom
WFD	Water Framework Directive

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# APPENDIX A - HABITAT REGULATIONS AND WATER FRAMEWORK DIRECTIVE

8.1.1 **Section 1.2** of the Environmental Report summarises other regulatory processes, in addition to the Environmental Impact Assessment (EIA), that the Sizewell C proposals will be subject to. These include the Habitats and Water Framework Directives, which require assessment of the Project's potential impacts on European designated nature conservation sites and the status of Water Framework Directive waterbodies, respectively. The work that has begun in consultation with relevant stakeholders to establish the requirements of these two assessment processes is summarised below.

## a) Habitat Regulations Assessment

8.1.2 The Nuclear National Policy Statement<sup>54</sup> has been assessed in accordance with the European Habitats Directive through a Habitats Regulations Assessment (HRA). As part of the development of the Nuclear National Policy Statement, nominated sites were screened for their potential to influence European and international sites of nature conservation importance. Sites included in the National Policy Statement and screened into the assessment process (i.e. those where potential effects on European sites could arise) were then subject to further assessment through individual site-based HRA Reports.

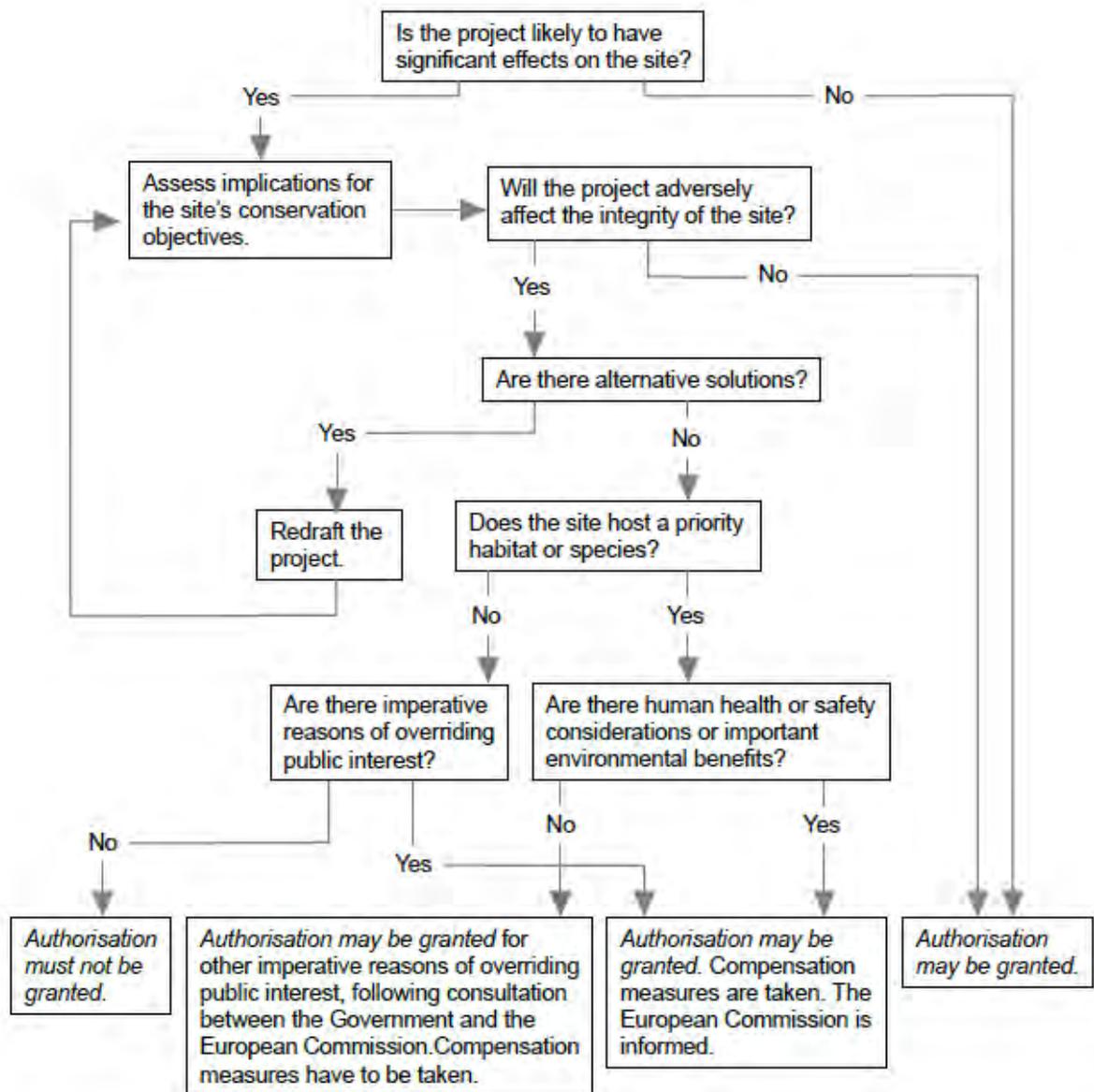
8.1.3 The HRA Screening Assessment for Sizewell identified that, as a result of development, likely significant effects in respect of a number of European sites could arise. These effects were assessed further through the appropriate assessment stage of the HRA, which took into account the environmental and Project data available at the time. Given the lack of detailed data, the appropriate assessment adopted a precautionary approach. It was concluded that, at the strategic level of the HRA, the potential for adverse effects on the integrity of the European sites identified at the screening stage (via potential impacts on water resources and quality, habitat and species loss and fragmentation and disturbance (noise, light and visual)) could not be discounted. It was also concluded that the employment of appropriate measures may be sufficient to avoid and/or mitigate the identified adverse effects on the integrity of the European sites identified. However, the effectiveness of any such measures could only be ascertained with certainty through HRA at a project level, where the specific details of developments and primary data sources will be available.

8.1.4 A project-level HRA for the Sizewell C Project is therefore required and the information needed by the competent authority to undertake appropriate assessment of the development will need to be provided by EDF Energy as part of the overall submission for development consent. This is to be provided through a project specific Shadow HRA. **Figure A.1** illustrates the HRA process.

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<sup>54</sup> *National Policy Statement for Nuclear Power Generation (EN-6)*, Department for Energy and Climate Change, July 2011.

Figure A.1: Step-by-step Approach to Determining the Implications of a Project on European Sites (IPC Advice Note 10 – IPC 2011)



8.1.5 At this stage in the process sufficient environmental and Project information is not yet available in order to enable full screening of the Project to determine likely significant effect. However, as a first step in the development of the project-level Shadow HRA, EDF Energy has considered, in close liaison with the statutory regulators and Local Authorities, the potential European sites that might feasibly be affected by the development, including associated development. **Table A.1** lists the potential sites that could be affected and require further detailed assessment which were identified by the 'Pre-Screening' assessment.

Table A.1: Summary Table Showing Initial European Site Selection Outcomes for HRA Screening

Site Name	Initial Selection Proposal		
	Selected	Possible	Unlikely
Alde-Ore and Butley Estuaries SAC			
Alde-Ore Estuary SPA			
Alde-Ore Estuary Ramsar			
Benacre to Easton Bavents Lagoons SAC			
Benacre to Easton Bavents Lagoons SPA			
Deben Estuary SPA			
Deben Estuary Ramsar			
Dew's Ponds SAC			
Minsmere to Walberswick Heaths and Marshes SAC			
Minsmere to Walberswick SPA			
Minsmere to Walberswick Ramsar			
Orfordness-Shingle Street SAC			
Outer Thames Estuary SPA			
Sandlings SPA			
Staverton Park and the Thicks SAC			
Stour and Orwell Estuaries SPA			
Stour and Orwell Estuaries Ramsar			

8.1.6 With respect to the assessment of effects in combination with other plans or projects, in the first instance a standalone in-combination assessment will be undertaken of the predicted effects of the operation of Sizewell C with Sizewell B; where the operation of Sizewell B, in effect, represents the baseline condition. However, the effects of Sizewell C in isolation will also be predicted, given that the operation of Sizewell B will cease in the future. Beyond this, potential in-combination effects with other plans and projects will also be considered.

8.1.7 The important role of consultation in developing the Shadow HRA is recognised by EDF Energy. Given this, a HRA Working Group has already been established and includes representation from the Marine Management Organisation, Natural England, the Environment Agency, Suffolk Coastal District Council and Suffolk County Council. Staged Project consultation will be undertaken at several key points in the development of the Project documentation.

## **b) Water Framework Directive Compliance Assessment**

- 8.1.8 The Water Framework Directive (WFD) Regulations<sup>55</sup> were introduced to achieve 'good' ecological status in all surface waters (rivers, lakes, transitional (estuarine) and coastal waters) and groundwaters. New development must ensure that this requirement is not compromised.
- 8.1.9 A WFD compliance assessment will therefore be required for the Sizewell C development, in order to determine whether specific components or activities related to the proposed development would compromise the attainment of a WFD objective, River Basin Management Plan (RBMP) measure or result in the deterioration in the ecological status of any water bodies. Additionally, possibilities to enhance the ecological status of WFD water bodies must also be considered within this assessment.
- 8.1.10 There is no designated methodology for undertaking a WFD assessment, although several sets of guidance have been developed. For the purposes of the Sizewell C Project, it is proposed that the broad methodologies outlined in existing guidance are modified in order to undertake the assessment alongside the development of the EIA. The proposed four stage process is summarised below.

### **i Stage 1: Collation of Baseline Information to Inform the Assessment**

- 8.1.11 The aim of this stage is to collate all available baseline data that will be necessary to complete the WFD compliance assessment, including information on the scheme, the baseline environment, the water bodies which could potentially be impacted by the scheme, and details of any additional schemes which could also impact on the water bodies.

### **ii. Stage 2: Preliminary Compliance Assessment**

- 8.1.12 The aim of the second stage of the assessment is to identify whether there is any potential for the deterioration in water body status, or failure to comply with WFD objectives or RBMP measures, for any of the water bodies identified in Stage 1.
- 8.1.13 This stage considers potential non-temporary impacts, cumulative impacts and impacts on critical or sensitive habitats. Water bodies can be screened out of further assessment if it can be satisfactorily demonstrated that there would be no non-temporary impacts resulting in WFD non-compliance. If impacts are predicted, it will be necessary to undertake a detailed compliance assessment.

### **iii. Stage 3: Detailed Compliance Assessment**

- 8.1.14 This stage of the assessment aims to assess whether the activities and/or scheme components that have been put forward from Stage 2 would have a significant non-temporary effect on the status of one or more WFD quality elements or prevent implementation of RBMP measures. The test is, therefore, to determine whether the activity is likely to lower a water body's existing ecological status or prevent the implementation of measures in order to improve status.

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<sup>55</sup> *Water Environment (Water Framework Directive) (England and Wales) Regulations 2003*, SI 2003/3242, HMSO, 2003.

- 8.1.15 If it is established that an activity and/or scheme component is likely to affect water status at water body level (that is, by causing deterioration in status or by preventing achievement of WFD objectives or RBMP measures), or that an opportunity may exist to contribute to improving status at a water body level, potential measures to avoid the affect or achieve improvement must be investigated. This stage considers these measures and, where necessary, evaluates the measures in terms of cost and whether this may be disproportionate.

#### **iv. Stage 4: Summary of Mitigation and Monitoring Measures**

- 8.1.16 This stage of the process produces a summary of the preceding stages and outlines any mitigation and monitoring proposals for each of the activities assessed and where enhancement measures would implemented.

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Appendix B.6 Transport Strategy Supporting Document (Stage 1) (November 2012)

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Appendix 1A – Locations of Traffic Counts

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# 1. INTRODUCTION

## 1.1 Background

- 1.1.1 Nuclear power has been generated at Sizewell on the Suffolk coast since the commissioning of the Sizewell A plant in 1966, which was operational until 2006. An additional Sizewell B nuclear power station was commissioned in 1995 comprising a single Pressurised Water Reactor (PWR).
- 1.1.2 EDF Energy<sup>1</sup> is now proposing to develop a new nuclear power station at Sizewell – known as Sizewell C. The proposed Sizewell C Main Development Site would be adjacent and to the north of the existing Sizewell B station. It would comprise two UK EPR reactors with a combined electrical generating capacity of approximately 3,260 MW, along with associated supporting facilities.
- 1.1.3 This document forms part of EDF Energy's Stage 1 consultation for the Sizewell C Project and is published alongside a number of other documents that set out information about the proposed development.
- 1.1.4 This document, entitled **Transport Strategy and Supporting Information**, provides additional information on issues relevant to the transport impacts of the construction and operation of Sizewell C, the transport-related work conducted to date and additional work planned prior to submitting an application for a Development Consent Order (DCO) for the construction and operation of Sizewell C and its associated development.

## 1.2 Purpose and Content of the Transport Strategy and Supporting Information

- 1.2.1 During the construction of Sizewell C there would be significant movement of freight and people to support the construction programme. It is currently estimated that the construction workforce would peak at around 5,600 people and very large volumes of material would require transportation to and from the construction site. Following commissioning of both reactors, it is anticipated that an operational workforce of around 900 personnel would be required. Sizewell C is therefore unusual, when compared to most major residential or commercial developments, in that the greater traffic impact would occur during the period of construction, rather than operation.
- 1.2.2 EDF Energy is aware that the transport of construction workers and freight during the construction phase may be of concern to local residents both around the construction site and along the main transport corridors to the site. The main purpose of the **Transport Strategy and Supporting Information** is to provide additional information on a range of relevant issues and thus help consultees respond to EDF Energy's proposals and options as set out in the **Consultation Document**. Specifically the document aims to set out:

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<sup>1</sup> NNB Generation Company Limited, whose registered office is at 40 Grosvenor Place, London, SW1X 7EN (referred to in this document as "EDF Energy")

- the main transport-related planning policy context relevant to any transport impacts arising from the Sizewell C Project;
- the existing transport context relevant to the Sizewell C Project;
- the transport work EDF Energy has conducted to date, including information on the development of a traffic model which will be used to examine the likely traffic impacts associated with the construction and operation of Sizewell C;
- the main assumptions which are currently being used to consider the potential traffic impacts of Sizewell C, along with an indication of areas where further work may be required;
- EDF Energy's current thinking and proposals regarding the transport strategy for the movement of the construction workforce and the movement of freight;
- EDF Energy's current view of the main areas of potential traffic impact arising from the construction of Sizewell C – and potential options for mitigation; and
- the further work that will be undertaken on transport issues through the consultation process and leading up to an application for a development consent to build and operate Sizewell C and its associated development.

1.2.3 By necessity the **Transport Strategy and Supporting Information** repeats some information which is contained in the **Consultation Document**. However additional detail is provided on the process that is being followed, the work undertaken to date, the basis for EDF Energy's proposals and the further work planned.

1.2.4 Overall the document aims to demonstrate that EDF Energy is following a robust and evidence-based process for assessing the likely traffic impacts of the Sizewell C Project. EDF Energy will not be able to remove all the traffic impacts associated with a project of this scale, and planning policy is clear that it should not be held responsible for addressing existing traffic problems or issues faced by the local transport network. Nonetheless, EDF Energy has identified a range of major proposals which would significantly reduce and manage the traffic generated during the construction and operation of Sizewell C. In line with planning guidance, EDF Energy would also bring forward plans for additional mitigation if impacts cannot be reduced to acceptable levels.

1.2.5 Further information on EDF Energy's proposals on transport, and assessment of transport related impacts, will be provided at later stages of consultation.

## 1.3 How to Respond

1.3.1 The **Transport Strategy and Supporting Information** is one of the suite of documents being published by EDF Energy as part of the Stage 1 consultation for Sizewell C. The other documents are:

- **Consultation Document**
- **Consultation Document: Summary**
- **Environmental Report**

1.3.2 These documents can be downloaded from the Project website <http://sizewell.edfenergyconsultation.info/>. Alternatively hard copies of the documents are available to view at the Sizewell C Information office (48-50 High Street, Leiston, IP16 4EW); in the offices of Suffolk County Council, Suffolk Coastal District, Waveney District and Ipswich Borough Councils; in a number of local public libraries

and at the public exhibitions and events that will be held during the consultation period.

1.3.3 EDF Energy welcomes feedback on the proposals. Individuals and organisations wishing to do so can:

- E-mail comments to: [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info);
- Send written responses to: Sizewell Nuclear New Build, FREEPOST LON20574, London, W1E 3EZ;
- Submit comments via the freephone number 0800 197 6102 (9am-5.30pm Monday-Friday); or

1.3.4 Members of the public can also respond via the public questionnaire which can be found in the Consultation Document: Summary and online at <http://sizewell.edfenergyconsultation.info/>

## 2. POLICY CONTEXT

### 2.1 Introduction

- 2.1.1 This section sets out the policy and guidance framework that will be used to steer and inform the assessment of Sizewell C transport impacts and any mitigation proposals.

### 2.2 National Legislation

- 2.2.1 The Planning Act 2008 created a new system of development consent for Nationally Significant Infrastructure Projects (NSIPs) - including nuclear power stations. Under the Planning Act 2008, the Infrastructure Planning Commission (IPC) was established to determine such applications. On 1 April 2012, under the Localism Act 2011, the IPC was abolished and its functions transferred to the Secretary of State. The Planning Inspectorate, acting on behalf of the Secretary of State, will now examine NSIP applications and then submit its recommendations to the Secretary of State, who will make the final decision on the application. The Secretary of State will make a decision in accordance with national policy (specifically any relevant National Policy Statements (NPSs), taking into account the identified local impacts of the proposals and all representations made.

### 2.3 National Policy Statements

- 2.3.1 The Overarching National Policy Statement for Energy (EN-1) and the National Policy Statement for Nuclear Power Generation (EN-6), both of which were designated by Parliament in July 2011, form the primary basis for decision-making on nuclear power station NSIPs. In particular, NPS EN-1 sets out that the Secretary of State should start with a presumption in favour of granting consent to applications for energy NSIPs unless any more specific and relevant policies set out in the relevant NPSs clearly indicate that consent should be refused.
- 2.3.2 Other policies which the Secretary of State may consider important and relevant to their decision-making may include Development Plan Documents, but paragraph 4.1.5 of NPS EN-1 makes clear that in the event of any conflict between the relevant NPS and any other document, the NPS prevails for the purpose of decision-making given the national significance of the infrastructure.

#### a) Requirement for a Transport Assessment

- 2.3.3 NPS EN-1 provides guidance on the comprehensive process of Environmental Impact Assessment (EIA) which must be followed by the applicant for any project that is subject to the European EIA Directive<sup>2</sup>. An environmental statement must be submitted as part of the application for development consent for all such EIA development projects. EDF Energy will follow this process for Sizewell C.
- 2.3.4 The issue of transport is dealt with in **section 5.13** of the NPS EN-1. This provides that if a project is likely to have significant transport implications, the applicant's

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<sup>2</sup> Council Directive 85/337/EEC

environmental statement must include a transport assessment utilising the WebTAG methodology stipulated in Department for Transport guidance.

- 2.3.5 WebTAG is a framework used to appraise transport projects and proposals in the United Kingdom. It provides a tool for ensuring transport studies are comparable and consistent. WebTAG is based on economic benefit and environmental impact techniques described in the Design Manual for Roads and Bridges (DMRB). There are five high level criteria that are assessed: economic, safety, environmental, accessibility, and integration.

#### **b) Guidance in EN-1**

- 2.3.6 Section 5 of NPS EN-1 also provides guidance on the principles and approaches that should apply to the transport and traffic impacts associated with an energy NSIP. Paragraph 5.13.4 states that:

*“Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts.”*

- 2.3.7 Paragraph 5.13.6 notes that a new energy NSIP may give rise to substantial transport impacts on the surrounding transport infrastructure and that, if this is the case, the applicant should seek to mitigate these impacts. Furthermore, clear direction is given on mitigation measures in paragraph 5.13.8 as follows:

*“Where mitigation is needed, possible demand management measures must be considered and if feasible and operationally reasonable, required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts.”*

- 2.3.8 It goes on to state in paragraph 5.13.9:

*“The IPC [now Secretary of State] should have regard to the cost-effectiveness of demand-management measures compared to new transport infrastructure, as well as the aim to secure more sustainable patterns of transport development when considering mitigation measures.”*

- 2.3.9 Paragraph 5.13.10 states that:

*“Water-borne or rail transport is preferred over road transport at all stages of the project, where cost-effective.”*

- 2.3.10 Traffic demand-management measures in this context can be broadly defined as promoting the use of alternatives to single occupancy private car use and road-borne freight movements.

- 2.3.11 When referring to transport impacts the policy states at paragraph 5.13.7 that:

*“Provided that the applicant is willing to enter into planning obligations or requirements can be imposed to mitigate transport impacts identified in the NATA/WebTAG Transport Assessment, with attribution of costs calculated in accordance with the Department for Transport’s guidance, then development consent should not be withheld, and appropriately limited*

*weight should be applied to residual effects on the surrounding transport infrastructure.”*

2.3.12 The thrust of policy, therefore, is that the applicant should take reasonable steps to provide mitigation so as to reduce impacts, but that limited weight should be applied to residual impacts.

2.3.13 EDF Energy will prepare a transport assessment for the Sizewell C Project in line with the requirements of EN-1 and the Department for Transport’s WebTAG and Transport Assessment guidance and this will be submitted as part of the DCO application. This assessment will aim to demonstrate that the application of demand management techniques have been fully considered (and linked to the travel plan) to mitigate potentially intensive demand for travel to site but will also take account of how operationally reasonable and cost-effective such measures are in relation to the delivery of the project.

## 2.4 Other National Policy

2.4.1 As explained above, more limited weight should be applied to other policies given the primacy of the NPSs and given that the energy NPSs were drafted taking account of relevant national planning policies. Nevertheless a brief summary of other potentially relevant policies is set out below.

### a) National Planning Policy Framework, March 2012

2.4.2 The National Planning Policy Framework (NPPF) was adopted in March 2012 and sets out the Government’s planning policies. The NPPF, therefore, is the most up to date and authoritative statement of national planning policy. Annex 3 of the NPPF includes a list of documents replaced by the NPPF, including Planning Policy Guidance 13: Transport.

2.4.3 Paragraph 3 of the document confirms that the NPPF does not contain specific policies for NSIPs which are to be determined in accordance with the decision making framework set by the Planning Act 2008 and relevant NPSs for major infrastructure, as well as other matters which are important and relevant (which may include the NPPF). As such, in respect of the application for development consent for Sizewell C, the most relevant policy tests in terms of transport are those set out in NPS EN-1 above.

2.4.4 However, it is worth noting the emphasis of the NPPF in promoting sustainable transport. Specifically, paragraph 32 states:

*“Plans and decisions should take account of whether:*

- *the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure,*
- *safe and suitable access to the site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”*

2.4.5 This policy provides consistency with paragraph 5.13.7 of NPS EN-1 which recognises that some residual impacts may remain unmitigated.

#### **b) Highways Agency Guidance**

2.4.6 It is anticipated that most of the traffic impacts associated with Sizewell C would occur away from the Strategic Road Network (SRN) for which the Highways Agency (HA) is responsible. However EDF Energy will work closely with the HA in relation to any potential impacts on the SRN (in particular in relation to the A14 south of Ipswich) arising from the construction or operation of Sizewell C or its any associated development in the vicinity of the A14. This work will take account of any relevant HA policies and guidance.

### **2.5 Local Policy and Guidance**

2.5.1 As explained above, it is at the discretion of the Secretary of State to determine the weight attributable to local policies given the primacy of the NPS. Local policies, which may be relevant, are identified below.

#### **a) Suffolk Local Transport Plan (2011-31)**

2.5.2 Suffolk County Council's Local Transport Plan (LTP) sets out a programme of transport improvements for the period 2011-2031.

2.5.3 The LTP has been developed in accordance with national and regional strategies and in response to the key transport issues identified for Suffolk. The LTP looks to improve access to jobs and services, achieve development and regeneration, as well as improve the quality of urban and rural environments.

2.5.4 The LTP objectives have been developed to support the Government's transport priorities, namely accessibility, congestion, safety and air quality. The overarching objective for Suffolk County Council (SCC) is to provide an efficient and sustainable transport system that meets the travel demands of the people of Suffolk, whilst protecting quality of life and Suffolk's unique environment.

2.5.5 The LTP's Implementation Programme sets out a number of planned developments of potential relevance to the Sizewell C transport assessment. These include the Beccles southern relief road and the Beccles rail loop, the latter development will allow increased frequency of trains between Ipswich and Lowestoft.

2.5.6 In relation to traffic on the part of the A12 through Farnham, Stratford St. Andrew, Little Glemham and Marlesford the LTP states the following:

*"There are long standing issues of traffic volume through the villages of Marlesford, Little Glemham, Stratford St Andrew and Farnham on the A12. Suffolk County Council strongly supports the provision of proper relief for these communities by the provision of a relief road and will work with the nuclear industry to secure its provision alongside any new power station at Sizewell."*

2.5.7 The A12 route would provide access for vehicles approaching the Sizewell C development site from the south and represents a likely route for the transport of construction personnel and materials. Therefore, within the overall assessment of the traffic impacts of the development, it will be important to take account of the work undertaken by SCC in this area and to consider the additional impacts of the Sizewell

C Project relative to the existing situation and anticipated trends. This is discussed further in section 7.

#### **b) Suffolk Coastal Local Plan (1<sup>st</sup> Alteration), 2001 and Local Development Framework**

- 2.5.8 The adopted local planning policies for Suffolk Coastal are set out in the Suffolk Coastal Local Plan (1<sup>st</sup> Alteration) 2001 which was adopted prior to designation of the NPS. A number of the policies have been “saved” until they are replaced by policies in the Local Development Framework (LDF).
- 2.5.9 Chapter 5 of the Local Plan details transport and communication policies all of which have been saved. Specifically, these include the following relevant adopted policies:
- AP77 – Improvements to the A12;
  - AP80 – Car Parking Standards;
  - AP81 – Cycle Routes;
  - AP82 – Provision for Cyclists;
  - AP83 – Provision for Pedestrians;
  - AP84 – Rail Services;
  - AP85 – Bus Services;
  - AP86 – Interchange Facilities; and
  - AP107 – Footpaths and Bridleways.
- 2.5.10 The LDF Core Strategy will in time replace most policies in the Local Plan. The pre-Submission Core Strategy and Development Management Policies DPD was published for consultation in December 2011 and was formally submitted to the Secretary of State for independent examination in May 2012. EDF Energy has subsequently agreed with Suffolk Coastal District Council further modifications to the plan, including recognition that any transportation impacts associated with Sizewell C will be assessed in accordance with National Policy Statements EN-1 and EN-6 (Main Modification 19). The document is undergoing Examination during Autumn 2012 and subject to the Inspector finding the plan sound, it is likely to be adopted in Spring 2013.

## 3. EXISTING TRANSPORT CONTEXT

### 3.1 Introduction

- 3.1.1 This section provides a brief summary of the existing local transport context close to the proposed Sizewell C Main Development Site – focussing on the areas of greatest likely relevance to the construction programme and the assessment of transport impacts.

### 3.2 Location of Sizewell C

- 3.2.1 It is proposed to construct Sizewell C on land to the north of the existing Sizewell B power station. The existing Sizewell site is located around 3km to the north-east of the town of Leiston. The small coastal village of Sizewell lies to the south of Sizewell A power station; other nearby towns include Thorpeness and Aldeburgh to the south, Saxmundham to the west and 10km further north along the coast, Southwold. The major towns of Ipswich and Lowestoft are some 40km to the south-west and north respectively.

### 3.3 Local Road Network

- 3.3.1 The major road for reaching the Sizewell site from more distant locations is the A12, which extends beyond the south-east of Ipswich (where it adjoins the A14) through Lowestoft. The A14 runs from the Port of Felixstowe and northwest towards Cambridge, bypassing Ipswich.
- 3.3.2 Parts of the A12 are dual carriageway with some single carriageway sections, including through the four villages of Marlesford, Little Glemham, Stratford St Andrew and Farnham as well as Yoxford.
- 3.3.3 From the A12 the existing Sizewell site can be reached either via the B1122 (travelling through Theberton and then on to Lover's Lane), the B1119 through Saxmundham and then Leiston or via the A1094 and then the B1069 through Leiston. Of these routes, the B1122 was the approved Heavy Goods Vehicle (HGV) route during the construction of Sizewell B.
- 3.3.4 The A12 experiences some congestion at peak hours (e.g. in areas to the east of Ipswich). Other parts of the road network close to the Sizewell site generally experience relatively modest existing traffic flows and few if any significant congestion problems, consistent with the relatively rural character of the surrounding area.
- 3.3.5 **Figure 3.1** shows the location of Sizewell (marked as a star) in the context of the local road network.

Figure 3.1: The Suffolk Road Network between Lowestoft and Ipswich



## 3.4 Local Rail Network

- 3.4.1 The East Suffolk Line is an un-electrified railway line running between Ipswich and Lowestoft. The line is double-track from Ipswich to Woodbridge and from Saxmundham to Halesworth, with the rest of the route being single track.
- 3.4.2 Currently there is an hourly passenger train service between Ipswich and Saxmundham on this line and a service once every two hours between Saxmundham and Lowestoft. Resignalling and the development of a new passing loop at Beccles will shortly enable the service to become hourly between Ipswich and Lowestoft. From Ipswich and Lowestoft there are connections into the wider regional and national rail network.
- 3.4.3 A single track branch line runs between Saxmundham and Leiston but is not currently used for any public rail passenger services. The line is used for occasional movements of spent fuel associated with the decommissioning of the Sizewell A nuclear power station. There are five level crossings on the branch line which are crew operated and the line terminates in a small siding south of King George's Avenue in Leiston. The branch line was used for the delivery of cement and other construction materials by rail during the construction of Sizewell B.

## 3.5 Local Bus Services

- 3.5.1 A number of local bus services serve the town of Leiston and surrounding towns and villages in the Suffolk Coastal District. The main services of relevance are shown in the table below and timetables for these services are available from [www.suffolkonboard.com](http://www.suffolkonboard.com).

Table 3.1: Local Bus Services

Service	Route	Operator
64	Ipswich – Woodbridge – Saxmundham – Aldeburgh	First in Norfolk & Suffolk
165	Ipswich – Woodbridge – Rendlesham – Aldeburgh	Anglian Buses
196	Saxmundham – Yoxford – Westleton – Leiston	Minibus & Coach Hire (East Anglia)
521	Aldeburgh – Leiston – Saxmundham – Halesworth	Anglian, Minibus & Coach Hire, Nightingales

## 3.6 Walking and Cycling

- 3.6.1 The relatively rural and flat character of the landscape in the vicinity of the Sizewell site provides opportunities for walking and cycling, both for leisure pursuits and for the daily journey to work.
- 3.6.2 There are a range of existing rights of way and cycle paths in the neighbouring towns and villages close to Sizewell. Suffolk's public rights of way website: <http://publicrightsofway.onesuffolk.net/> provides information on rights of way in Suffolk.

- 3.6.3 The Discover Suffolk website: <http://www.discoversuffolk.org.uk/walk-cycle-and-horseriding-routes.asp> provides details of circular walks, long-distance routes, cycle routes and horse rides in Suffolk.

## 3.7 Port Infrastructure

- 3.7.1 The nearest commercial port facilities are located at Lowestoft, Ipswich and Felixstowe, approximately 40-50km from the site. Lowestoft and Ipswich ports are owned and operated by Associated British Ports and provide a range of facilities for container, bulk and general cargo handling. The port of Lowestoft is a centre for servicing the offshore oil and gas industry, and more recently for the offshore wind energy industry. The port of Felixstowe is operated by the Felixstowe Dock and Railway Company and handles container cargo.
- 3.7.2 In principle, the ports of Lowestoft and Ipswich could provide locations for the storage and transshipment of Abnormal Indivisible Loads (AILs) and bulk materials required for the construction of Sizewell C. At this stage it is envisaged that this could be achieved via the use of existing facilities as opposed to any significant new development at the ports.

# 4. TRAFFIC MODEL DEVELOPMENT

## 4.1 Purpose of a Traffic Model

- 4.1.1 One of the key elements of the process of assessing the likely traffic impacts of a major development is the preparation of a traffic model of the local road network which is likely to be affected by the development.
- 4.1.2 The process begins with the preparation of a “base model” which aims to accurately replicate the existing conditions on the local road network in question. A process of calibration and validation is undertaken so that the model reflects observed traffic conditions. Traffic growth and committed developments and transport improvements are then included to estimate the future conditions which would apply on the road network in the absence of the development (in this case Sizewell C). This is known as the “reference case” model.
- 4.1.3 The third stage of the process is to add estimates of traffic generated by the development to the reference case model. This “with-development” model can then be used to examine the likely future impacts of the development on the road network. A benefit of a modelling process of this kind is that it can be used to test different scenarios and thus ensure that the conclusions reached about potential traffic impacts are robust to the range of plausible outcomes that may occur.
- 4.1.4 EDF Energy is in the process of developing a traffic model for the Sizewell C Project. This section sets out the status of the model development to date, the data sources being used and the future work which will be conducted to refine and enhance the modelling through the process of consultation on Sizewell C.
- 4.1.5 Through the consultation and pre-application process, EDF Energy will work closely with SCC in relation to the development and refinement of the traffic model. SCC and the Highways Agency are the relevant highway authorities for the development. EDF Energy will aim to agree “base”, “reference case” and “with-development” models with SCC, such that there is an agreed position on the additional traffic that Sizewell C is likely to generate during construction and operation.

## 4.2 Nature of the Traffic Model

- 4.2.1 The traffic model being developed is a VISUM model. VISUM is one of a number of industry standard software packages used for traffic modelling and is widely used for the purposes of transport assessment.
- 4.2.2 The VISUM modelling will be compliant with WebTAG and the Design Manual for Roads and Bridges (DMRB) and will provide outputs that can be readily used in the transport assessment and for associated air quality and noise assessments in the environmental statement. VISUM also provides a direct means of easily developing a more detailed micro-simulation model of particular areas of the highway network, should this prove to be necessary.

## 4.3 Study Area and Model Network

- 4.3.1 The study area and modelled network for the VISUM model extends to Lowestoft to the north, Ipswich to the south and the A140 to the west. The geographic extent of

the model is shown in **Figure 4.1** below and the road links currently included in the model are shown in red.

- 4.3.2 EDF Energy is confident that the geographic extent of the model accurately reflects all areas of the road network where there is any potential for material traffic impacts associated with Sizewell C. Nonetheless, if further work suggests that there is a good case for extending the geographic scope of the model, this can be done at a future date.

Figure 4.1: Geographic Extent of the Sizewell C VISUM Traffic Model



## 4.4 Status of Model Development and Data Sources

- 4.4.1 An initial VISUM base model has been developed using the following data sources:

- A wide range of Manual Classified and Automatic Traffic Counts (ATC) on the local road network were commissioned by EDF Energy and conducted in May and June 2011. The full list of locations where traffic counts were undertaken is set out in **Appendix 1A**.
- Count information from the Highways Agency Traffic Flow Data System which holds information on traffic flows at sites on the motorway and trunk road network.

4.4.2 A reference case model has then been developed for the period of peak construction – this model includes assumptions on background traffic growth and the additional traffic associated with major items of “committed development”, i.e. projects with planning consent but not yet built. This reference case specifically includes traffic associated with the SnOasis ski, leisure and tourism development in Great Blakenham to the northwest of Ipswich. For robustness it also assumes that the first stage of the Adastral Park housing and commercial development in Martlesham to the east of Ipswich has received planning permission and been developed by the time of peak construction of Sizewell C.

4.4.3 This model has then been used to make an initial assessment of the potential impacts of Sizewell C related traffic during the period of peak construction. This has been done by adding estimates of Sizewell C related traffic to the reference case model. The main project assumptions used to generate traffic assumptions are set out in sections 5 and 6 of this document. This modelling has informed EDF Energy’s initial position on the likely traffic impacts of the development as set out in the **Consultation Document** and later sections of this paper.

## 4.5 Modelled Periods

4.5.1 The traffic modelling conducted to date has considered:

- the peak period of Sizewell C construction; and
- traffic conditions on a Friday afternoon on the local road network.

4.5.2 The reason for the choice of modelling using Friday base flows is that analysis of the May 2011 survey data suggests Friday is typically the busiest day of the week on the relevant road network. On Fridays the period 3-4pm has been identified as a period which combines high existing flows with high forecasted development flows and this has therefore been chosen as an initial modelled period.

4.5.3 The combination of modelling the peak period of Sizewell C construction alongside the peak period of existing traffic flows means that the outputs of the model represent a robust assessment of the likely traffic impacts of Sizewell C. On most days during the construction of Sizewell C, both existing traffic flows and those related to Sizewell C can be expected to be lower than have been modelled.

4.5.4 Nonetheless, EDF Energy recognises that further modelling of other time periods is likely to prove desirable or necessary through further stages of the pre-application process. Such additional modelling will include morning and evening network peaks and could, for example, include:

- analysis of other modelling hours including the “shoulder peak” periods on the local road network – i.e. those periods before and after the main network peak;
- analysis of summer peak periods on the local road network; and
- analysis of other periods in the construction programme.

4.5.5 Decisions on the modelling of other periods will be made in consultation with SCC and the HA and linked to the potential for there to be materially worse or different traffic impacts than have been identified in the modelling conducted to date.

## 4.6 Further Development and Refinement of the VISUM Traffic Model

4.6.1 EDF Energy recognises that further work can be done to refine the VISUM traffic modelling and enhance its robustness and comprehensiveness. This work should improve the level of confidence in the preliminary output from the work conducted to date.

4.6.2 This additional work is planned and comprises the following elements:

- A programme of model validation working with SCC to ensure that the base model reflects existing network conditions as accurately as possible.
- Enhancement of the model to include data from additional traffic counts which have been conducted in Autumn 2012. This data will provide additional detail to the model and allow an outer region of traffic count information to be used in conjunction with the already comprehensive information collected in the areas of the road network closer to the Sizewell C Development Site. A list of the additional survey locations is in **Appendix 1A**.
- The addition of some traffic flow data from the existing East of England Regional Model (EERM).
- Consideration of ATC information from SCC from a range of permanent count sites for May and August 2011 to address the question of the extent of seasonality of the existing road network.

4.6.3 The outputs from the Sizewell C VISUM traffic model will be used to assess the traffic impacts of the project against a range of criteria which will include:

- Link flow differences (i.e. the change in the absolute additional number of vehicles and the percentage increase on any given stretch of road);
- Impacts on journey times;
- Ratio of Flow to Capacity on links; and
- Junction 'Level of Service'.

4.6.4 Ratio of Flow to Capacity and Junction Level of Service are industry standard means of assessing the impact of additional traffic on the capacity of the road network and the operation of junctions.

4.6.5 Outputs from the traffic model can also be used to assess individual junction performance using industry standard software packages such as ARCADY, PICADY, or LinSig as appropriate.

4.6.6 Following Stage 1 consultation, the traffic model will also be developed to assess the likely traffic impacts of Sizewell C once the construction programme is complete and the power station is operational.

# 5. MOVEMENT OF THE CONSTRUCTION WORKFORCE

## 5.1 Introduction

- 5.1.1 This section sets out EDF Energy's current thinking and strategy as regards the movement of the construction workforce for Sizewell C – with a particular focus on proposals for the peak years of construction when the workforce will be at its highest.
- 5.1.2 There are a range of areas where further work will be done to develop and refine the transport strategy for the workforce, which are set out within this section. For these reasons the proposals, assumptions and information contained in this section should be considered as provisional at this stage. They are initial proposals which may be subject to change. They should not be viewed as firm plans which will definitively form part of EDF Energy's final proposals in the Development Consent Order application for Sizewell C.

## 5.2 The Peak Construction Workforce

- 5.2.1 The peak construction workforce for Sizewell C is estimated to be around 5,600 workers. This section sets out the approach anticipated for the daily journey to and from the Sizewell C site at peak construction and the associated assumptions which have been used in the initial traffic modelling.

## 5.3 Location of the Construction Workforce

### a) Sizewell C Gravity Model

- 5.3.1 The construction workforce for Sizewell C would comprise a mixture of:
- "home-based" workers who are already resident in the local area or region and will commute to and from the site from their existing home on a daily basis; and
  - "non-home-based" workers who do not currently live in the local area or region and will find accommodation in the area during the construction period. Many of these workers will be resident in an accommodation campus provided by EDF Energy. Others will find their own accommodation in the local area – for example private-rented, tourist or caravan accommodation.
- 5.3.2 In order to model the likely traffic impacts of Sizewell C, it is necessary to estimate the residential location of the construction workforce. For this purpose a "gravity model" of the Sizewell C workforce has been developed. This is a model which predicts the likely distribution of construction workers, taking account of the key factors that will influence the residential location of the workforce.
- 5.3.3 The "gravity" element of the model essentially takes account of the principles that, on average, the workforce will tend to choose to locate itself closer to the construction site rather than further away (subject to the availability of accommodation) and that more workers will tend to be located in towns and regions with larger populations rather than small villages and areas of lower population.

- 5.3.4 In addition, development of the Sizewell C gravity model has been informed by a number of other assumptions and information sources, as follows:
- At peak construction, home-based workers are estimated to represent 34% of the Sizewell C construction workforce and non-home-based workers to represent 66%. The greater proportion of non-home-based workers at peak construction reflects both the scale of labour demand at this point in the project and the range of specific skills required – not all of which can fully be met locally.
  - Home-based workers will be willing to commute up to 90 minutes each way on a daily basis.
  - Non-home-based workers will tend to locate themselves closer to the construction site, and will, therefore, be willing to commute up to 60 minutes each way on a daily basis.
  - At peak construction, at least 2,000 non-home based workers will be resident at an EDF Energy accommodation campus located at or close to the construction site (**see section 5.4**).
- 5.3.5 The gravity model has also been informed by an assessment of the availability and affordability of other sources of potential accommodation for non-home-based workers. This assessment has relied on publicly available datasets, information from the East of England Tourist Board, consultation with local authority partners and research into the costs of tourist accommodation in Suffolk. Further information on the socio-economic inputs to the gravity model is in **Chapter 3** of the **Environmental Report**.
- 5.3.6 By definition, a gravity model of this kind cannot precisely predict the future location of all Sizewell C construction workers, or take full account of all of the factors which may influence accommodation and employment decisions that are still many years away. That said, EDF Energy considers that the gravity model which has been developed provides a reasonable prediction of likely worker locations and is the best estimate that can be made at the present time.
- 5.3.7 The details of the gravity model will be discussed with the relevant local authorities and updated through further stages of the pre-application process (e.g. to take account of new population data from the 2011 Census or to reflect any changes to EDF Energy’s proposals). The model can also be used to examine the impact of changes to the main assumptions or scenarios.

#### **b) Outputs from the Initial Sizewell C Gravity Model**

- 5.3.8 The following figures illustrate the outputs from the initial Sizewell C gravity model, which have been used in associated traffic modelling.
- 5.3.9 **Figure 5.1** shows a visual representation of the estimated distribution of home-based workers at peak construction. The Figure indicates concentrations of workers in Ipswich and Lowestoft and to a lesser extent, locations such as Felixstowe, Colchester, Great Yarmouth and Norwich, which are closer to the edge of the 90 minute catchment zone for this category of workers.
- 5.3.10 **Figure 5.2** shows a visual representation of the estimated distribution of non-home-based workers at peak construction (excluding those in the EDF Energy-provided campus accommodation). This encompasses a smaller catchment area, reflecting the 60-minute commuting assumption for this category of workers. As with the home-

based workforce, there are concentrations of workers in the Ipswich and Lowestoft areas. However, compared to the home-based distribution, more workers are located relatively close to site in the coastal areas of Suffolk Coastal District. This principally reflects the assumption that there will be some up-take of local tourist and caravan accommodation by this category of workers.

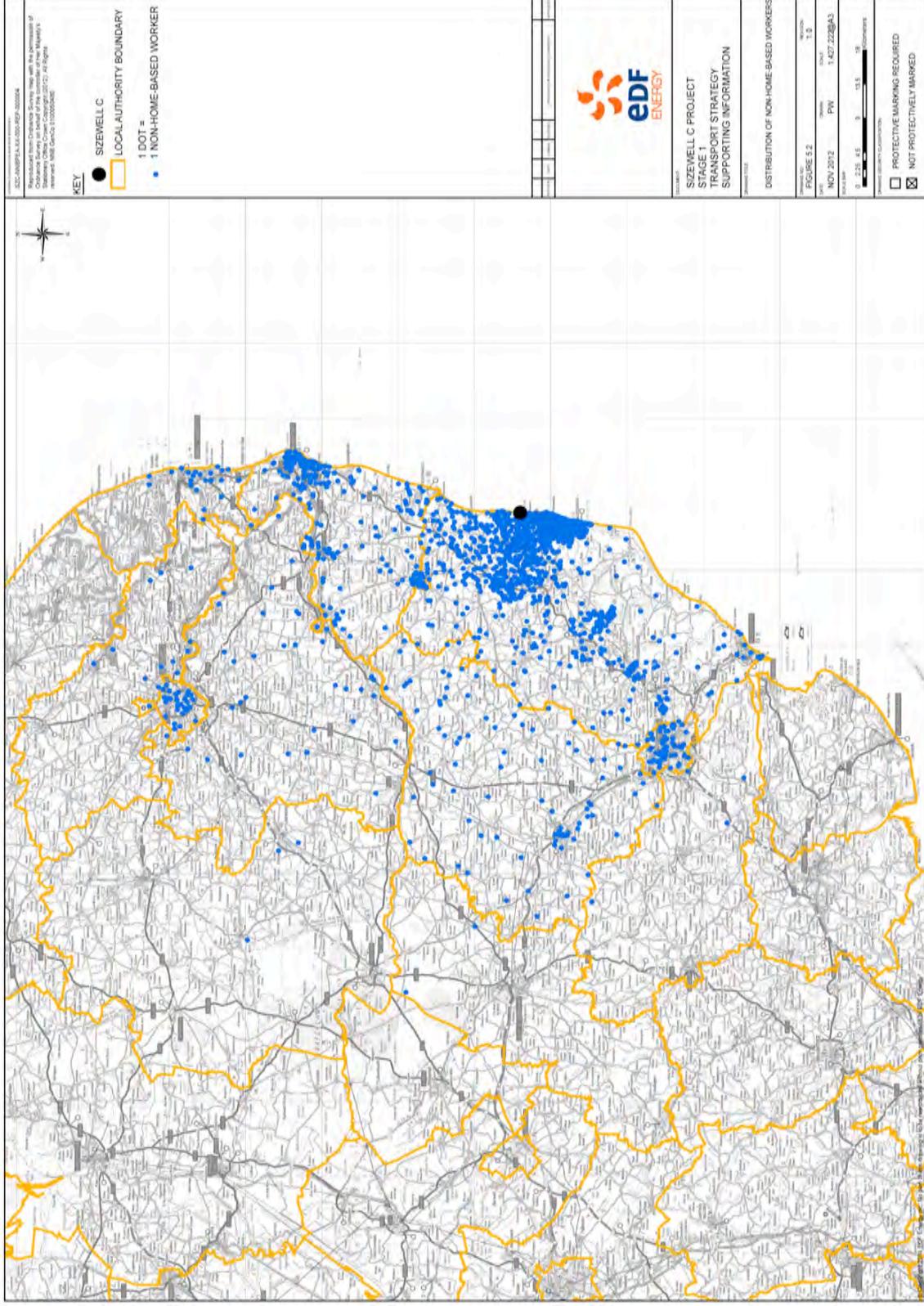
5.3.11 In terms of the transport strategy adopted for the movement of the Sizewell C peak construction workforce, a number of conclusions can be drawn from the gravity modelling conducted to date:

- Workers are likely to be travelling from a wide range of locations.
- A significant proportion of workers are likely to be travelling to the site from both the north and from the south, with a relatively even distribution between northern and southern residential locations. If travelling by car, the majority of these workers would use the A12 for a significant proportion of their journey.
- There will also be a significant number of workers (initially estimated at around 1,200) who, in addition to those in campus accommodation, would be resident in locations closer to the site and east of the A12.

5.3.12 These considerations have helped influence the proposed transport strategy for the Sizewell C construction workforce. This is set out in the following sections.



Figure 5.2: Estimated Geographic Distribution of Sizewell C Non-home-based Workforce at Peak Construction



## 5.4 Transport Strategy for the Peak Construction Workforce

5.4.1 The following sections describe EDF Energy's proposals for the movement of the Sizewell C workforce at peak construction. These proposals are not final or fixed and are subject to consultation and wider project development. Nonetheless they indicate the current thinking and the assumptions that have been used to date.

### a) Accommodation Campus

5.4.2 As set out in the **Consultation Document**, EDF Energy is proposing to build a temporary accommodation campus next to, or near to, the Sizewell C construction site. Between 2,000 and 3,000 people could be accommodated at such a campus and a range of location options are presented in the **Consultation Document**.

5.4.3 This would mean that those 2,000-3,000 workers – approximately 36-54% of the total workforce at its peak – could reach the site every day on foot, by bicycle or via a very short bus journey. A large accommodation campus of this scale would deliver a very significant reduction in the daily traffic movements associated with the peak years of Sizewell C construction. It is one of the most significant practical measures that can be implemented to reduce traffic impacts.

5.4.4 The accommodation campus would have its own dedicated car park that would be limited to the use of residents of the campus and staff working at the accommodation campus e.g. cleaning staff / restaurant staff.

5.4.5 For the purposes of initial traffic modelling a 2,000 bed accommodation campus has been assumed – this is the low end of the range of campus size proposed. Any increase in the campus size would serve to further reduce traffic impacts compared to those which have been modelled.

### b) Car Usage, Site Parking and Car Sharing

5.4.6 The relatively rural character of the Suffolk area and the widely dispersed pattern of the workforce mean that the scope for cost-effective interventions to promote non-car modes will be constrained and private car usage is likely to play a significant role for many construction workers.

5.4.7 Some employees would therefore drive directly to the construction site. This would include those who, for operational reasons, would be allowed to bring their car to the site to assist in carrying out their duties. It would also include people resident in the towns and villages east of the A12 for whom the provision of alternative transport modes is not likely to be viable or cost effective and for whom travel to a more distant park and ride location would be unattractive as it would involve them driving away from the site.

5.4.8 Taking account of these considerations, EDF Energy is proposing a construction site car park of 1,000 spaces. A permit system would operate for the car park and a priority system would be defined for the allocation of these permits. Car sharing to the site car park would be encouraged. EDF Energy anticipates including a range of car sharing measures in the travel plan which will be developed for the construction phase and will form part of the development consent application for Sizewell C.

- 5.4.9 EDF Energy's approach will be to have the construction site car park used as much as possible throughout the construction phase. This car park will also be the sole destination for car drivers in the early and latter phases of the construction programme when EDF Energy's park and ride facilities are under development or being removed.
- 5.4.10 During the peak construction years, it is anticipated that construction workers who are not in possession of a parking permit for the on-site car park (or car sharing with a permit holder) would have the choice of driving to their closest park and ride site, using a direct bus service, or using a bus pick-up service from a local rail station.

### c) Park and Ride

- 5.4.11 EDF Energy considers that park and ride facilities could play an important role during the peak years of construction, acting to significantly reduce the amount of construction-worker traffic on local roads and through local villages.
- 5.4.12 As set out previously, the gravity model provides an assessment of where the peak construction workforce is likely to be resident. This work indicates that there are likely to be substantial numbers of workers travelling from both the north and the south of the site on the A12.
- 5.4.13 EDF Energy is therefore proposing to build two temporary park and ride facilities adjacent to the A12 – one for drivers approaching Sizewell from the north and the other for drivers approaching from the south.
- 5.4.14 A number of site options for a northern and a southern park and ride development are set out in the **Consultation Document**. The locations have been chosen with the aim of intercepting construction-related traffic at strategic locations to reduce traffic through the towns and villages closer to the site. Further work will be undertaken on the required size of any park and ride developments but it is currently envisaged that both the northern and southern park and ride sites could accommodate up to around 1,000 car parking spaces, as well as parking provision for cyclists and motorcyclists.
- 5.4.15 Bus transfer movements linked to EDF Energy's park and ride proposals will be included in the traffic modelling of the development. These will assume regular movements to coincide with shift changeover times and a skeleton service outside these hours. Park and ride buses will be required to follow fixed routes to site; these are anticipated to be the same as the HGV routes identified in chapter 6.

### d) Direct Buses

- 5.4.16 Dedicated direct buses would be provided from a small number of locations where there are enough workers to justify regular services. This is expected to include services from central Ipswich and Lowestoft. Again, direct buses will be required to follow fixed routes.
- 5.4.17 In the initial traffic modelling it has been assumed that 200 workers at peak construction are brought to and from the site by direct buses from Ipswich and Lowestoft. EDF Energy considers that this is a conservative assumption which ensures that traffic impacts from Sizewell C are not under-estimated. In practice it may be possible to move more workers in this way.

## e) Rail

- 5.4.18 EDF Energy would provide bus pick up services from the nearest railway stations on the East Suffolk line to the Sizewell C construction site. These stations are at Darsham and Saxmundham. This would encourage the use of local rail services on the East Suffolk line. The bus service from Darsham station could be integrated into the northern park and ride bus services. It is expected that the service from Saxmundham station would also be available for site employees resident in Saxmundham and able to walk or cycle to the station.
- 5.4.19 In the initial traffic modelling it has been estimated that, at peak construction, 100 workers per day would travel by rail on the East Suffolk line and then by an EDF Energy bus from Darsham or Saxmundham station to the construction site. The relatively small role envisaged for rail in the movement of the construction workforce is explained by the following considerations:
- Based on the gravity model work described in **section 5.2**, it is estimated that only a relatively modest proportion (less than 15%) of the total peak construction workforce would be resident near a rail station on the East Suffolk line.
  - The attractiveness of using rail for workers would be further limited by the constrained (hourly) frequency of services on the East Suffolk line – and the relatively slow journey time by rail from many locations - compared to travel by car or bus.
  - The local rail infrastructure is constrained in a variety of ways, limiting the scope for additional passenger services.
  - Anticipated start and finish times of the main shift patterns would not always coincide with regular rail services.
- 5.4.20 However, although the scope for moving workers by rail is anticipated to be limited, EDF Energy does envisage that rail can play a significant role in the movement of freight for the construction of Sizewell C. Proposals to allow substantial quantities of freight to travel by rail, which would reduce HGV movements on the local road network and provide a useful legacy in terms of enhanced local rail infrastructure, are discussed further in **section 6**.

## f) Walking, Cycling and Motorcycling

- 5.4.21 People living close to the Sizewell C site (for example in surrounding towns and villages such as Leiston) would be encouraged to walk or cycle where practicable. EDF Energy plans in further stages of transport work to explore in more detail the scope to encourage cycling and walking – this could include, for example, by improving footpaths, cycle routes, signage and cycle parking provision.
- 5.4.22 At this stage in the assessment process, aside from workers resident at the accommodation campus, no construction workers have been assumed to walk or cycle to the Sizewell C construction site or to relevant park and ride sites. EDF Energy plans to encourage use of these modes but this assumption has been made for the purposes of adding robustness to the initial traffic impact assessment. In practice, some use of these non-car modes would occur with a resulting beneficial impact on the level of traffic generated by Sizewell C.

- 5.4.23 In future stages of assessment assumptions will be made on the number of construction workers likely to walk, cycle and motorcycle. These assumptions will be made taking account of national travel-to-work patterns for comparable geographic locations, the specific locations of the Sizewell C construction site and associated development sites, as well as any EDF Energy proposals and travel plan measures to encourage and facilitate the use of non-car modes.
- 5.4.24 Based on adoption of the above transport strategy proposals for the movement of the construction workforce, EDF Energy anticipates that the proposed strategy would achieve a good degree of modal shift relative to existing journey to work patterns in the local area. This would arise in particular from the significant proposals by EDF Energy for an accommodation campus and park and ride developments.

## 5.5 Other Assumptions Relevant to Construction Workforce Movements

- 5.5.1 A number of other assumptions have been used in the initial traffic modelling to ensure a robust assessment of the likely traffic impacts of Sizewell C. These are summarised as follows:

### a) Car Sharing

- 5.5.2 The level of car sharing by home-based workers (i.e. those workers already resident in the area) has been assumed to be 1.1 (i.e. an average of 1.1 workers per car). This is the UK national travel to work average.
- 5.5.3 Car sharing by non-home based workers not resident in campus accommodation has been assumed to be 2 (i.e. an average of 2 workers per car). The higher figure for non-home-based workers reflects the much greater likelihood that these workers would be co-located in private rented, caravan or tourist accommodation and would therefore have a much greater propensity to car share.
- 5.5.4 The car sharing assumptions set out above are considered to be robust, particularly bearing in mind that car sharing during the construction of Sizewell B (combining both home-based and non-home-based workers) was recorded as being above 2.

### b) Non-work-related Travel by Non-home-based Workers

- 5.5.5 Where appropriate, assumptions have been and will be made in the modelling to include other non-work related trips made by the construction workforce, whether to and from the accommodation campus or from other locations. These assumptions will take account of EDF Energy's proposed shift patterns.

### c) Shift Patterns

- 5.5.6 In the traffic modelling conducted to date, it has been assumed that EDF Energy would operate shift patterns at Sizewell C which are the same as those proposed at the Hinkley Point C Project in Somerset.
- 5.5.7 On this basis a range of shifts are expected to operate during construction of Sizewell C including:
- first construction shift (of a double shift operation);
  - second construction shift (of a double shift operation);

- night working shift;
- single construction shift; and
- office shift.

5.5.8 The start and end windows for each shift (weekdays only) which have been proposed at Hinkley Point C are shown at **Table 5.1**.

Table 5.1: Hinkley Point C Weekday Shift Patterns

Shift	Start Window	End Window
First Shift	From 06:00-07:30	From 14:00-16:00 or after 17:30
Second Shift	From 13:30-15:00	From 22:00-00:00
Night Working Shift	From 20:30-22:00	From 06:00-08:00
Single Shift	From 07:00-08:30	From 16:30-18:30
Office Shift	From 07:30-09:00	From 17:30-19:00

5.5.9 These shift patterns have been derived by EDF Energy to provide defined windows within which contractors have the flexibility they need to adapt their organisation for the works to be undertaken. In addition to providing flexibility to the contractors, the start and end windows for each shift aim to reduce development traffic coinciding with the AM and PM network peak hours. The majority of workers (approximately 75-80%) are expected to be working on either the first, second or single construction shift, with most of the remaining employees working an office shift. Night working would involve smaller numbers of workers and less noisy activity.

5.5.10 At weekends it is anticipated that different shift patterns would apply. Some construction staff may work a Saturday morning shift. Other construction staff may be expected to work an alternating pattern (for example 11 days on, three days off, 12 days on, two days off) in which the Saturday and Sunday of one weekend is worked as a full normal shift (operating on the same times as the Monday to Friday shifts) and the following weekend is non-working. These arrangements also provide an opportunity for non-home-based workers to return home on a regular basis.

5.5.11 There would also be some occasions and activities which would require continuity of working, such as tunnelling and large concrete pours, where the working pattern may differ from that described above. It is anticipated that these would involve only a small proportion of the workforce.

5.5.12 Overall the different shift patterns which would operate on the project would have the benefit of spreading Sizewell C-related traffic movements across a range of times during the day and thus reducing peak traffic impacts on the local road network.

## 5.6 Associated Development Operational Workers

5.6.1 In addition to the construction workforce, a much smaller number of workers would be employed as operational support staff at EDF Energy's associated development sites. The travel and shift patterns associated with these workers will be defined in further work once the location and size of EDF Energy's preferred associated

developments have been determined following Stage 1 consultation. This will also be factored into the traffic modelling.

## 5.7 Further Work on the Transport Strategy for the Sizewell C Workforce

- 5.7.1 As noted above, there are a range of areas where further work will be undertaken to develop and refine the transport strategy to be adopted for the construction workforce. This work will also take account of responses to consultation and any changes to EDF Energy's proposals which arise from that consultation or wider project development. Any such changes will be reflected in the modelling assumptions which are used and will be discussed with the relevant highway authorities.
- 5.7.2 Further work in this area will also consider the much lower level of movements associated with the operational workforce for Sizewell C.

# 6. MOVEMENT OF FREIGHT

## 6.1 Introduction

- 6.1.1 The construction of Sizewell C would require the movement of very substantial amounts of construction materials. This has obvious potential implications for the local transport network and public amenity.
- 6.1.2 This section sets out the current position in relation to the anticipated volume and nature of the materials which would need to be moved and EDF Energy's current thinking and strategy as regards the management of freight during the construction phase of the development.

## 6.2 Material Quantities

6.2.1 EDF Energy is continuing to work to refine estimates of the volume of materials which would require transportation to and from the site during the construction of Sizewell C.

6.2.2 In broad terms these material movements can be divided into four general categories:

- The materials which would be required to be brought to the construction site for the construction of the two proposed UK EPR reactors and all associated elements of the power station and ancillary buildings.
- The materials required to be brought to the site for all the supporting Sizewell C specific elements of the construction programme – this includes materials for the construction of the access road, any accommodation campus adjacent to the construction site, sea defences, the jetty (see **section 6.7**) and temporary and permanent bridges etc.
- Material movements associated with the bulk earthworks phase of the construction programme, during which it is currently anticipated that there would be a requirement for substantial movement of surplus excavated material from the site and import of fill material to the site.
- Material movements associated with the construction and decommissioning of any associated development (e.g. park and ride sites).

6.2.3 These different categories are set out and explained in more detail in the following sections.

## 6.3 Material Quantities for Construction of two UK EPRs and all Ancillary Buildings

6.3.1 The material quantities required for the main construction of two UK EPR reactors have been considered carefully as part of the development of EDF Energy's Hinkley Point C Project. The Sizewell C design is essentially the same as that of Hinkley Point C and, as such, the material quantities estimates for this element of the Sizewell C Project are the same at this stage.

6.3.2 In total approximately 4.5 million tonnes of materials would be required for the main construction of the power station and supporting buildings. Of this, approximately 3 million tonnes would be required for the main civils works. The large majority of materials required for the main construction are bulk materials which would be required for the production of concrete (including sand, aggregates, cement and cement replacement products) as well as smaller quantities of steelwork, reinforcing bar (“rebar”) and a wide range of other materials in much smaller quantities.

## 6.4 Material Quantities for Sizewell C Specific Elements of the Construction Programme

6.4.1 There are a range of elements of the Sizewell C construction which are specific to the Sizewell C Project and site. Sizewell C specific designs are therefore required, together with specific material quantities estimates.

6.4.2 The main items which fall into this category are as follows:

- Site set up and infrastructure (including access road, temporary and permanent bridges, utilities and fencing).
- Any accommodation campus located at the Sizewell C Main Development Site or nearby.
- Any Visitor Centre.
- Any new rail-head at Leiston or within the construction plot plan (see **section 6.7**).
- The jetty required to bring materials to and from the construction site by sea (see **section 6.7**).
- The cut off wall (which would be required to support the earthworks/excavation phase)
- Sea protection for the permanent Sizewell C site.

6.4.3 Many of these elements of the Sizewell C construction are much less well defined as they are in the design development phase and their size, location and design will be the subject of consultation. Any material quantities estimates for these elements of the Project are, therefore, more provisional at this stage.

6.4.4 However, for the purposes of ensuring a robust approach to the material quantities which may be generated by the Project – and the associated transportation requirements – initial materials estimates for these elements of the Project have been made. In total it is currently estimated that these elements of the Project will add approximately a further 1 million tonnes to the total material quantities requirements. As with the main construction, the main requirements will be for concrete materials and other building construction materials.

## 6.5 Material Quantities Movements During the Earthworks Phase

6.5.1 During the early phase of construction of Sizewell C, a large area would need to be excavated to provide the foundations for the new power station and associated buildings.

- 6.5.2 A significant proportion of the excavated material would be peat, or peat mixed with clay. This material is largely unsuitable for use as engineering fill material and is also considered to be unsuitable for wider landscaping within the construction area or EDF Energy estate<sup>3</sup>. As such, it is currently anticipated that this material may well require re-use off-site and EDF Energy is actively exploring the option of providing this material to the Wallasea Island Wild Coast RSPB nature reserve project in the Crouch Estuary in Essex. Other re-use options are also under consideration.
- 6.5.3 The precise volume of excavated material which is likely to be unusable is subject to further geotechnical study and engineering assessment. At the present time it is estimated that around 6 million tonnes of excavated material in total may be generated during the excavation phase. This figure remains subject to some uncertainty linked, in particular, to decisions on the final platform height and the precise location of the cut off wall to be adopted for the development.
- 6.5.4 Of this approximate 6 million tonnes, it is estimated that:
- around one third (approximately 2 million tonnes) would almost certainly be unusable; and
  - about another third of this material is very likely to be re-usable as fill material or for site landscaping.
- 6.5.5 Much higher levels of uncertainty currently surround the last third of excavated material and this is the subject of further detailed study and assessment with the objective of securing higher levels of confidence in the relative proportions of usable and unusable material.
- 6.5.6 Closely linked to the volume of unusable excavated material is the volume of engineering fill material which would need to be imported during the earthworks and early phases of main construction. In simple terms, the more excavated material that is deemed unusable, the greater the potential requirement to import engineering fill material. Based on conservative assumptions around the volume of excavated material which may be found to be unusable, up to around 3-4 million tonnes of engineering fill material could require importation. This figure is felt to be conservative and there are considered to be good prospects that the figure will fall once more detailed geotechnical characterisation of the excavated material has been made.
- 6.5.7 It is also being explored whether a borrow pit or pits could be created within the construction area to help source engineering fill material for the Sizewell C Main Development Site. If feasible, this would help reduce the amount of fill that would need to be transported by sea, rail and/or road. Any borrow pit(s) would be of a temporary nature and would not be left open but restored to the level of the construction area.
- 6.5.8 Further information on material quantities movements during the earthworks phase will be provided at a later stage of consultation. At a high level, EDF Energy's strategy for the earthworks phase will be to seek to reduce, as far as is cost-effective,

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<sup>3</sup> The EDF Energy estate means all the land EDF Energy owns in the area – some 650 hectares in all.

technically practicable and environmentally sustainable, the volume of excavated material which is unusable. This will reduce the likely transportation requirements for both excavated material and imported engineering fill.

- 6.5.9 Nonetheless, given the overall scale of earthworks movements, there is likely to be a remaining requirement to import and export significant volumes of material. EDF Energy will seek to ensure that the large majority of this material is moved by sea or rail where practical and cost-effective, in line with relevant policy.

## 6.6 Material Quantities Arising from Associated Development

- 6.6.1 In addition to the above, there will be some material movements associated with the construction and deconstruction of any associated development for the Sizewell C Project – e.g. any park and ride developments, freight management facilities, induction centre etc.
- 6.6.2 The material quantities for these developments will be very small relative to those required for the main construction of Sizewell C and listed in the previous sections. HGV movements for their construction and de-construction would also be likely to occur outside the peak years of Sizewell C construction. Once the size, location and design of EDF Energy's proposed associated developments have been more precisely determined, estimates of the material quantities required will be made and factored into any relevant traffic modelling where appropriate.

## 6.7 EDF Energy's Transport Strategy for the Movement of Freight

- 6.7.1 EDF Energy's transport strategy envisages that both sea and rail would play significant roles in the delivery of construction materials to the site. A number of substantial proposals for new infrastructure to achieve this are set out below. These proposals could secure very large reductions in the volumes of freight which would otherwise need to be delivered by road.

### a) Freight by Sea

- 6.7.2 Construction of Sizewell C would require the delivery of a significant number of very large items (known as Abnormal Indivisible Loads or AILs) such as steam generators, transformers and alternators. Some of these items are substantially longer, wider or heavier than can easily be moved on the local road network.
- 6.7.3 EDF Energy therefore plans to build a temporary jetty at the construction site. It is envisaged that this facility would not only be used for the delivery of all of the largest AILs during the construction programme but also for:
- the sea export of surplus excavated material; and
  - the sea import of bulk, containerised or pre-fabricated construction materials.
- 6.7.4 The jetty would be a significant development in its own right. EDF Energy is working on its design to ensure that it is optimised to facilitate the import and export of materials during the construction programme.
- 6.7.5 At this stage it can be identified that the jetty would:
- be in part a piled structure;

- have multiple berths to ensure that it can play a full role in the delivery of AILs and other freight for the Project, as well as facilitating export of excavated material;
- be designed to allow roll-on roll-off (Ro-Ro) operations; and
- be designed to reduce impacts on the foreshore.

6.7.6 Once Sizewell C is operational, AILs would occasionally need to be brought to site: e.g. during planned periodic replacement of large items such as turbine rotors. Facilitating this may require permanent retention of some elements of the jetty structure. This, along with alternative options for AIL delivery during operation, is currently being examined and further information on this will be provided at Stage 2 consultation.

## b) Freight by Rail

6.7.7 EDF Energy considers that rail would also play an important role in the delivery of freight during construction, offering an alternative non-road option to the jetty for delivery of many kinds of construction materials and potentially for the export of unusable excavated material. This would offer flexibility for the freight strategy and secure a freight mode that would be operational all through the year with much less risk of weather disruption. Use of rail would further reduce the number of HGV movements likely to be required on the local road network.

### i. Existing Rail Infrastructure

6.7.8 EDF Energy considers that the existing rail terminal at Leiston (south of King George's Avenue) could, with a modest amount of refurbishment, be used to bring freight deliveries close to site by rail during the early stages of the Project – with onward HGV transfer to the construction site via Lover's Lane. **Figure 6.1** shows the existing rail terminal.

6.7.9 However, the capacity of this terminal and the existing local rail infrastructure to support rail freight deliveries is currently limited to around one freight train per day, which would be insufficient for achieving the aim of substantially reducing road freight.

6.7.10 EDF Energy is therefore inviting views on a number of proposals which would enhance the scope for using rail for freight.

### ii. New rail-head and freight laydown area north of King George's Avenue

6.7.11 One option would be to develop a new and larger rail terminal north of King George's Avenue. This would be located on part of the land to the north-east of Leiston industrial estate – as shown in **Figure 6.2** with an indicative location of the rail-head within the site.

Figure 6.1: Location of Existing Rail-head South of King George's Avenue



Figure 6.2: Potential Location of a New Rail-head North of King George's Avenue

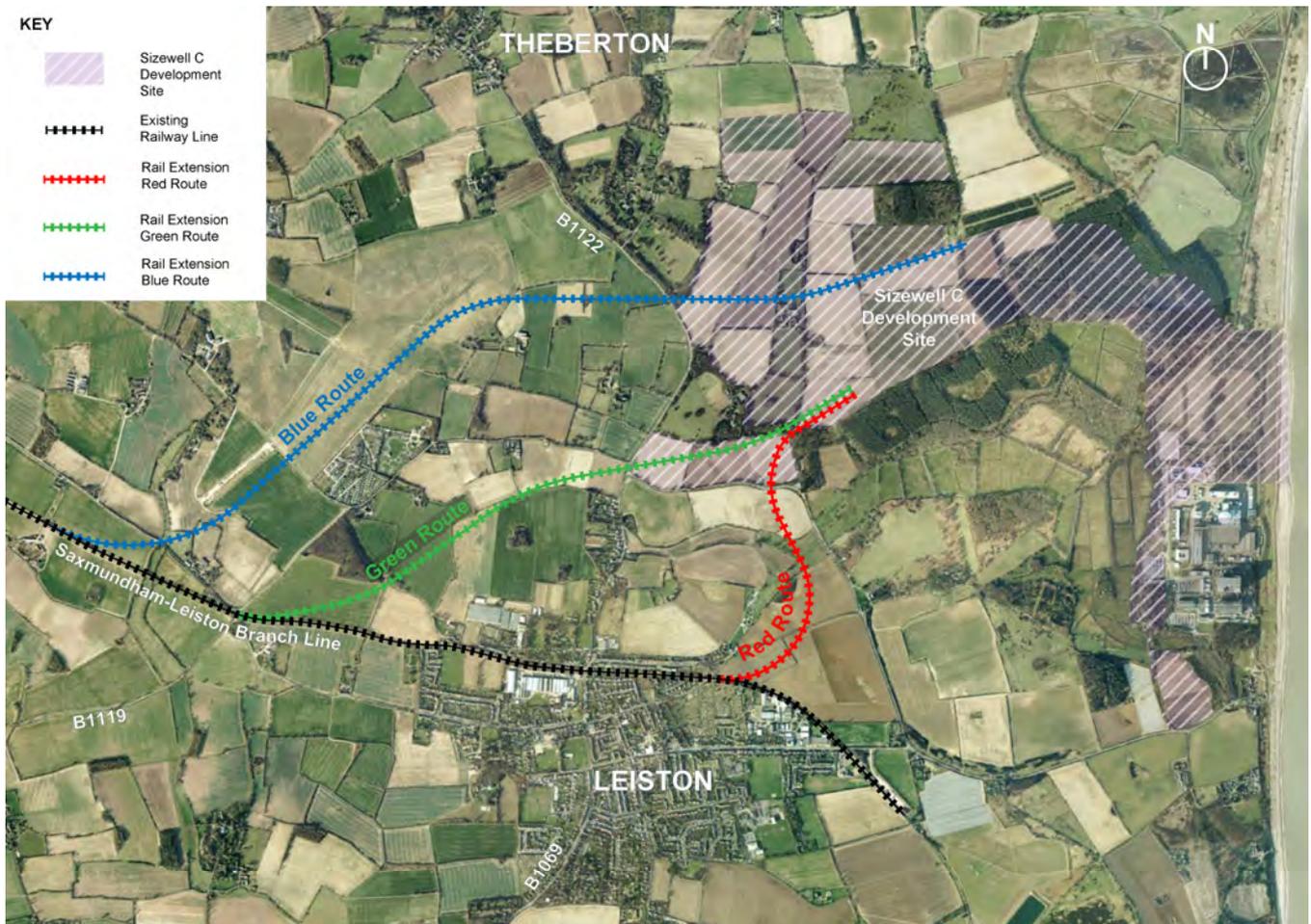


- 6.7.12 A new rail-head at this location would offer a number of potential benefits relative to use of the existing rail-head:
- It would provide substantial additional space for unloading and a useful location for rail and other freight to be stored prior to delivery to the construction site.
  - It would provide space for longer freight trains with the capacity to unload two at once. This additional space is likely to be required if around 4-5 trains per day are delivering freight for Sizewell C.
  - It would avoid the need to use the level crossing on King George's Avenue, thereby avoiding potential delays to traffic. EDF Energy is aware that delays at this level crossing were a concern on some occasions during the construction of Sizewell B.
  - It would mean that unloading operations would take place further away from residential areas of Leiston compared to use of the existing rail-head.
- 6.7.13 As with use of the existing rail terminal, this option would involve onward HGV transfer of rail delivered freight via a short trip on Lover's Lane. EDF Energy is also considering this land as a temporary area for freight storage, pre-fabrication and laydown during the construction phase, irrespective of whether it becomes the location for a new rail-head.

### iii. Extending the Saxmundham-Leiston branch line into the construction site

- 6.7.14 An alternative to the development of a new rail-head north of King George's Avenue would be to temporarily extend the Saxmundham-Leiston branch line into the construction area.
- 6.7.15 This option would have some of the same advantages as a new rail-head at King George's Avenue and in addition would maximise the efficient use of rail freight – as it would bring freight directly and efficiently to its point of use in the construction site – eliminating the need for double handling of freight and avoiding additional HGV trips on Lover's Lane. It would also mean that any noise or dust associated with rail freight unloading or loading activities would be contained within the confines of the construction area.
- 6.7.16 EDF Energy considers this option would further encourage major contractors involved in the construction of Sizewell C to choose a rail option for freight deliveries over road alternatives – offering benefits for the construction programme and the potential for reduced HGV movements. For these reasons EDF Energy's preferred option is to temporarily extend the rail-line into the construction site.
- 6.7.17 EDF Energy has considered potential route options for such an extension and three route options (red, blue and green) are shown in **Figure 6.3**.

Figure 6.3: Route Options for Extending the Saxmundham-Leiston Branch Line into the Sizewell C Construction Site



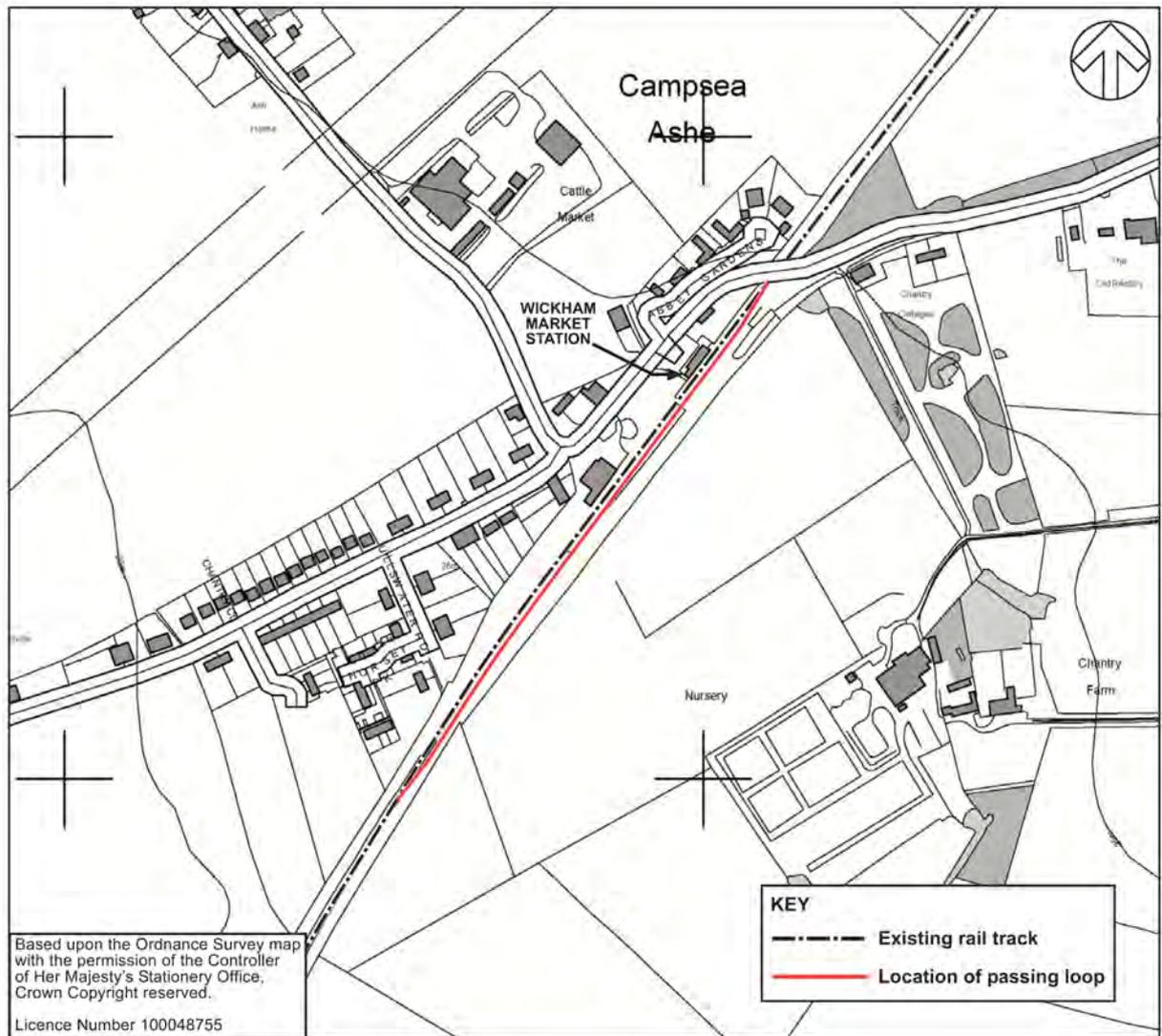
- 6.7.18 Two of the routes (the blue and green) would spur off the existing track west of Leiston and route through open countryside into the Sizewell C Main Development Site. The third (red) route would spur off north of Leiston industrial estate.
- 6.7.19 Each route has potential advantages and disadvantages. The blue and green routes would avoid trains passing residential properties in Leiston, which could be of particular benefit as some freight train movements may need to occur at night. However these routes would also have the greater landscape and visual impacts on the surrounding countryside, including potential impacts on views from Leiston Abbey. The red route is the shortest of the routes with potentially reduced visual impacts.
- 6.7.20 At the present time EDF Energy considers that either the green or the red route could be the preferred option but the blue route (which is the longest) is not favoured as it would have the greatest visual impact on surrounding countryside and would enter the Sizewell C Main Development Site at EDF Energy’s preferred location for campus accommodation – if progressed this route option could therefore require some re-design of the campus proposals (see the **Stage 1 Consultation Document** for discussion of site options for campus accommodation).

- 6.7.21 The routes shown on the map are indicative at this stage and it is anticipated that further work will be undertaken on the alignment and design options for the routes and how they would integrate into the construction area. The land take required for the rail-head within the construction area is expected to be relatively small and could be accommodated within the proposed boundary for the construction area – see the **Stage 1 Consultation Document**.
- 6.7.22 Further work on the route options will also take account of a wide range of factors including landscape, heritage, ecology, noise and vibration and residential amenity issues. It will also take account of consultation feedback.

#### **iv. Passing loop at Wickham Market station**

- 6.7.23 The final rail proposal is to provide support to Network Rail to help construct a ‘passing loop’ on the East Suffolk Line between Ipswich and Lowestoft at Wickham Market Station, near the village of Campsea Ashe. Much of the existing East Suffolk line is single track, which significantly restricts its capacity as it can only run trains in one direction at a time.
- 6.7.24 Adding a passing loop would enable a train running in one direction to wait while another train running in the opposite direction goes past. This would increase the freight capacity of the East Suffolk Line to at least the levels that might be required for Sizewell C (around 5 trains per day) – which would be sufficient for rail to play a major role in moving freight for the Project. The passing loop would be a permanent development and would also have a legacy benefit in improving the reliability of the East Suffolk Line services and enhancing the long-term potential for passenger and rail freight services on the East Suffolk Line.
- 6.7.25 EDF Energy anticipates that all the proposed work required to construct the passing loop would be on land already owned by Network Rail. Initial discussions with Network Rail suggest that they would support a development of this kind, due to its benefits for passenger services. It is currently anticipated that, were this option to be progressed, Network Rail would be responsible for managing the construction of the loop, with a financial contribution from EDF Energy. Once constructed the loop would form part of the regulated rail network managed by Network Rail.
- 6.7.26 A map of the location of the proposed loop is shown in **Figure 6.4**. It is considered that Network Rail may have permitted development rights to construct the loop and would therefore not need to apply for separate planning permission.

Figure 6.4: Potential Location of a Passing Loop at Wickham Market Station



6.7.27 EDF Energy will also discuss with Network Rail the need for some smaller scale refurbishment of and changes to the existing branch line between Saxmundham and Leiston to ensure it is able to cope with the increased traffic. This could involve the closure or upgrading of some level crossings to deliver improved journey times for freight trains – if closure of any level crossings was proposed this would be subject to further consultation.

#### v. Summary of freight by rail

6.7.28 Overall EDF Energy is clear that rail should play an important role in the delivery of freight to support the construction of Sizewell C. EDF Energy's preference is to extend the Saxmundham-Leiston branch line into the construction site as this will improve the efficiency and productivity of the construction works.

6.7.29 EDF Energy recognises that the noise impacts of rail freight movements may be a potential concern for some local residents and will take account of this, alongside other relevant considerations and other consultation feedback, as proposals in this area are developed. It is envisaged that measures to reduce noise impacts, such as limiting the speed of trains, will be implemented where practical.

## 6.8 Freight by Road

- 6.8.1 The previous sections set out the major plans that EDF Energy has to move freight off the roads and on to rail and sea transport. It is anticipated that these proposals would deliver very substantial reductions in the number of HGV movements that would otherwise occur on the local road network.
- 6.8.2 Despite these proposals, the very large quantities and wide variety of freight required for the Project mean that there would still be a certain amount of freight that could not practically or economically be moved other than by road.

### a) Heavy Goods Vehicles

- 6.8.3 In order to reduce the impact on local residents EDF Energy will agree with Suffolk County Council (SCC) approved HGV routes for all construction traffic. These would avoid local or rural roads as far as is practicable.
- 6.8.4 It is anticipated that the main approved route to and from the Sizewell C site for HGV traffic would be the A12 and then the B1122 from Yoxford. This was the approved route during the construction of Sizewell B and it avoids vehicles having to travel through Leiston, Saxmundham and most other local towns and villages. This route is shown in **Figure 6.5**. While this route will apply for the majority of HGV movements, some movements may need to occur on other roads, including SCC's designated lorry routes – for example where local companies are supplying materials to the construction site.
- 6.8.5 EDF Energy expects that the majority of HGV road traffic would be coming from the south on the A12 – it has been initially assumed that 85% of HGV traffic would route from the south via the A14 and then A12, with the remainder coming from the north on the A12. This assumption will be kept under review.
- 6.8.6 In the initial traffic modelling of Sizewell C impacts a number of scenarios of HGV movements have been considered, ranging from between 100 to 300 average HGV deliveries per day to the construction site at peak construction (representing between 200 and 600 two-way HGV movements). HGVs in this context are defined as any vehicles exceeding a maximum gross weight of 3.5 tonnes (maximum allowable total weight when loaded). This is a conservative and robust definition as it includes many vehicles which would normally be categorised as medium goods vehicles (maximum gross weight between 3.5 and 7.5 tonnes).
- 6.8.7 The fact that actual HGV deliveries to site are likely to fluctuate on a day to day basis will also be taken into account. The “busiest day” in any given construction period could see around 50% more HGV deliveries than the average (and, consequently, a quieter day around 50% less than the average). Therefore, the modelling will also consider scenarios where HGV deliveries are 50% higher than the average 100 to 300 deliveries per day set out above.
- 6.8.8 HGV movements will be spread across the day. It is anticipated that controls on the number and timing of HGV movements through the local road network will be agreed as part of the planning process for Sizewell C, so that HGV movements are no greater than have been assessed when considering traffic and associated environmental impacts, and to avoid or reduce movements at sensitive hours.

Figure 6.5: Proposed Main HGV Route for Sizewell C Construction Traffic



6.8.9 There are a range of existing uncertainties which will impact on EDF Energy's final estimates of the scale of HGV movements generated by Sizewell C. These include the final material quantities estimates, the precise time schedule for the sequence of construction works, the final design of the jetty and decisions on the developments which could be made to facilitate additional use of rail for freight deliveries. Further work will be undertaken in all these areas. The figures described above should therefore not be seen as definitive, but rather they represent the current range of assumptions for HGV deliveries at peak construction. EDF Energy is conscious of the strong desirability of reducing HGV movements to reduce noise, air quality and amenity impacts on affected residents and communities. Work will therefore continue on the estimates of HGV movements throughout the pre-application phase for Sizewell C, with the objective of reducing such movements to the extent possible, consistent with the wider requirement for a flexible, efficient and cost-effective construction programme.

#### **b) Light Goods Vehicles**

6.8.10 Light goods vehicles (LGVs) in this context represent vans, pickups, 4x4s and related vehicles with a maximum gross weight of up to 3.5 tonnes.

6.8.11 It has been assumed that the construction materials, plant and equipment for the Sizewell C Project will be transported by HGVs whilst LGVs will be used for transporting food and consumables, small items and specialist tools/equipment. LGVs will also include contractors' fleet vehicles.

6.8.12 As the number of LGVs is not directly related to the tonnage/volume of material required for the Project, an estimate has been made on the number of LGVs which would be generated by the Sizewell C Project by extrapolating the number of LGVs required during the construction of Sizewell B. The figures have been adjusted to reflect that Sizewell C is a twin reactor project.

6.8.13 On this basis, the average number of LGVs arriving at site per day during the construction peak has been estimated to be 170 (340 movements), with the busiest day being some 50% higher than this, i.e. 255 (510 movements).

### **6.9 Freight Management Facility**

6.9.1 In order to support the management of road deliveries to the Sizewell C construction site, EDF Energy is considering the construction of a lorry park which could accommodate around 50 to 100 parking spaces for HGVs. Such a lorry park is known technically as a freight management facility (FMF).

6.9.2 Such a facility could serve a variety of functions, depending on its location. It could assist in allowing a controlled pattern of deliveries to site with reduced movements during peak or sensitive hours on the network. It could provide a space where paperwork and goods can be checked prior to delivery to site, and a location where HGVs are held while they wait to enter the site or in the event of an accident on the local road network which prevented access to the site.

6.9.3 However many of these functions could potentially be achieved via automated monitoring and communication systems which do not require the construction of a dedicated new facility. At the present time, EDF Energy considers that the need for a

new dedicated facility of this kind to support the Sizewell C Project is uncertain and will in part depend on the final anticipated number of HGV movements to site, taking account of our proposals to facilitate sea and rail delivery options.

- 6.9.4 If a FMF is considered desirable, there are a number of potential places in which it could be located. The preferred option would be to co-locate the lorry parking with one of the southern park and ride areas. This would offer a location close to site and efficiencies associated with co-locating the development with park and ride facilities, as well as reduced environmental impact through development of a single combined site rather than two.
- 6.9.5 Another option is a site near the A12 junction with the A14 south-east of Ipswich. This could act to hold lorries before they travel through the A12 to the east of Ipswich but would be further from site, which could impact on the predictability of arrival times at the construction site. In relation to these latter sites, EDF Energy is aware that there could be a lasting benefit identified by SCC from the construction of additional lorry parking spaces. This would be to provide a place where container lorries could be held when procedures (known as Operation Stack) are put in place to deal with delays at Felixstowe port.
- 6.9.6 Site options for a FMF are set out in the **Stage 1 Consultation Document**.

# 7. TRAFFIC IMPACTS FROM SIZEWELL C

## 7.1 Introduction

7.1.1 Earlier sections have explained how, as part of the planning process, EDF Energy is required to assess in detail the likely traffic impacts of Sizewell C, and have summarised the work done to date in this area.

7.1.2 This section sets out the initial view that EDF Energy has reached about the likely traffic impacts of Sizewell C, based on the modelling work conducted to date. This view should be seen as preliminary, bearing in mind that:

- comprehensive traffic modelling has not been completed and a range of further work is planned to improve and refine the model and use it to test different scenarios and time periods; and
- EDF Energy has set out information on the anticipated transport strategy for the development, but this strategy is not firmly fixed and remains subject to consultation and to further project development.

7.1.3 Nonetheless, the initial traffic modelling has considered the peak period in the construction programme and has used a range of relatively conservative assumptions. The modelling is also considering the busiest current period on the local road network. For these reasons EDF Energy considers that the initial findings from the work conducted to date are likely to prove a generally robust assessment of the main potential traffic impacts of Sizewell C.

## 7.2 Potential Areas of Traffic Impact

7.2.1 EDF Energy recognises that some of the most likely areas of potential traffic impact during the construction of Sizewell C are on the A12 and the B1122 – as this will be the route taken by HGVs as well as many cars and buses associated with the construction workforce. Initial conclusions in relation to impacts in these areas are set out in the following sections.

### 7.3 The A12

7.3.1 The A12 between Ipswich and Lowestoft would be the main corridor for much Sizewell C related traffic. Much of the A12 is dual carriageway and initial analysis suggests that Sizewell C related traffic would not create capacity or congestion concerns on the large majority of the road, including both dual carriageway and single carriageway sections.

7.3.2 It is recognised that the single carriageway “four villages” section of the A12 through the villages of Marlesford, Little Glemham, Stratford St Andrew and Farnham is one of the more sensitive stretches of the A12 and that it is an aspiration of many of the residents of these villages to benefit from a bypass. EDF Energy is also aware that this aspiration has support from Suffolk County Council (SCC) and has been publicly linked to the construction of Sizewell C.

- 7.3.3 EDF Energy is therefore carefully examining whether the traffic impacts of Sizewell C would be likely to justify or require a bypass of some or all the villages in this area. Our view at this time is that a full four village bypass is not possible to justify on this basis.
- 7.3.4 A key consideration in this area is that the additional traffic generated by the construction and, in due course, operation of Sizewell C would represent only a relatively modest addition to daily traffic flows on this stretch of road, even at peak construction. Current estimates are that the total traffic impact would be in the region of between a 5% and a 15% addition to all-vehicle daily traffic flows during the period of peak construction. By comparison, wider traffic growth, unrelated to the Sizewell C Project, may well prove to be of greater significance to future traffic flows on the A12.
- 7.3.5 While these estimates will be subject to further detailed work, it is considered that Sizewell C related traffic will not be of a scale which would be likely to cause major changes to traffic or environmental conditions on this stretch of road or justify a major intervention in the form of a bypass.
- 7.3.6 Similarly, it is not currently anticipated that there will be major impacts in terms of noise and air quality on the four villages or other stretches of the A12 arising from Sizewell C traffic, although this conclusion will be subject to further work.
- 7.3.7 It is recognised that there is a view that a bypass of the four villages should be built regardless of the Sizewell C Project. It is not for EDF Energy to promote a bypass which could not be justified by or related to the impacts of Sizewell C. But it is relevant in this context to note that the most recent technical study into bypass options, which was commissioned by SCC in 2006, concluded that the combined environmental, landscape and heritage impacts arising from the construction of a full four village bypass would be such that they would not be likely to be deemed acceptable against the tests set by planning policies at that time.
- 7.3.8 EDF Energy is not aware of changes to relevant planning policies since 2006 which would be likely to change this conclusion. A review of the environmental issues associated with a full bypass has highlighted that the following major considerations, which were identified in the 2006 report, remain valid today:
- Loss and severance of ancient woodland and fragmented woodland sites
  - Loss and severance of ancient and species rich hedgerow network
  - Severance and loss of floodplain grazing marsh habitat
  - High potential for negative impacts upon populations of breeding and wintering birds, reptiles, bats, otter, water vole, brown hare and badger
  - Severance and loss of floodplain capacity
  - Potential for pollution of watercourses
  - Impacts on views in a range of areas including from Marlesford
  - Loss of tranquillity and remoteness within the floodplain area
  - Impacts upon a range of heritage and archaeological sites of interest
- 7.3.9 Although EDF Energy current views that a full four villages bypass could not be justified by Sizewell C traffic, it is seeking through the transport strategy proposals to

reduce the impact of Sizewell C related traffic on the A12 and through other towns and communities which could be impacted by the Project. The major proposals set out above to use rail and sea for freight deliveries, and park and ride developments during the years of peak construction, are indicative of that commitment.

## 7.4 Farnham Bend

7.4.1 The narrow bend at Farnham is widely recognised to be the most significant existing issue on the four villages stretch of the A12. It is the area which is closest to capacity and the narrow bend creates a potential safety concern, particularly when two large vehicles are passing at once.

7.4.2 In this area the preliminary conclusions are different to those reached in relation to a full four-village bypass. The assessment is that Sizewell C related traffic would cause some additional capacity constraints/congestion at the Farnham bend at peak network periods, and, in particular, that the additional HGV traffic associated with the Project could exacerbate safety concerns associated with the narrow bend.

7.4.3 For these reasons EDF Energy considers that mitigation measures to improve the position at Farnham bend may be justified by the Project and is therefore inviting views on a number of potential alternative mitigation options for Farnham bend. These are as follows:

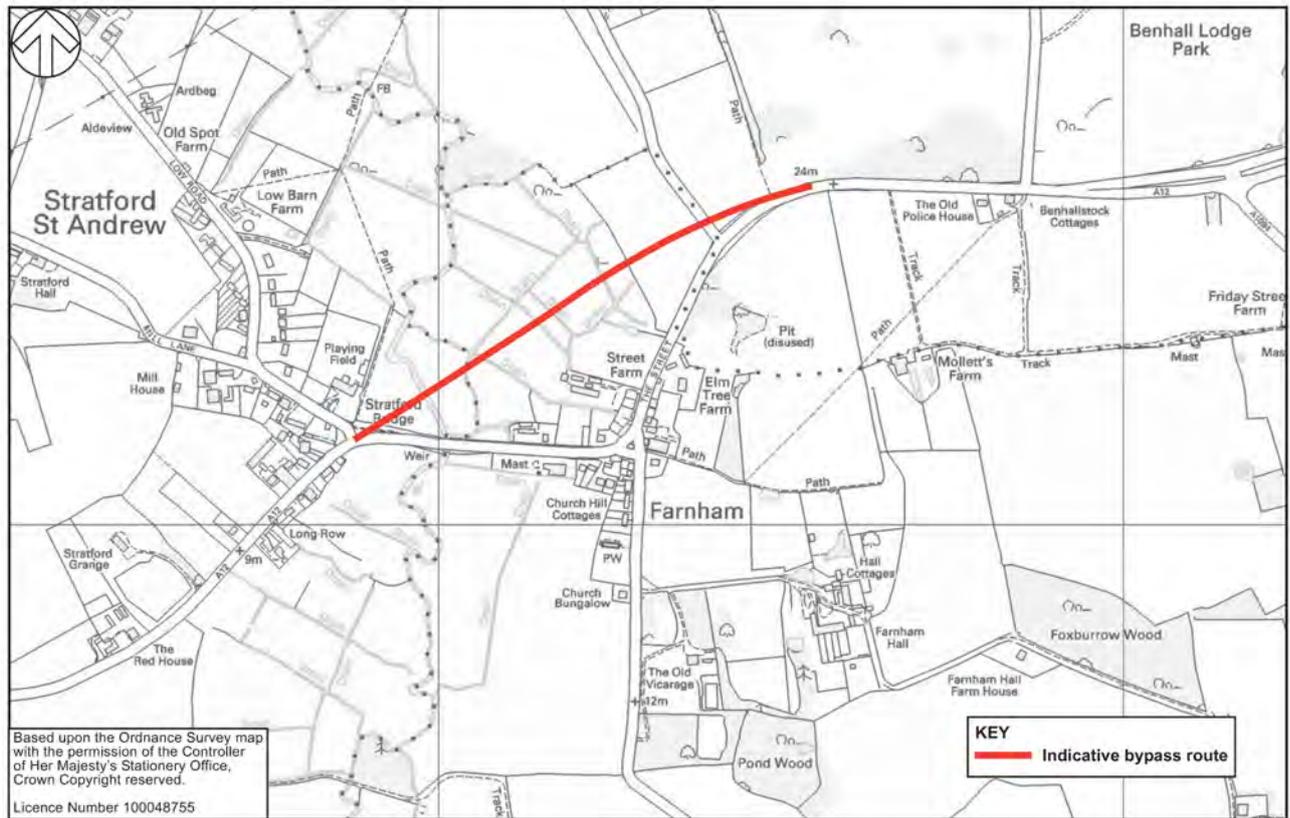
### a) A Farnham Bypass

7.4.4 A bypass of Farnham has been considered in earlier studies of options for bypassing the four villages. The route considered in the 2006 study ran to the north-west of Farnham. EDF Energy considers that this would be the most appropriate route for any bypass of Farnham. An indicative alignment for such a bypass is set out in **Figure 7.1**.

7.4.5 A bypass of Farnham would be approximately 1km in length and comprise a single lane in each direction with accompanying landscaping. At the southern end of the route it would adjoin the existing A12 close to Stratford St Andrew and at the northern end, it would re-join the existing A12 north of Farnham. Details of the bypass and junction arrangements would be subject to further work and consultation if this option were progressed.

7.4.6 A bypass of this kind would remove existing capacity and safety concerns associated with the current bend at Farnham, improving traffic flow and reducing accident risks. Properties close or adjacent to the road in Farnham would benefit from a large reduction in traffic flows through the village.

Figure 7.1: Indicative Alignment of a Farnham Bypass



7.4.7 Equally, it is recognised that there would be some ecology, landscape and heritage impacts associated with constructing a short stretch of road through what is currently an area of farmland and open countryside. EDF Energy considers that these impacts could be reduced to acceptable levels through sensitive design and landscaping.

#### b) Road Widening at Farnham Bend

7.4.8 An alternative option to improve Farnham bend would be to widen and smooth the existing bend to reduce the potential for traffic congestion at peak times and remove safety concerns associated with its narrowness.

7.4.9 However to implement this option would require the acquisition and demolition of a small number of properties closest to the bend. A number of different schemes of this kind were considered in the 2006 study and could be contemplated. The scheme shown in the **Figure 7.2** is the minimum that EDF Energy considers would be required to achieve a satisfactory degree of widening of the bend and would involve the demolition of two properties, including one Grade II listed building.

Figure 7.2: Indicative Road Widening Scheme at Farnham Bend



- 7.4.10 A larger scheme than the above could offer improved traffic flow but would require greater levels of property demolition.
- 7.4.11 Were EDF Energy to progress an option for road widening at Farnham bend it would work sensitively and sympathetically with those residents who would need to relocate as a result of the scheme – aiming to ensure a satisfactory alternative solution for all those directly impacted.
- 7.4.12 A road widening scheme at Farnham bend would have reduced environmental and landscape impacts relative to a bypass. It could be effective in addressing the current safety concerns associated with the bend and improving traffic flow to some degree but it would not have the effect of removing traffic from the village of Farnham.

**c) HGV Traffic Controls at Farnham Bend**

- 7.4.13 EDF Energy has considered a limited form of intervention at Farnham bend involving some form of traffic control system to prevent two HGVs passing through the bend at once.
- 7.4.14 Such a system could be relatively effective in reducing safety risks at Farnham bend and improving the ability of pedestrians and other road users to cross the A12 in this

area. However, this kind of option would have no positive effect on traffic flow through the bend and indeed would act to exacerbate the potential for congestion. As with a road widening scheme, all A12 traffic would continue to route through Farnham. For these reasons EDF Energy considers it to be a less attractive option.

#### **d) Summary of Position on the A12**

- 7.4.15 In summary, EDF Energy is proposing a wide range of measures to reduce the impact of Sizewell C traffic on the A12. These include use of sea and rail options for the delivery of freight, and park and ride developments to reduce traffic during the period of peak construction.
- 7.4.16 EDF Energy's current view is that a full bypass of the four villages section of the A12 is not likely to be justified by the additional traffic associated with Sizewell C. Any such bypass would also have significant environmental impacts and would bring benefits to some but would be to the detriment of others.
- 7.4.17 EDF Energy currently considers that measures to improve the situation at Farnham bend could be justified by extra Sizewell C traffic, in particular additional HGVs. A number of mitigation options for Farnham bend have been presented and views are invited on the case for intervention and the options presented. EDF Energy recognises that there is no simple solution to this issue and that all options have some advantages and disadvantages. Careful note will therefore be taken of responses to consultation on the options set out above.

## **7.5 Road Traffic Impacts on the B1122**

- 7.5.1 As noted in **section 6.8**, it is anticipated that the B1122 will be the approved HGV route for traffic between the A12 and the Sizewell C construction site. It will also be the route taken by some cars and buses.
- 7.5.2 Current traffic flows on the B1122 are relatively modest and much lower than on the A12. As such, Sizewell C traffic is not likely to cause any capacity or congestion problems on most of the B1122. It is, however, considered that the junction of the A12 with the B1122 at Yoxford is likely to require improvement to ensure a smooth flow of traffic and avoid disruption to flows on the A12. More detailed proposals will be presented at a future stage of consultation but it is envisaged that a roundabout could be required.
- 7.5.3 It is also recognised that the proportional impact of Sizewell C traffic would be much greater on the B1122 than on the A12, or indeed other local roads. EDF Energy recognises the potential for this traffic to cause adverse noise and amenity effects to a relatively small number of properties located adjacent to the B1122 and to the residents of Theberton. Through the consultation process EDF Energy will consult with the residents of these properties and the village of Theberton to discuss the forms of mitigation which may be most appropriate to their circumstances and the impacts of Sizewell C. Any specific proposals in this area will be subject to further consultation.

## 7.6 Other Road Traffic Impacts from Sizewell C

- 7.6.1 The process of examining and assessing the likely traffic impacts of Sizewell C will continue throughout the pre-application consultation process. As the proposals develop, and decisions are made on the size, nature and location of any associated development, this will effect on the precise traffic impacts to be expected. As noted previously, EDF Energy will also continue to improve and refine the traffic modelling which will inform its position.
- 7.6.2 The sections above have discussed likely impacts on areas of the A12 and the B1122. At the present time, although there will be some additional traffic on many local roads and through local towns and villages such as Leiston, it is expected that the operation of most parts of the local road network will not be materially affected by Sizewell C construction traffic.
- 7.6.3 One reason for this is the range of different shifts that will operate during the construction of Sizewell C and which will act to spread workforce-related traffic through the day and will often avoid network peak periods. Another reason is the control of movements which will be achieved through plans for defined HGV and bus routes and for the use of park and ride facilities during peak construction. A third reason is the major plans that have been set out for using sea and rail options for moving freight.
- 7.6.4 These conclusions remain preliminary and subject to the further transport assessment and modelling work set out in this document. EDF Energy also recognises that while assessments of the congestion and traffic capacity impacts of Sizewell C are important, traffic-related impacts in terms of noise, air quality and wider severance/amenity can be as, if not more, important to local residents. These impacts will continue to be assessed in detail throughout the pre-application consultation phase for Sizewell C.
- 7.6.5 EDF Energy may, therefore, bring forward proposals for additional highway works (e.g. junction improvements) or mitigation where further work on either traffic capacity or traffic related environmental impacts suggests this would be required to appropriately manage or mitigate impacts in line with the national policy guidance for projects such as Sizewell C.

# 8. FURTHER TRANSPORT ASSESSMENT WORK

## 8.1 Transport Work Through the Pre-application Phase

- 8.1.1 Following Stage 1 consultation and through the remainder of the pre-application consultation phase up to submission of the Development Consent Order application, transport assessment work will continue to be progressed – with further regular liaison with Suffolk County Council and the Highways Agency.
- 8.1.2 This work will cover a wide range of areas – the anticipated main elements of this are set out below:
- Further development, refinement, scenario testing and agreement of the traffic model in the light of responses to the Stage 1 and subsequent consultation and EDF Energy's emerging detailed plans for the development.
  - Detailed highway link and junction capacity analysis - along with analysis and design of potential mitigation measures – where appropriate.
  - Development of a detailed freight management strategy for the Project – with further detail on the use of rail and sea for freight movements, proposed infrastructure and measures to manage remaining freight movements by road.
  - Detailed analysis of the scope for construction and operational workers to walk and cycle to the Sizewell C site and consideration of any enhancements to local infrastructure to facilitate this.
  - A road safety assessment to examine the existing road safety of the network relative to national benchmark figures for accident rates. The assessment will then consider the impact of Sizewell C development traffic and propose mitigation measures as necessary.
  - Highway network condition surveys and a review of highway maintenance requirements in the light of the transport proposals.
  - Consideration of detailed traffic management and contingency/emergency planning arrangements.
  - An assessment of the transport impacts of Sizewell C once the construction phase is complete and the power station is operational.
  - Preparation of travel plans, transport strategies and a full transport assessment of the development, including preparation of all related documentation and material required for a full transport assessment.

## 8.2 Development Consent Order Application

- 8.2.1 It is currently anticipated that the application for development consent for Sizewell C would contain, in relation to transport issues, the following elements:
- The Transport Assessment, to include:
    - The overall Transport Strategy

- The baseline transport data
- Comprehensive trip generation spreadsheet and report
- Trip distribution methodology (gravity model) and results
- Parking Strategy
- Walking and Cycling Strategy
- Bus Strategy
- Road safety study
- Highway mitigation study
- Freight Management Strategy, to include:
  - Jetty proposals
  - Rail Strategy
  - Management of HGVs
- Travel Plan;
- Environmental Statement – Transport Chapter for the Sizewell C Main Development site;
- Environmental Statement – Transport Chapter(s) for the Associated Development Sites; and
- Status of any agreements with the relevant highway authorities.

# APPENDIX 1A – LOCATIONS OF TRAFFIC COUNTS

## A. May 2011 Survey Locations

The following surveys were undertaken in May 2011

### i. Beccles area

- A145 Market Street/Smallgate – 4 arm signal controlled
- A145 Station Road/Market Street/Newgate - 4 arm signal controlled
- A145 Station Road/George Westwood Way/Gosford Road – 4 arm mini roundabout
- A145 Hungate/Blyburgate/Exchange Square – 3 arm priority
- A145 Newgate/Blyburgate – 3 arm priority
- A145 London Road/Peddars Lane/St Marys Road – 4 arm signal controlled
- A145 Blyburgate/Peddars Lane – 3 arm signal controlled
- A143 Yarmouth Road/A146 Norwich Road - 3 arm roundabout
- A146 Norwich Road/A145 George Westwood Way - 4 arm roundabout
- A146 Norwich Road (west of A145) – automatic traffic count
- A145 George Westwood Way (south of A146) – automatic traffic count
- A145 South Beccles – automatic traffic count

### ii. North of Saxmundham and Leiston

- A145/B1123 (Bulcamp) – 3 arm priority
- A145/A12 (Bulcamp) – 3 arm priority
- A12/A1095 (Bulcamp) – 3 arm priority
- A12/B1125 Angel Lane (Blythburgh) – 3 arm priority
- B1125 Dunwich Road/B1387 (Blythburgh) – 4 arm priority
- A12 London Road/A144 (Darsham) – 3 arm priority
- A12 London Road/Willow Marsh Lane – 3 arm priority
- A12 London Road between Willow Marsh Lane and A144 (Darsham) – automatic traffic count
- A12 Brook Street/B1122 Middleton Road (Yoxford) – 3 arm priority
- A12 Brook Street/A1120 High Street (Yoxford) - 3 arm priority
- B1125 South of Westleton – automatic traffic count

- A1120 West of Peasenhall – automatic traffic count
- A144 South of Bramfield – automatic traffic count
- A145 North of Blythburgh and B1123 – automatic traffic count
- A12 North of Blythburgh and A1095 – automatic traffic count
- A12/B1121 Main Road (Dorley's Corner) – 3 arm priority

### iii. Leiston

- B1122 Leiston Road/B1125 (Theberton) – 3 arm priority
- B1122 south of Onner's Lane (Theberton) – automatic traffic count
- B1122 Abbey Road/Lover's Lane/Abbey Lane – 4 arm priority
- B1122 Station Road/Main Street/B1119 Waterloo Avenue/B1069 Park Hill – 4 arm signal controlled
- B1122 Main Street/High Street/Valley Road – 3 arm priority
- B1122 High Street/Cross Street/Sizewell Road – 4 arm signal controlled
- B1122 High Street/Aldeburgh Road/Kings Road – 3 arm priority
- B1069 Haylings Road/Kings Road – 3 arm priority
- King Georges Avenue – automatic traffic count
- Lovers Lane – automatic traffic count
- King Georges Avenue/Lovers Lane – 3 arm priority
- Sizewell Power Station access road – automatic traffic count
- B1119 Saxmundham Road – automatic traffic count
- B1069 Leiston Road/B1353 Aldringham Lane (Knodishall) – 3 arm priority

### iv. Saxmundham

- A12/B1119 Rendham Road – 4 arm priority
- B1121 High Street/South Entrance/B1119 Church Street – 4 arm signal controlled
- B1119 West of Saxmundham – automatic traffic count

### v. South of Saxmundham and Leiston

- A12/B1121 – 3 arm priority
- A12/A1094 – 3 arm priority
- B1078 Main Road/B1116/A12 north-east on-slip (Wickham Market) – 4 arm roundabout
- B1078/A12 south-west off-slip (Wickham Market) – 3 arm priority

- B1078/A12 north-east off-slip/A12 south-west on-slip (Wickham Market) – 4 arm priority
- B1078 Ash Road/Orford Road/B1069 Woodbridge Road (Tunstall) – 3 arm priority
- B1078 Orford Road/B1069 Snape Road (Tunstall) – 3 arm priority
- A1094 Farnham Road/B1069 Church Road (Snape) – 3 arm priority
- A1094 Aldeburgh Road/B1069 Snape Road – 3 arm priority
- B1069 Snape Road (south-west of Knodishall) – automatic traffic count
- B1122 Leiston Road (south-east of Aldringham) – automatic traffic count
- A12 Main Road/Marlesford Road/Unnamed Road (Marlesford) - 4 arm staggered crossroads
- A12 Main Road/Bell Lane (Marlesford) - 3 arm priority
- A12 Main Road/Church Road (Little Glemham) - 3 arm priority
- A12/Mill Lane (Stratford St Andrew) - 3 arm priority
- A12/The Street (Farnham) - 2 x 3 arm priority
- A12/Low Street (Farnham) - 3 arm priority
- A12 West of Marlesford – automatic traffic count
- A12 East of Farnham – automatic traffic count
- B1078 West of Wickham Market – automatic traffic count
- B1069 South of Snape – automatic traffic count
- B1079 East of Grundisburgh – automatic traffic count

## B. Additional Surveys Proposed

The May 2011 survey information will be augmented with the following junction turning counts:

- A1066 / A143
- A12 / A1152
- A14 / B1078
- A140 / A1120
- A140 / B1117
- A143 / A144
- A143 / A146
- B1116 / B1119
- B1117 / B1118
- B1332 / A143

The following Automatic Traffic Count (ATC) sites will allow an outer cordon of count information to be used in conjunction within the already comprehensive information collected in the immediate vicinity of the study area.

- A1066 – West of Diss
- A1152 – Between Woodbridge and Tunstall
- A1214 – North Ipswich
- A140 – Diss to junction A14
- A143 – North of Beccles to Diss
- B1062 – Between Bungay and Beccles
- B1069 – Between Tunstall and Snape
- B1078 – Between A140 and Wickham Market
- B1116 – Between Dennington and Framlingham
- B1117 – Between A140 and B1118
- B1118 – Between Diss and Dennington
- B1121 – West of Saxmundham
- B1125 – Between Blythburgh and Middleton
- B1332 – Norwich and Bungay
- B1527 – West of B1332



Appendix B.7S42 Sample Letters



20 November 2012

Dear Land Interest Previously Contacted

**Stage 1 Consultation; Initial Proposals and Options for Sizewell C Proposed Nuclear Development – Section 42 Planning Act 2008**

EDF Energy intends to apply for a Development Consent Order (DCO) for a new nuclear power station at Sizewell in Suffolk (known as Sizewell C) together with associated development located both on and off site.

As part of the process leading to this application, EDF Energy will be carrying out a multi-stage pre-application consultation exercise in accordance with the Planning Act 2008. EDF Energy is required by Section 42 of the Act to consult owners and occupiers of land within the proposed footprint of its development.

**We are aware that you have an interest in land at [LAND PARCEL][LAND PARCEL REFERENCE]** which may be required for construction of EDF Energy's proposals. We are therefore seeking your views as part of our Stage 1 consultation which begins on 21 November 2012.

A copy of the Stage 1 Consultation Document and Summary Document are enclosed with this letter. This provides an overview of the context for our proposals for Sizewell C and identifies the range of associated development which may be required to support the construction and operation of the new power station. The Consultation Document also sets out a number of alternative site options for temporary park and ride facilities, temporary lorry parking facilities and a temporary accommodation campus. Views are invited on these different options.

Additionally we enclose a CD containing the Consultation Document, the Summary Document, the Stage 1 Environmental Report and the Transport Strategy: Supporting Information.

These documents can be viewed or downloaded by visiting the Project website <http://sizewell.edfenergyconsultation.info/>

[edfenergy.com](http://edfenergy.com)

NNB Generation Company Limited.  
Registered in England and Wales.  
Registered No. 06937084.  
Registered office: 40 Grosvenor Place,  
Victoria, London SW1X 7EN



Alternatively hard copies of all the documents are available to view at the EDF Energy Leiston office (48-50 High Street, Leiston, IP16 4EW); in the offices of Suffolk County, Suffolk Coastal District, Waveney District and Ipswich Borough Councils; and will also be available in a number of local public libraries.

The deadline for you to submit your comments on our proposals is **6 February 2013**. Information on how to submit your comments can be found in the Consultation Document enclosed with this letter.

As set out in the enclosed Consultation Document, EDF Energy is committed to seeking to acquire interests in all of the land necessary for the development through private agreements with the land owners. We are pleased to have initiated dialogue with you with a view to securing an interest in your land at [LAND PARCEL], and you will note that the site is included in the enclosed document. However, in the event that land is required for the development and negotiations fail, EDF Energy proposes to apply, as part of the DCO application, for powers of compulsory purchase.

Please do feel free to discuss any further questions you may have regarding EDF Energy's proposed use of your land with Ian or Georgie in the Land Programme team.

Ian Cunliffe, MRICS, Land Programme Manager  
Georgie Harding-Edgar MRICS, Assistant Land Programme Manager  
EDF Energy  
The Qube  
90 Whitfield Street  
London  
W1T 4EZ

Tel: 0207 268 3757

[ian.cunliffe@edf-energy.com](mailto:ian.cunliffe@edf-energy.com) 07863 170 310

[Georgie.harding-edgar@edf-energy.com](mailto:Georgie.harding-edgar@edf-energy.com) 07841 816 536

Yours sincerely

Richard Mayson  
Director of Planning and External Affairs  
EDF Energy, Nuclear New Build



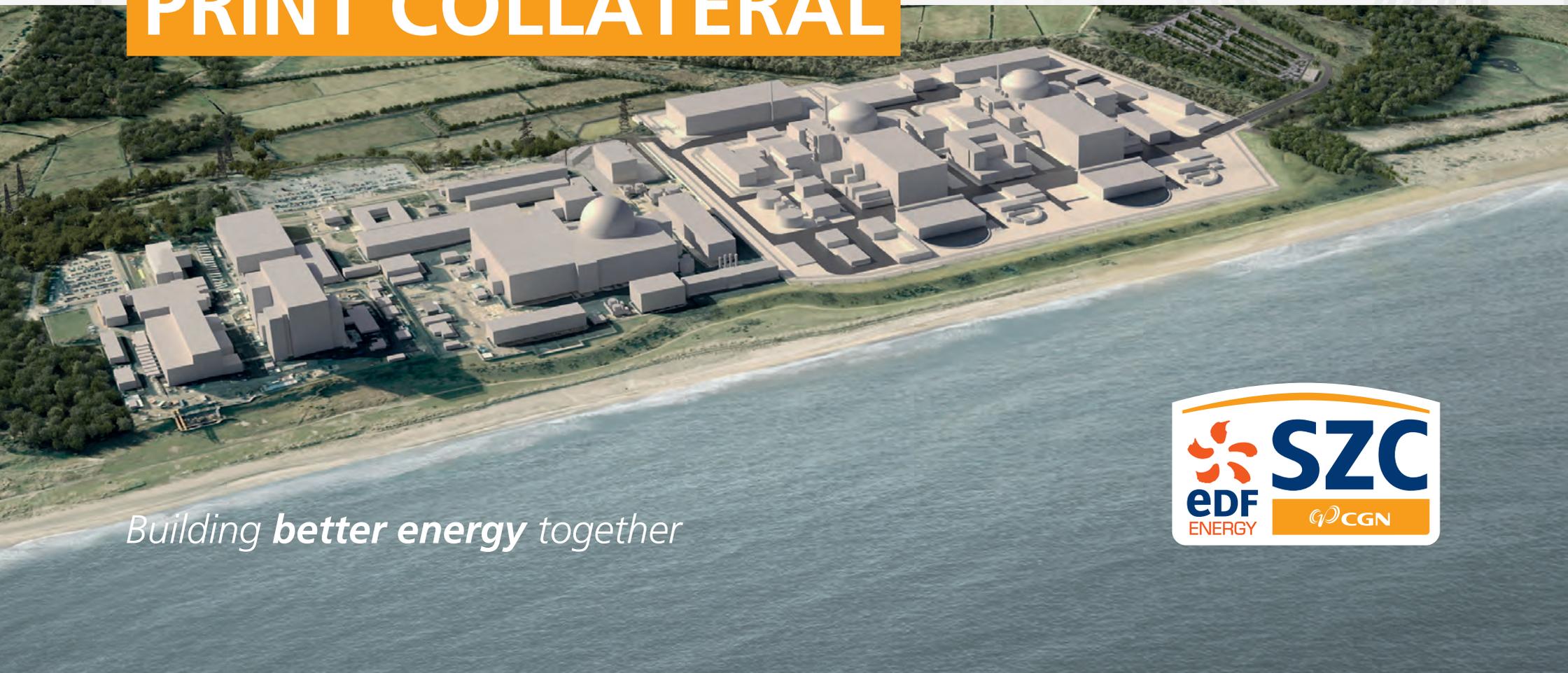
Appendix B.8 Sample Consultation Materials

Sizewell C

**STAGE 1:**

**MEDIA AND**

**PRINT COLLATERAL**



*Building better energy together*



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# Preparation for Stage 1



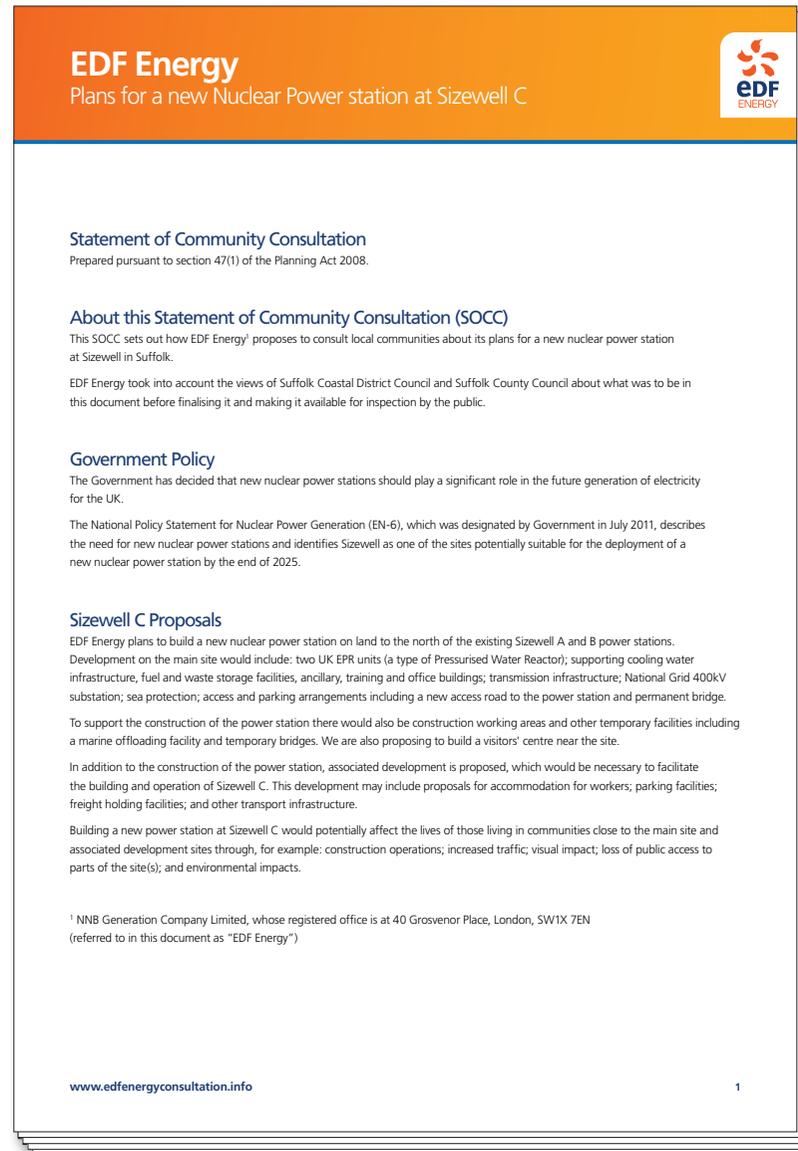
## Leiston Office Branding

External EDF Energy Branding for the Leiston Office.



# Statement of Community Consultation

Document indicating how EDF Energy will consult local communities about its plans.



## Parishes Support Letter

**Date:** 30 October 2012

Letter sent to all parish councils informing of support available throughout consultation.

parish will be keen to receive a presentation from us during the formal consultation period.

Many clerks and council members have raised concerns about towns and parishes having the resources to give an adequate response to a consultation on a project of this scale and indicated that additional resources might be required. This issue was also brought to our attention by local authority officers and councillors on the Joint Local Authorities Group (JLAG). Therefore, it is EDF Energy's and the local authorities' intention to provide additional resource, by jointly recruiting an independent consultant to assist the parishes. The consultant will be employed on a temporary contract for the duration of the Stage 1 consultation and the role will be funded through the Planning Performance Agreement (PPA) which is in place with both local authorities (SCDC and SCC).

The consultant will be wholly independent of both EDF Energy and the local authorities and will be an exclusive resource for the town and parish councils, to assist you in drafting your response to the consultation. It will be each individual Parish Council's responsibility to submit its final response to EDF Energy and of course, it is also up to the parish to decide whether it shares their response with other bodies or individuals.

For project management and billing purposes, the consultant will report back regularly to the Sizewell C Project Office based in Melton and the Sizewell C Core Project team, which comprises of officers from EDF Energy and both the local authorities.

Details of how you can request this support for your council will be available from the local authorities' Sizewell C Project Support Officer, Joanna Jones, who is based at the offices of Suffolk Coastal District Council (tel: 01394 444538 / email: [Joanna.jones@suffolkcoastal.gov.uk](mailto:Joanna.jones@suffolkcoastal.gov.uk))

If you have any further questions, please contact Joanna Jones or feel free to contact me.

Yours sincerely,



Nicola Corbett  
Sizewell C Communications Officer

48 – 50 High Street, Leiston IP16 4EW  
Tel: 01728 833466  
Email: [nicola.corbett@edf-energy.com](mailto:nicola.corbett@edf-energy.com)

# September Newsletter

Date: 20 September 2012

Delivered to 21,000 homes and businesses within a 10 mile radius of the Sizewell C development and emailed to a database of 1,000+ email addresses.

## EDF Energy Sizewell C Newsletter

September 2012

### Sizewell C Public Consultation to start in November



**Early plans for a new nuclear power station to be revealed**

EDF Energy, owner and operator of Sizewell B, will soon consult on our initial proposals for a new nuclear power station at Sizewell. In preparation for this, we have submitted plans for how we intend to consult local communities to Suffolk Coastal District Council and Suffolk County Council. This submission is called a draft 'Statement of Community Consultation' (SoCC). Under the rules of the Planning Act 2008, we are required to seek the councils' views on our local consultation method via this process.

**Richard Mayson, Director of Planning and External Affairs for Nuclear New Build, said:** "We are very pleased to signal the start of the formal consultation process. Sizewell C would offer massive employment and economic opportunities for local residents and firms."

The councils are expected to respond with their feedback shortly. We will then consider their views before publishing our final SoCC on our website for public viewing. It will explain how the consultation on Sizewell C will be organized and how you can view the plans and provide feedback.

[www.edfenergyconsultation.info](http://www.edfenergyconsultation.info)

### The Sizewell C Development: what will be proposed?

We will be presenting initial proposals for a new nuclear power station to the north of and next door to the existing Sizewell A and B power stations, on land which was identified by the government in 2008 as a potentially suitable site for new nuclear build. Our proposal will involve the construction of a new power station, which would include two UK European Pressurized Water Reactors (known as UK-EPRs).

In order to build Sizewell C we would also need to carry out some supporting development in the surrounding area. For example, some land may be needed for the accommodation and movement of people involved in construction, or to assist with the movement of construction materials.



In the first stage of the Sizewell C consultation we will be asking for your views on our initial proposals for the new power station, including the options for where supporting developments could be located.

EDF Energy will also consult on how we can boost skills, education, local employment and business opportunities for residents and companies in Suffolk.

### How will EDF Energy consult the local community?

Our consultation activities will include holding public exhibitions, providing information and in various documents, and publicizing activities in local media and other channels.

The first stage of consultation is due to start in November 2012. The local authorities will consider the proposals for how we will consult the public.

We will publicise details of the consultation after the councils have submitted their feedback.

### How will EDF Energy use radar to monitor coastal developments?

EDF Energy intends to install a navigational radar – similar to the type used on ships – on the roof of the Sizewell A power station building to monitor changes to coastal processes. The radar will provide valuable marine data, in particular on wave movements, tidal currents and sea level elevations, furthering our understanding of coastal processes in the Sizewell area. Whilst the radar will rotate 360 degrees, it transmits only over the seaward area and not the landward area.



### Borehole investigations

We will shortly be undertaking some additional groundwater investigations within the Site of Special Scientific Interest (or SSSI as they are commonly known) around the proposed Sizewell C site. This will help us to develop a thorough understanding of the ground and surface water environment and the nature and direction of water flows. The findings will enable us to model any potential changes that might arise from development of a new power station. We do not anticipate this work causing any restriction to public rights of way.

### What happens after this stage of consultation?

The diagram illustrates the consultation process we will undertake, from where we are now (submitting the draft Statement of Community Consultation to local councils) through to the point where the Secretary of State will announce a decision on the proposed development of Sizewell C. This process will take some years and the number of stages and the time between stages may vary greatly.

Stage 1 of consultation, we will consider the feedback received before our revised detailed proposals at Stage 2. We cannot pre-empt the outcome of the first stage of consultation, so we cannot determine exactly when the Stage 2 consultation will begin – but the public will be given plenty of notice and we will regularly keep you updated through this newsletter and on our website.

We are here

### Contact us

For further information please do not hesitate to contact the team. You can do this by:

- Calling our free phone number **0800 197 6102\***
- Emailing [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Visiting our website [www.edfenergyconsultation.info](http://www.edfenergyconsultation.info)
- Writing to us at **Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ**
- If you have a general EDF Energy customer / billing enquiry please call **0800 096 9000**

\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.

# SoCC Newsletter

**Date:** 8 November 2012

Delivered to 21,000 homes and businesses within a 10 mile radius of the Sizewell C development and emailed to a database of 1,000+ email addresses.

## EDF Energy Sizewell C Newsletter



November 2012

November 2012

### Sizewell C – Consultation Begins 21 November



**The Sizewell C Development: what will be proposed?**

We will be presenting initial proposals and options for a new power station to the north of the existing Sizewell A and B power stations, on land which was identified by the government in 2011 as a potentially suitable site for new nuclear build.

Our proposals will involve the construction of a new power station, which would include two reactors known as UK EPRs.

In order to build Sizewell C, we would also need to carry out associated development in the surrounding area. For example, some land may be needed to accommodate workers involved in construction, to provide park and ride facilities or to assist with the movement of construction materials.



**EDF Energy will begin its formal pre-application consultation on its plans for the proposed new nuclear power station at Sizewell shortly, and we are urging local people to play their part in shaping our plans.**

*"We are committed to carrying out a full and open consultation with local people. I would encourage everyone to play an active role, as their comments and suggestions will be taken into account and will make a difference in shaping our plans," said Richard Mayson, Director of Planning and External Affairs.*

The Stage 1 consultation will begin on 21 November, and will run for 11 weeks closing on 6 February 2013. A series of public exhibitions (dates and locations overleaf) will be held, which will be an opportunity for you to find out more about our plans, speak to the EDF Energy team and give us your feedback on our proposals.

We have just published a Statement of Community Consultation (SoCC) setting out how we plan to consult with local communities about our proposals following consultation with Suffolk Coastal District Council and Suffolk County Council about what should be included in the SoCC. You can view the SoCC on our website: [www.edfenergyconsultation.info](http://www.edfenergyconsultation.info)

Hard copies will also be available to view at Leiston Town Council and Suffolk Coastal District Council offices.

[www.edfenergyconsultation.info](http://www.edfenergyconsultation.info)

### We are pleased to announce the dates of our forthcoming exhibitions:

VENUE	DATE	TIME
Leiston United Church, High Street, Leiston	Friday 23 November	2pm – 8pm
Leiston United Church, High Street, Leiston	Saturday 24 November	12.30pm – 4.30pm
St Peter's Church, Theberton	Monday 26 November	2pm – 8pm
The Village Hall, Darsham Road, Westleton	Tuesday 27 November	2pm – 8pm
Market Hall, High Street, Saxmundham	Thursday 29 November	2pm – 8pm
The Village Hall, Old High Road, Yoxford	Friday 30 November	12pm – 5pm
The Riverside Centre, Great Glemham Road	Saturday 1 December	10am – 4pm
The Methodist Church, East Green, Southwold	Tuesday 4 December	2pm – 8pm
The Rifle Hall, London Road, Halesworth	Wednesday 5 December	2pm – 8pm
The Village Hall, High Street, Wickham Market	Thursday 6 December	2pm – 8pm
The Baptist Church, High Street, Aldeburgh	Friday 7 December	2pm – 8pm
The Lindos Centre, Saddlemakers Lane, Melton	Saturday 8 December	10am – 4pm

Sizewell C Information Office at 48 High Street, Leiston will be open 9.30am – 5.00pm, Monday – Friday throughout the period. The office will be closed from 22 December and will reopen 2 January 2013.

### Consulting Resources for Parish Councils

Suffolk County and Suffolk District Councils have agreed to assist local parish and town councils responding to the Sizewell C consultation.

to ensure that local parish take their views heard during consultation and have agreed to appoint a consultant to assist in responding fully to the consultation," said Tom McGarry, Operations Manager for Sizewell C.

Over the last two years, we have met with parish chairmen and clerks of local parishes to raise concerns about their views on a consultation on a large scale and indicated that they would require additional resources. This was also brought to our attention by District and County Councillors.

### Contact us

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- Calling our freephone number **0800 197 6102\***
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## Pre-Stage 1 Advert

**Date:** 8 & 16 November 2012

Full page advert published in the East Anglian Daily Times, EDP, Beccles & Bungay Journal, Lowestoft Journal, Coastal Scene, Ipswich Star and Free Paper, promoting scheduled exhibition dates.



# Sizewell C Have your say

EDF Energy has just published a document setting out how we plan to consult with local people about our proposals for a new nuclear power station at Sizewell and its associated development.

This document, the Sizewell C Statement of Community Consultation, is available to view at [www.edfenergyconsultation.info](http://www.edfenergyconsultation.info). You can also read it at Leiston Town Council and Suffolk Coastal District Council offices throughout the consultation exercise or collect a copy from the Sizewell C Information Office at 48 High Street, Leiston.

Stage 1 of our public consultation will begin on Wednesday 21 November 2012 and will run until Wednesday 6 February 2013. The Sizewell C Initial Proposals and Options consultation documents will be available from the start of consultation. We will hold a series of public exhibitions throughout Stage 1 and would like to invite you to attend and give your views on our plans for Sizewell C.

**Exhibitions will be held at:**

TOWN	VENUE	DATE	TIME
Leiston	Leiston United Church, High Street, Leiston	Friday 23 November	2pm – 8pm
Leiston	Leiston United Church, High Street, Leiston	Saturday 24 November	12.30pm – 4.30pm
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Melton/Woodbridge	The Lindos Centre, Saddlemakers Lane, Melton	Saturday 8 December	10am – 4pm

Information on later stages of consultation will be publicised in advance of each stage, as explained in the Sizewell C Statement of Community Consultation.

**For further information please contact us by:**

- Visiting the **Sizewell C Information Office at 48 High Street, Leiston**. The office is open throughout the consultation period from 9.30am – 5pm, Monday to Friday and 9am – 12pm on Saturdays from 15 December to 2 February. The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January 2013.
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# Community Forum Launch

**Date:** 8 November 2012

Community Forum 'terms of reference' and launch presentation for members.

**EDF Energy**  
Sizewell C Community Forum - Terms of Reference



**The Sizewell C Community Forum has been established as part of EDF Energy's public consultation programme on a new power station at Sizewell.**

**Purpose**  
The Sizewell C Community Forum is intended to provide a mechanism for discussion during the planning and construction process between EDF Energy, representatives of the local community and other key stakeholders on the proposed development of a new nuclear power station at Sizewell.

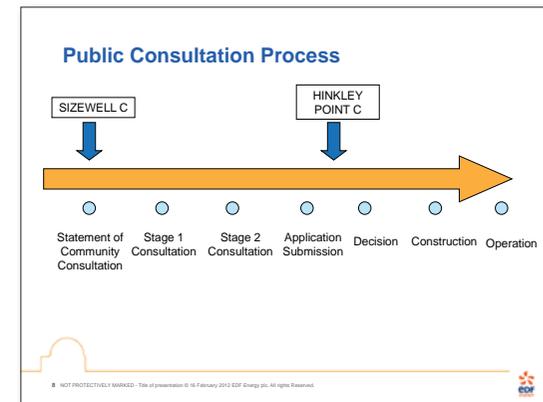
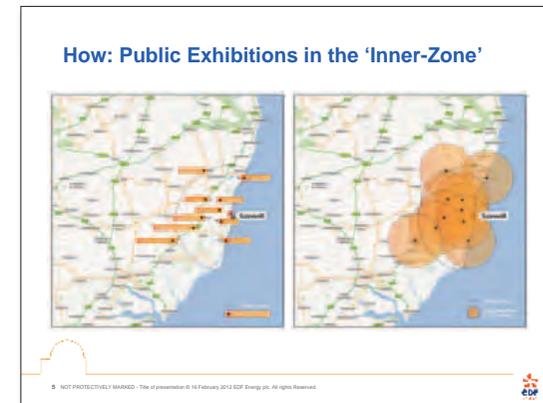
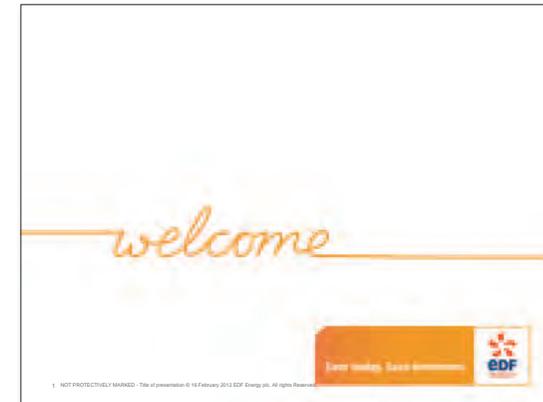
**The Forum will:**

- allow EDF Energy to keep local representatives and relevant stakeholders informed of relevant issues;
- enable local representatives and other relevant stakeholders to ask EDF Energy questions and raise issues of concern;
- advise EDF Energy on key issues affecting the local community and help find ways to minimise the impact and maximise the benefit of Sizewell C to those living and working in the area.

**Terms of reference**  
To consider and advise on issues that might affect the local community and key stakeholders as a result of EDF Energy's planning proposals, principally those arising from the development of a new nuclear power station on land adjacent to the existing power stations and any other associated developments. Consideration of the principle of building new nuclear power stations is outside the scope of the Forum. An independent chairman will oversee the business of the Forum.

**Meeting Arrangements**  
EDF Energy has appointed an independent chairman to oversee the business of the Forum and to chair its meetings. The chairman will be entitled to charge for services and recover expenses incurred, at rates agreed with EDF Energy.  
Forum members will be invited to suggest agenda items to be discussed at meetings.  
EDF Energy will provide secretarial support for the Forum and will issue meeting notices and papers on behalf of the chairman.  
Summary minutes of meetings will be prepared in draft by the secretariat and circulated to all participants for approval at the following meeting. Approved minutes will be placed on the EDF Energy consultation website.  
Meetings will normally be held at the Sizewell Sports and Social Club, Leiston, starting at 7pm, and finishing no later than 9pm. The frequency of meetings will be roughly quarterly, but will be determined according to the progress of the planning process.  
Members of the public and media may observe proceedings.  
However, the electronic recording of proceedings will not normally be allowed, unless with the specific permission of the chairman.

[www.edfenergyconsultation.info](http://www.edfenergyconsultation.info)



# Regional Advertising

**Date:** 16 November 2012

Full page advert promoting scheduled stage 1 exhibitions published in East Anglian Daily Times, Beccles & Bungay Journal, Lowestoft Journal, Coastal Scene and Community News publications.



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- Visiting our website [www.edfenergyconsultation.info](http://www.edfenergyconsultation.info)

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# Young People Flyer & Poster

**Date:** 19 November 2012

1000 flyers and 100 posters distributed to Alde Valley School, Farlingaye School and Thomas Mills.

## Sizewell C Have your say

## Sizewell C Have your say

**The future is in your hands.**

You can play your part in building and operating a new fleet of safe, low-carbon nuclear power stations.

EDF Energy is consulting **you** on our proposals for Sizewell C. Stage 1 of our consultation is underway and will run until Wednesday, 6 February, 2013.

You can find out more and give us your feedback by visiting our website <http://sizewelledfenergyconsultation.info>



Please visit the Sizewell C Information Office at 48 High Street, Leiston. We can answer your questions. We will be open from Wednesday, 21 November and opening hours are 9.30am – 5.00pm from Monday to Friday and on Saturdays from 9.00am – 12 noon.

**Your views are important to us as we shape the plans for Sizewell C.**

**To contact us or get further information:**

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- Call our freephone number **0800 197 6102\***
- Write to us at **Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ**
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**your hands.**

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Proposals for Sizewell C. Stage 1 of our consultation is underway and will run until Wednesday, 6 February, 2013.

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**To contact us or get further information:**

Leiston  
48 High Street, Leiston  
FREEPOST LON20574, London W1E 3EZ

[sizewelledfenergyconsultation.info](http://sizewelledfenergyconsultation.info)  
you are calling from a mobile phone.



## 'Hard of Seeing' Flyer

**Date:** 19 November 2012

1,800 sent to East Suffolk Association of the Blind to be distributed with their mailout.

**Date:** 23 November 2012

PDF sent to Optua Disability Group to email out to their database.

**Date:** 26 November 2012

A4 flyers given to AGE UK to distribute with their magazine.

# Sizewell C Have your say

**EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.**

Our public consultation began on Wednesday, 21 November, 2012, and will run until Wednesday, 6 February, 2013.

A series of public exhibitions are being staged in the area, for details visit <http://sizewell.edfenergyconsultation.info>

They can also be viewed at Leiston Town Council and Suffolk Coastal District Council offices throughout the consultation period.

Please visit the Sizewell C Information Office at 48 High Street, Leiston.

The office is open from 9.30am – 5pm, Monday to Friday and 9am – 12pm on Saturdays from 15 December to 2 February.

The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January 2013.

**Your views are important to us  
as we shape the plans for Sizewell C.**



# Exhibition Display



# Exhibition Display

Item 1/12 for the exhibition display

EDF Energy  
**Sizewell C - Public Consultation**

## Welcome to the Sizewell C consultation



EDF Energy is proposing to build a new nuclear power station at Sizewell, Suffolk, along with a number of associated developments. This is our first stage of formal consultation, and we are seeking your views on:



Image: Unrepresented views of proposed Sizewell C

- ① Overall proposals for Sizewell C

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- ② Options for associated development (such as park and ride sites) needed to support the construction and operation of the power station

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- ③ The potential effects on the local community, both positive and negative

### Why New Nuclear?

By the end of this decade several of Britain's existing power stations, producing about a quarter of total electricity output, will close.

The Government has decided that new nuclear power stations are needed to maintain security of energy supply while also helping to meet the UK's climate change targets.

### Why Sizewell?

In developing its policy, the Government looked in some detail at a wide range of factors before designating Sizewell as one of eight potentially suitable sites for a new nuclear power station in England and Wales.

For further information, please see the Stage 1 Consultation Document - Chapters 1 & 2



# Exhibition Display

Item 2/12 for the exhibition display

**EDF Energy**  
**Sizewell C - Public Consultation**

## The Sizewell C Power Station

The proposed development site is located directly to the north of Sizewell B power station. The permanent development would include:

- Two UK EPR units and associated buildings (the 'Nuclear Island'), turbine halls and electrical buildings (the 'Conventional Island')
- Cooling water infrastructure including pumphouses, associated buildings, tunnels extending out to sea and headworks
- Fuel and waste storage facilities including interim storage for nuclear waste and spent fuel
- External plant including bulk storage tanks
- Operational Service Centre and ancillary, office and storage buildings
- Transmission infrastructure, including a National Grid 400kV substation, removal and relocation of one existing National Grid pylon/tower and associated realignment of power lines
- Internal roads, a bridge, car parking and a helipad
- Access road to adjoin the B1122 and related junction improvements
- Sea protection
- Simulator building/training centre
- A Sizewell visitor centre
- Landscaping of the areas to be restored following their use during construction

### Waste Management

Spent fuel removed from the reactor would initially be stored underwater in a reactor fuel pool. Following this initial storage period, the spent fuel assemblies would be transferred to the separate on-site Interim Spent Fuel Store (ISFS) where they would be stored safely until a UK Geological Disposal Facility is available and the spent fuel is suitable for final disposal.



Image: Technip Energies construction consultancy plan

### Construction

**During construction, additional land would be needed temporarily for construction purposes, which would include:**

- Construction working areas, laydown areas, workshops, storage and offices
- Temporary structures including a concrete batching plant
- Spoil/stockpile storage
- Temporary bridges between the power station and associated works areas
- A jetty - part of which could remain permanently
- A temporary rail extension into the construction site
- Works areas on the foreshore for the installation of cooling water infrastructure and sea protection
- Construction roads, fencing, lighting and security features
- Site access arrangements and coach, lorry and car parking
- A development site accommodation campus

For further information, please see the Stage 1 Consultation Document - Chapter 2



# Exhibition Display

Item 3/12 for the exhibition display

## EDF Energy Sizewell C - Public Consultation

### Landscape & Ecology

The area around Sizewell is environmentally sensitive.

The main development site lies within the Suffolk Coast & Heaths Area of Outstanding Natural Beauty (AONB) and there are a number of European, national and local ecologically designated sites which

are close to, or partly within, the proposed development site. We are preparing a landscape strategy for the areas to be restored and enhanced. This strategy would also cover the wider EDF Energy estate.

Image: hydrobiological environmental landscape plan

### Footpaths

Some public footpaths, including a small section of the Suffolk Coast Path, would be temporarily closed or diverted during the construction phase.

We would aim to restrict access only when absolutely necessary during essential engineering works. Any closures would be agreed with the local authorities, and the public would be given advance notice.

For further information, please see the Stage 1 Consultation Document - Chapter 2

# Exhibition Display

Item 4/12 for the exhibition display

EDF Energy  
**Sizewell C - Public Consultation**



## Visitor Centre

We are proposing to build a new visitor centre, which would replace the temporary visitor centre at Sizewell B. There are three options for its location:



Image: Indicates visitor centre location options

<p><b>Option 1</b> <b>Lover's Lane</b></p> <ul style="list-style-type: none"> <li>• This option is located next to one of the accommodation campus options</li> <li>• This would give distant views of the power stations and could be linked to existing footpaths</li> </ul>	<p><b>Option 2</b> <b>Sizewell Beach</b></p> <ul style="list-style-type: none"> <li>• This would be located close to the existing tourist facilities on the beach</li> <li>• On leaving the centre, visitors would be able to view the power stations on a short walk along the beach</li> </ul>	<p><b>Option 3</b> <b>Goose Hill</b></p> <ul style="list-style-type: none"> <li>• This site would provide the best view of Sizewell C as well as having access to the beach</li> </ul>
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For further information, please see the Stage 1 Consultation Document - Chapter 3



# Exhibition Display

Item 5/12 for the exhibition display

## EDF Energy Sizewell C - Public Consultation

# Accommodation & Transport

We have initial plans for accommodating and transporting the large number of people needed to build Sizewell C.

Our aim is to limit the traffic pressure caused by workers travelling to and from the Sizewell C development site.

We propose to build a temporary accommodation campus and park and ride facilities to reduce the number of journeys taken. In addition, we aim to minimise the volume of freight on the roads by moving construction materials by sea and rail where practicable.

### Accommodation

When construction is at its peak, we estimate that about 34% of the construction workforce would live at home and commute to work on a daily basis. The remaining 66% would live in temporary accommodation in the area.

We propose to build a temporary accommodation campus to house between about 2000 – 3000 people. This would have many benefits including relieving pressure on privately-rented housing and tourist accommodation.

### Road Improvements

Our proposed investments in rail, sea, accommodation, park and ride and lorry park facilities would help to limit road traffic impacts.

However some of the most likely areas for impact during construction are the A12 and B1122.

**A12** - It is our view at this time that a four village bypass cannot be justified as a result of impact from Sizewell C. However the bend at Farnham could require improvements for which we are considering a number of options.

**B1122** - It is anticipated that the B1122 would be the approved HGV route for traffic between the A12 and the Sizewell C construction site. The junction of the A12 with the B1122 at Yoxford is likely to require improvement to ensure a smooth flow of traffic.



Image: © Crown Copyright and © Ordnance Survey 2014

### Park and Ride

Park and ride facilities would significantly reduce the amount of Sizewell C traffic on local roads during the peak years of construction.

We propose to build two temporary park and ride sites near the A12 – one for drivers approaching Sizewell from the north and the other for those approaching from the south. The park and ride sites would have spaces for about 1,000 cars in each. The southern park and ride could also include lorry parking.

### Rail Transport

We propose to upgrade and extend parts of the existing rail network near Sizewell, so that it could be used for the delivery of freight during construction and help reduce road HGV movements.

This includes options for either a new rail terminal in Leiston or a rail extension into the development site, for which we are proposing three possible routes.

### Sea Transport

Our proposed jetty would play a major role in moving freight during construction, significantly reducing the need for road transport.

The jetty would allow the sea delivery of bulky materials and very large items known as Abnormal Indivisible Loads (ALLs), and the removal of excavated material.

### Lorry Management

Some freight will have to come by road and we are therefore considering a range of management systems which may require the construction of a lorry park with around 50 – 100 parking spaces.

We would prefer the lorry park to be built at the southern park and ride site as this avoids the need for additional development. However, there are also three other options for a 'standalone' lorry park.

# Exhibition Display

Item 6/12 for the exhibition display

## EDF Energy Sizewell C - Public Consultation

### Campus Accommodation Options





**Option 1** Development Site Campus

#### Development Site Campus

- Located next to the main construction site entrance, this option would allow people to walk to work, avoiding the need for buses
- This would improve the efficiency of construction and help to limit traffic impacts



**Option 2** Sizewell Gap Campus

#### Sizewell Gap Campus

- This site is south of Sandy Lane and north of Sizewell Gap, about 1.5 miles from the main construction site entrance. Some people would walk or cycle to work, but most would take a bus



**Option 3** Leiston East Campus

#### Leiston East Campus

- Located in fields to the south of the Sizewell Sports and Social Club, this site is 1.7 miles from the main construction site entrance. Some people would walk or cycle to work, but most would take a bus
- As it is just east of Leiston, it could benefit local businesses as workers would have better access to local services

For further information, please see the Stage 1 Consultation Document - Chapter 5



# Exhibition Display

Item 7/12 for the exhibition display

## EDF Energy Sizewell C - Public Consultation

### Park & Ride North Options





**Option 1**  
**Yoxford Road**

- Located on the Yoxford Road, this site is ideally placed to intercept Sizewell C traffic travelling south on the A12 and east along the A1120
- It would also reduce traffic passing through Theberton



**Option 2**  
**Darsham**

- This site is well positioned to intercept southbound traffic on the A12, as well as traffic travelling along the A144 from Halesworth
- It would also make a good collection point for workers travelling to Sizewell C by rail
- A disadvantage of the site is that workers travelling east along the A1120 would need to divert approximately 1 mile along the A12 from Yoxford



**Option 3**  
**A12/A144 Junction**

- This site, to the east of the A12, includes the former Little Chef (now closed)
- The advantage of this location is that it is well placed to intercept traffic travelling south on the A12 and along the A144 from Halesworth
- A disadvantage of this site is that workers travelling east along the A1120 would need to divert approximately 2 miles along the A12 to reach it

For further information, please see the Stage 1 Consultation Document - Chapter 6



# Exhibition Display

Item 8/12 for the exhibition display

## EDF Energy Sizewell C - Public Consultation

### Rail Transport Options

Image: New Rail Terminal

#### Option 1 New Rail Terminal

- A new rail terminal would be built north of King George's Avenue on land to the north-east of the Leiston industrial estate (separate to this option, we are considering this land for temporary use during construction)
- It would create additional space for unloading and storing rail freight for onward delivery to the Sizewell C development site
- It would avoid use of the level crossing on King George's Avenue
- Unloading operations would take place further away from residential areas of Leiston than the existing terminal

#### Option 2 (preferred option) Temporary Rail Extension

- We are proposing to build a temporary extension of the rail line into the construction area
- We prefer this option because it would encourage contractors to use rail rather than road for freight deliveries

**If we were to go ahead with this option, we have identified three potential routes for the rail line. At present, we favour either the green or the red route:**

- The blue and green routes would avoid trains passing residential areas of Leiston, but could have an adverse impact on the landscape and affect views from Leiston Abbey
- The red route is the shortest of the three potential routes, with the least impact visually, while the blue route is the longest and would enter the construction site where we wish to locate the accommodation campus

Image: Temporary Rail Extension options

Image: Temporary Rail Extension options

For further information, please see the Stage 1 Consultation Document - Chapter 6

# Exhibition Display

Item 9/12 for the exhibition display

## EDF Energy Sizewell C - Public Consultation



### Lorry Management Options

We would prefer the lorry park to be built at the southern Park and Ride site as this avoids the need for additional development. However there are three other options for a standalone lorry park:





**Option 1**  
**Orwell Lorry Park (West)**

- Situated to the west of the existing Orwell Crossing Lorry Park, adjoining the Ransomes Europark
- The advantages of this site are that it is already allocated for employment use and it lies outside the Suffolk Coast & Heaths Area of Outstanding Natural Beauty (AONB)
- There are residential properties to the north, separated from the site by the railway and the A1156
- It is envisaged that the site would be accessed by a new junction off the A14, and the existing access via the Orwell Crossing Lorry Park would be closed

**Option 2**  
**Orwell Lorry Park (East)**

- Situated to the east of the existing Orwell Crossing Lorry Park, with residential housing along the site's northern boundary which is separated from the site by the railway
- This site lies within an isolated fragment of the Suffolk Coast & Heaths AONB, separated from the rest of the AONB by the A14 corridor
- There is a public footpath running through the centre of the site, which would require a diversion
- The site would be accessed by a new junction off the A14, and the existing access via the Orwell Crossing Lorry Park would be closed

**Option 3**  
**A12/A14 Seven Hills Junction**

- The site would be accessed off the Old Felixstowe Road
- Seven Hills Crematorium is located immediately to the west of the site
- The lorry park would be positioned so that there would be adequate space to the west to provide an effective landscape screen
- Screening would also be provided along the site's other boundaries

For further information, please see the Stage 1 Consultation Document - Chapter 6



# Exhibition Display

Item 10/12 for the exhibition display

**EDF Energy**  
**Sizewell C - Public Consultation**

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## Farnham Bend Options



The predicted Sizewell C construction traffic may justify road improvements to assist smooth traffic flow and enhance safety through the narrow bend at Farnham. We would like your views on these three options:



Image: Indicative locations of Farnham bypass

**Option 1**  
**A bypass of Farnham**

- This would reduce accident risk and traffic flow through the village
- It would mean building a road through farmland and open countryside



Image: Indicative widening of the road at Farnham bend

**Option 2**  
**Widen the road at Farnham bend**

- This would not remove traffic from the village but should reduce accident risk
- It would avoid the landscape effects of a bypass, but would require the removal of a small number of properties



Image: Indicative widening of the road at Farnham bend

**Option 3**  
**Put HGV traffic controls at Farnham**

- This should reduce accident risk but would worsen the potential for congestion
- It would not remove traffic through the village

For further information, please see the Stage 1 Consultation Document - Chapter 6



# Exhibition Display

Item 11/12 for the exhibition display

**EDF Energy**  
**Sizewell C - Public Consultation**

## Education, Skills & Business Opportunities



We want local people to have the best opportunity to gain employment and skills from the Sizewell C Project. At the peak of construction about 5,600 people are likely to be employed on the Sizewell C site, with about 900 staff needed to run the power station during its 60-year operational life.



Image: Students at Enterprise Centre opening day in Saxmundham

We are committed to ensuring local people and businesses are best placed to take advantage of these opportunities, working to build long-term sustainable skills for future generations.

We will work in partnership with local schools, colleges, training providers, councils and central government to help develop education programmes and skills required to support the construction of Sizewell C.

We already run successful apprenticeship and graduate schemes, which will be expanded to provide skilled staff for Sizewell C.

Many of the skills required during the construction would be transferable, opening up the opportunity for further employment once Sizewell C had been built.

Sizewell C would create many opportunities for local businesses to supply their goods and services.

A website run by the Suffolk and Norfolk Chambers of Commerce is now available for businesses to register their interest in becoming suppliers:  
[www.sizewellcsupplychain.org.uk](http://www.sizewellcsupplychain.org.uk)



For further information, please see the Stage 1 Consultation Document - Chapter 4



# Exhibition Display

Item 12/12 for the exhibition display

**EDF Energy**  
**Sizewell C - Public Consultation**

**Thank you for coming to our exhibition.**  
**Now have your say...**

All responses to the Sizewell C consultation must be received by 6 February 2013.  
You can have your say by:

- 1 **Filling in the public questionnaire** in the Consultation Document: Summary and online at: <http://sizewell.edfenergyconsultation.info>
- 2 **Emailing your comments** to: [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- 3 **Writing a letter** to Sizewell Nuclear New Build, FREEPOST LON20574, London, W1E 3EZ
- 4 **Ringling our freephone** number 0800 197 6102 during normal office hours (please note – this is a freephone number but you may be charged if you call from a mobile phone)
- 5 **Dropping in** to the Sizewell C Information Office (9:30am-5pm Mon-Fri and 9am-Noon Sat, excluding bank holidays) at 48 High Street, Leiston during the consultation period

**EDF ENERGY**

# Stage 1 Consultation

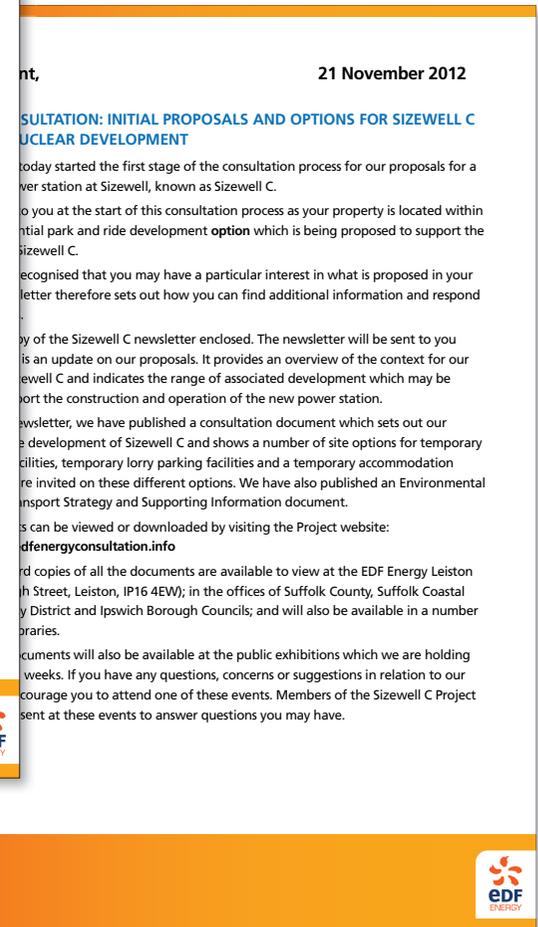
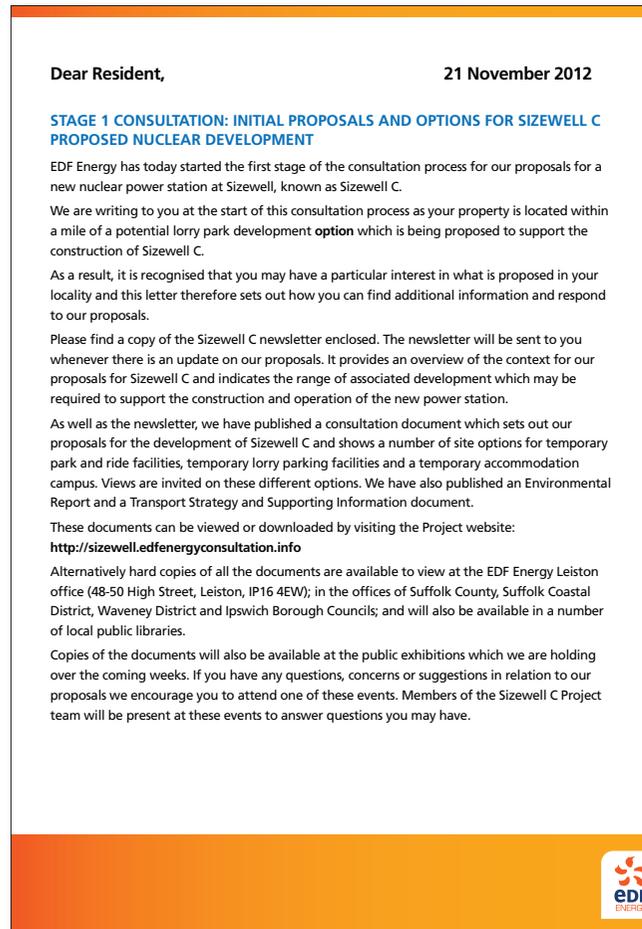




# Additional Development Site Covering Letter

**Date:** 21 November 2012

A covering letter for the newsletter was produced for the areas outside of the 10 mile radius that had additional development options located near them. A version for either the lorry park or park & ride option was created and delivered to all properties within a 1 mile radius of the proposed development options.



## Young Suffolk Emailer

**Date:** 21 & 23 November 2012

Despatched to the Young Suffolk database,  
200+ contacts.

# Sizewell C Have your say

## The future is in your hands.

**You can play your part in building and operating a new fleet of safe, low-carbon nuclear power stations.**

EDF Energy is consulting **you** on our proposals for Sizewell C. Stage 1 of our consultation is underway and will run until Wednesday, 6 February, 2013.

**You can find out more and give us your feedback by visiting our website <http://sizewelledfenergyconsultation.info>**



Please visit the Sizewell C Information Office at 48 High Street, Leiston. We can answer your questions. We will be open from Wednesday, 21 November and opening hours are 9.30am – 5.00pm from Monday to Friday and on Saturdays from 9.00am – 12 noon.

**Your views are important to us as we shape the plans for Sizewell C.**

### To contact us or get further information:

- Visit the Sizewell C Information Office at 48 High Street, Leiston
- Call our freephone number 0800 197 6102\*
- Write to us at Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ
- Email [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Twitter @edfsizewellc
- Or visit our website <http://sizewell.edfenergyconsultation.info>

\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.



# Suffolk Coastal Pop Up Banner

**Date:** 21 November 2012

A pop up banner was produced to sit in Suffolk Coastal District Council reception promoting the scheduled exhibition dates.

**Sizewell C:  
Have your say**

EDF Energy is currently consulting the public on their proposals for a new nuclear power station and its associated development at Sizewell.

These are the dates of our forthcoming public exhibitions, which will be an opportunity for you to find out more about our plans, speak to representatives from EDF Energy and share your feedback on our proposals:

TOWN	VENUE	DATE	TIME
Leiston	Leiston United Church, High Street	Fri 23 Nov	2pm - 8pm
Leiston	Leiston United Church, High Street	Sat 24 Nov	12.30pm - 4.30pm
Thberton	St Peter's Church	Mon 26 Nov	2pm - 8pm
Westleton	The Village Hall, Danham Road	Tue 27 Nov	2pm - 8pm
Saundunham	Market Hall, High Street	Thu 29 Nov	2pm - 8pm
Yoxford	The Village Hall, Old High Road	Fri 30 Nov	12pm - 5pm
Stratford St Andrew	The Riverside Centre, Great Glenham Road	Sat 1 Dec	10am - 4pm
Southwold	The Methodist Church, East Green	Tue 4 Dec	2pm - 8pm
Holesworth	The Rifle Hall, London Road	Wed 5 Dec	2pm - 8pm
Wickham Market	The Village Hall, High Street	Thu 6 Dec	2pm - 8pm
Aldborough	The Baptist Church, High Street	Fri 7 Dec	2pm - 8pm
Melton / Woodbridge	The Lindsos Centre, Saddlemakers Lane, Melton	Sat 8 Dec	10am - 4pm
Nacton	The Village Hall, The Street, Ipswich	Fri 14 Dec	2pm - 8pm

**Contact us**  
For further information please do not hesitate to contact the team.  
**You can do this by:**

- Calling our freephone number **0800 197 6102\***
- Emailing [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Visiting our website <http://sizewell.edfenergyconsultation.info>
- Twitter: @edfcsizewell
- Writing to us at: **Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ**
- If you have a general EDF Energy customer / billing enquiry please call **0800 096 9000**

\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.



# Pre-Exhibition Promotion

**Date:** 21 November 2012

A4 posters and A5 flyers promoting scheduled exhibitions delivered to all Tourist Information Centres/Points and libraries between Ipswich and Lowestoft.

**Sizewell C**  
**Have your say**

EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.

Stage 1 of our public consultation began on Wednesday, 21 November, 2012, and will run until Wednesday, 6 February, 2013.

Your views are important to us as we shape the plans for Sizewell C.

**Exhibitions will be held at:**

TOWN	VENUE	DATE	TIME
Leiston	Leiston United Church, High Street	Fri 23 Nov	2pm – 8pm
Leiston	Leiston United Church, High Street	Sat 24 Nov	12.30pm – 4.30pm
Theberton	St Peter's Church	Mon 26 Nov	2pm – 8pm
Westleton	The Village Hall, Darsham Road	Tue 27 Nov	2pm – 8pm
Saxmundham	Market Hall, High Street	Thu 29 Nov	2pm – 8pm
Yoxford	The Village Hall, Old High Road	Fri 30 Nov	12pm – 5pm
Stratford St Andrew	The Riverside Centre, Great Glemham Road	Sat 1 Dec	10am – 4pm
Southwold	The Methodist Church, East Green	Tue 4 Dec	2pm – 8pm
Halesworth	The Rifle Hall, London Road	Wed 5 Dec	2pm – 8pm
Wickham Market	The Village Hall, High Street	Thu 6 Dec	2pm – 8pm
Aldeburgh	The Baptist Church, High Street	Fri 7 Dec	2pm – 8pm
Melton / Woodbridge	The Lindos Centre, Saddlemakers Lane, Melton	Sat 8 Dec	10am – 4pm

**To contact us or get further information:**

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- Or visit our website <http://sizewell.edfenergyconsultation.info>

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**EDF ENERGY**

# Immediate Neighbours Letter

**Date:** 21 November 2012

Letter despatched to residents closest to main development site and additional development sites.

[SALUTATION]  
[ADDRESS 1]  
[ADDRESS 2]  
[ADDRESS 3]  
[ADDRESS 4]  
[ADDRESS 5]  
[POSTCODE]

Dear [NAME]

**STAGE 1 CONSULTATION: INITIAL PROPOSALS AND OPTIONS FOR SIZEWELL C PROPOSED NUCLEAR DEVELOPMENT**

EDF Energy has this week commenced the first stage of the consultation process for our proposals for a new nuclear power station at Sizewell, known as Sizewell C.

We are writing to you at the start of the consultation process as your property is located close to development which is being proposed in the Stage 1 consultation to support the construction of Sizewell C.

As a result, it is recognised that you may have a particular interest in what is proposed in your locality in connection with the construction and operation of Sizewell C and this letter therefore sets out how you can find additional information and respond to our proposals.

A copy of the Stage 1 Consultation Document and the Summary Document are enclosed with this letter. This provides an overview of the context for our proposals for Sizewell C and identifies the range of associated development which may be required to support the construction and operation of the new power station. The Consultation Document also sets out a number of alternative site options for temporary park and ride facilities, temporary lorry parking facilities and a temporary accommodation campus. Views are invited on these different options.

Further information on our proposals can be obtained in the following documents:

- The Stage 1 Environmental Report - this provides preliminary environmental information relevant to our initial proposals.
- The Transport Strategy and Supporting Information document - this sets out the work we are doing to consider the transport impacts of Sizewell C and our preliminary findings to date.

These documents can be viewed or downloaded by visiting the Project website: <http://sizewell.edfenergyconsultation.info/>

## Post-Exhibition Poster

**Date:** 14 December 2012

A4 posters and A5 flyers delivered to all Tourist Information Centres/Points and libraries between Ipswich and Lowestoft.

**Sizewell C  
Have your say**

**EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.**

Stage 1 of our public consultation began on Wednesday, 21 November, 2012, and will run until Wednesday, 6 February, 2013.

A series of public exhibitions has already been staged in this area, but it is not too late to have your say. You can view the initial proposals for Sizewell C, and its associated developments, at <http://sizewell.edfenergyconsultation.info>

They can also be viewed at Leiston Town Council and Suffolk Coastal District Council offices throughout the consultation period.

Please visit the Sizewell C Information Office at 48 High Street, Leiston.

The office is open throughout the consultation period from 9.30am – 5pm, Monday to Friday and 9am – 12pm on Saturdays from 15 December to 2 February. The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January, 2013.

**Your views are important to us as we shape the plans for Sizewell C.**

**To contact us or get further information:**

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- Email [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Twitter @edfesizewellc
- Or visit our website <http://sizewell.edfenergyconsultation.info>

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**EDF ENERGY**



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**Your views are important to us as we shape the plans for Sizewell C.**

**Further information:**

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<http://sizewell.edfenergyconsultation.info>



\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.

## Womens Institute Magazine Advert

December 2012 & January 2013

Advert placed in magazine for publication in December and again in January.



### Sizewell C: **Have your say**

EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.

Stage One of our public consultation began on Wednesday, 21 November, 2012, and will run until Wednesday, 6 February, 2013.

A series of public exhibitions have already been staged in this area, but it is not too late to have your say.

You can view the initial proposals for Sizewell C, and its associated developments, at <http://sizewell.edfenergyconsultation.info>

They can also be viewed at Leiston Town Council and Suffolk Coastal District Council offices throughout the consultation period.

Or visit the Sizewell C Information Office at 48 High Street, Leiston.

The office is open throughout the consultation period from 9.30am – 5pm, Monday to Friday and 9am – 12pm on Saturdays from 15 December to 2 February. The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January 2013.

Your views will be important to us as we shape the plans for Sizewell C.

We will also keep you informed as we move forward to the next stages of consultation, as explained in the Sizewell C Statement of Community Consultation.

#### To contact us or get further information:

- Visit the Sizewell C Information Office at 48 High Street, Leiston
- Call our freephone number 0800 197 6102\*
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- Email [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Twitter @edfesizewell
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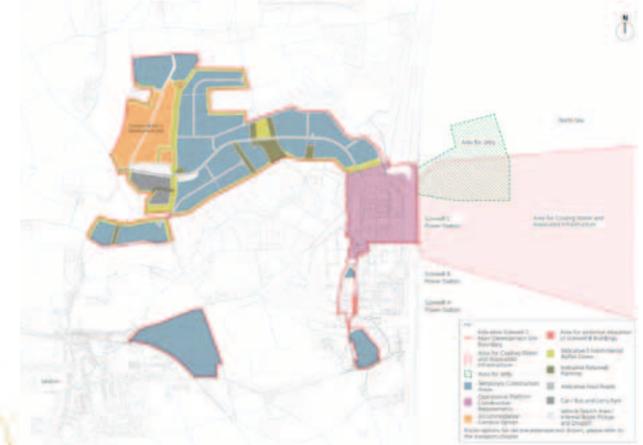


# Stakeholder Presentation

Presentation shown to attendees at requested meetings and Suffolk Chamber of Commerce networking meeting.



## Constructing Sizewell C



## Environment and landscape

- We are assessing any potential impacts on the environment
- We are preparing a landscape strategy for restoring the areas after construction
- We aim to keep footpath closures to a minimum
- Our aim is to make long-term landscape improvements once the power station has been built



## TalkAbout Suffolk Ad

January 2013 - June 2013

½ page ad in publication and distributed to AGE UK database.

# Sizewell C : Have your say

**EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.**

Stage 1 of our public consultation will run until Wednesday, 6 February, 2013.

You can view the initial proposals for Sizewell C, and its associated developments, at

**<http://sizewell.edfenergyconsultation.info>**

Or please visit the Sizewell C Information Office at 48 High Street, Leiston, between 9.30am – 5pm, Monday to Friday and 9am – 12pm on Saturdays from 15 December to 2 February. The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January, 2013.

**Your views are important to us as we shape the plans for Sizewell C.**

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- Twitter **@edfesizewellc**
- Or visit our website **<http://sizewell.edfenergyconsultation.info>**

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## East Anglian Daily Times Renewable and Insight Supplement

**Date:** 19 January 2013

Advert and editorial placed in supplement.



### Please remember to have your say on EDF Energy's plans for a new nuclear power station at Sizewell.

EDF Energy is currently consulting with local people on its proposals for a new nuclear power station, Sizewell C.

Stage 1 of the public consultation on the initial proposals and options for Sizewell C closes on Wednesday, 6 February, 2013.

So there is still time for you to have your say on the initial proposals for Sizewell C and the associated developments needed to support its construction.

For full details of all the plans and to have your say, please visit our website at: <http://sizewell.edfenergyconsultation.info>

Or you can pop into the Sizewell C Information Office at 48 High Street, Leiston, which is open 9.30am to 5pm weekdays. It is also open on Saturday mornings (9.30am to 12 noon) until Saturday, 2 February, 2013.

**Your views are important to us as we shape the plans for Sizewell C.**

#### To contact us or get further information:

- Visit the Sizewell C Information Office at 48 High Street, Leiston
- Call our freephone number 0800 197 6102\*
- Write to us at Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ
- Email [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Twitter [@edfeszewellc](https://twitter.com/edfeszewellc)
- Or visit our website <http://sizewell.edfenergyconsultation.info>

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## End of Stage 1 Advert

**Date:** Between 18 January & 1 February 2013

¼ page advert published in EADT, EDP, Lowestoft Journal, Beccles & Bungay Journal, Ipswich Star, Felixstowe Star & Free Paper, Coastal Scene, Beccles Independent Community News, Beccles & Harleston Community News, Leiston, Saxmundham & Aldeburgh Community News, Framlingham, Wickham Market & Debenham Community News, Halesworth Community News and Woodbridge & Melton Community News.



### Please remember to have your say on EDF Energy's plans for a new nuclear power station at Sizewell.

Stage 1 of the public consultation on the initial proposals and options for Sizewell C finishes on Wednesday, 6 February, 2013. There is still time for you to have your say on the initial proposals and the associated developments needed to support the construction of the new power station.

For full details of all the plans and to have your say, please visit our website at: <http://sizewell.edfenergyconsultation.info>

### Your views are important to us as we shape the plans for Sizewell C.

#### To contact us or get further information:

- Visit the Sizewell C Information Office at 48 High Street, Leiston
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- Email [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
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### Please remember to have your say on EDF Energy's plans for a new nuclear power station at Sizewell.

Stage 1 of the public consultation on the initial proposals and options for Sizewell C finishes on Wednesday, 6 February, 2013.

There is still time for you to have your say on the initial proposals and the associated developments needed to support the construction of the new power station.

For full details of all the plans and to have your say, please visit our website at:

<http://sizewell.edfenergyconsultation.info>

### Your views are important to us as we shape the plans for Sizewell C.

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- Twitter @edfeszewellc
- Or visit our website <http://sizewell.edfenergyconsultation.info>

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## East Anglian Business Awards Advert

**Date:** 19 February 2013

Print and online ad for East Anglian Daily Times promoting EDF Energy's association with the Anglian Business Awards.

**EDF Energy** is proud to sponsor  
the East Anglian Daily Times  
Business Awards 2013



Proud to  
sponsor  
the East  
Anglian  
Daily  
Times  
Business  
Awards  
2013



# Exhibitions



## Sizewell A 22 November

Poster displayed in canteen to promote event internally.



**Sizewell C  
Have your say**

**EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.**

**An exhibition will be held in Training Room 2, on Thursday, 22 November, 11am – 4pm.**

**Your views are important to us as we shape the plans for Sizewell C.**

A series of public exhibitions are being staged in the area, for details visit <http://sizewell.edfenergyconsultation.info>

Please visit the Sizewell C Information Office at 48 High Street, Leiston.

**To contact us or get further information:**

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# Leiston 23 & 24 November



## Sizewell C Have your say

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Stage 1 of our public consultation began on Wednesday, 21 November, 2012, and will run until Wednesday, 6 February, 2013.

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Exhibitions will be held at:

TOWN	VENUE	DATE	TIME
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Aldeburgh	The Baptist Church, High Street	Fri 7 Dec	2pm – 8pm
Melton / Woodbridge	The Lindos Centre, Saddlemakers Lane, Melton	Sat 8 Dec	10am – 4pm

### To contact us or get further information:

- Visit the Sizewell C Information Office at 48 High Street, Leiston
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# Theberton 26 November



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# Westleton 27 November



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# Saxmundham 29 November

Posters distributed to local public places and notice boards.



## Sizewell C Have your say

### Sizewell C Consultation Exhibition

#### Market Hall, Saxmundham

#### Thursday 29 November 2-8pm

EDF Energy is currently consulting with local people for a new nuclear power station at Sizewell and Stage 1 of our public consultation began on Wednesday 7 November and will run until Wednesday, 6 February, 2013. Your views are important to us as we shape the future of the station.

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# Yoxford 30 November

Posters distributed to local public places and notice boards.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Exhibition**

**Village Hall, Yoxford**

**Friday 30 November  
12–5pm**



**Sizewell C  
Have your say**

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# Stratford St Andrew 1 November

Posters distributed to local public places and notice boards.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Exhibition**

**Riverside Centre,  
Stratford St. Andrew**

**Saturday 1 December  
10–4pm**

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# Southwold 4 December

Posters distributed to local public places and notice boards.



**Sizewell C Consultation Exhibition**

**Methodist Church, Southwold**

**Tuesday 4 December 2-8pm**

**To contact us or get further information:**

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# Halesworth 5 December

Poster distributed to local public places and notice boards.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Exhibition**

**The Rifle Hall,  
Halesworth**

**Wednesday 5 December  
2-8pm**

**To contact us or get further information:**

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# Wickham Market 6 December

Posters distributed to local public places and notice boards.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Exhibition**

**Village Hall,  
Wickham Market**

**Thursday 6 December  
2–8pm**

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# Aldeburgh 7 December

Posters distributed to local public places and notice boards.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Exhibition**

**Baptist Church,  
Aldeburgh**

**Friday 7 December  
2-8pm**

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# Melton / Woodbridge 8 December



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Exhibition**

**Lindos Centre, Melton**

**Saturday 8 December  
10am – 4pm**



**Sizewell C  
Have your say**

EDF Energy is currently consulting with local communities for a new nuclear power station at Sizewell C. Stage 1 of our public consultation began on Wednesday 7 November and will run until Wednesday, 6 February, 2013. Your views are important to us as we shape the future of the site.

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**Suffolk Coastal  
District Council  
10 December**

PDF poster supplied and promoted internally.



**Sizewell C  
Have your say**

**Sizewell C Consultation**

# Exhibition Council Chamber

**12pm to 2pm – Monday, 10 December, 2012**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

**Your views are important to us as we  
shape the plans for Sizewell C.**

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## Middleton 11 December

PDF poster supplied to parish council to distribute.



**Sizewell C**  
**Have your say**

### Sizewell C Consultation

# Drop In Session

## Village Hall, Middleton

**6pm to 7pm – Tuesday, 11 December, 2012**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

**Your views are important to us as we shape the plans for Sizewell C.**

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## Suffolk County Council 12 December

PDF poster supplied and promoted internally.



Sizewell C  
**Have your say**

### Sizewell C Consultation

# Exhibition

## Endeavour House, Foyer

**10am to 2pm – Wednesday, 12 December, 2012**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

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- Visit the Sizewell C Information Office at 48 High Street, Leiston
- Call our freephone number 0800 197 6102\*
- Write to us at Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ
- Email [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Twitter @edfesizewellc
- Or visit our website <http://sizewell.edfenergyconsultation.info>

\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.



## Bredfield 13 December

800 A5 flyers and 20 A4 posters delivered to all residential and business addresses in Bredfield and the surrounding area.



Sizewell C  
**Have your say**

### Sizewell C Consultation

# Drop In Session

## Village Hall, Bredfield

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**11am to 3pm – Thursday, 13 December, 2012**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

To book a 15 minute appointment with an EDF Energy representative contact Nicola Corbett before the event by calling: **01728 833466** or email: [nicola.corbett@edf-energy.com](mailto:nicola.corbett@edf-energy.com)

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# Nacton 14 December

2,000 flyers/poster delivered to residential and business addresses and 1/4 page ads in East Anglian Daily Times, Ipswich Star, Felixstowe Star and Free Paper.



EDF Energy is currently consulting with local people on its proposals for a new nuclear power station at Sizewell.



## Sizewell C Consultation Public Exhibition Village Hall, Nacton

2pm to 8pm – Friday, 14 December, 2012

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

**Your views are important to us as we shape the plans for Sizewell C.**

### To contact us or get further information:

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- Call our freephone number 0800 197 6102\*
- Write to us at Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ
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- Twitter @edfesizewellc
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...duction of the power plant, to build two park and ride the southern one of which rry park. There are also options park in the Nacton area.

...held between 2pm and 8pm at ne Street, Nacton, IP10 0EU, er, to allow local people to view osals.

...proposals, and all the exhibitions, edfenergyconsultation.info

...ortant to us as we shape ell C.

### For further information:

Information Office at 48 High Street, Leiston

0800 197 6102\*

near New Build, FREEPOST LON20574, London W1E 3EZ

edfenergyconsultation.info

[sizewell.edfenergyconsultation.info](http://sizewell.edfenergyconsultation.info)

\*You may be charged if you are calling from a mobile phone.



## Wenhaston 17 December

600 A5 flyers and 20 A4 posters delivered to all residential and business addresses in Wenhaston and the surrounding area on 30 December.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Drop In Session  
Village Hall, Wenhaston**

**10am to 1pm – Monday, 17 December, 2012**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

To book a 15 minute appointment with an EDF Energy representative contact Nicola Corbett before the event by calling: **01728 833466** or email: [nicola.corbett@edf-energy.com](mailto:nicola.corbett@edf-energy.com)

**Your views are important to us as we shape the plans for Sizewell C.**

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**Sizewell C  
Have your say**

**Sizewell C Consultation  
Drop In Session  
Village Hall, Wenhaston**

**10am to 1pm – Monday, 17 December, 2012**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

To book a 15 minute appointment with an EDF Energy representative contact Nicola Corbett before the event by calling: **01728 833466** or email: [nicola.corbett@edf-energy.com](mailto:nicola.corbett@edf-energy.com)

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## Framlingham 18 December

10 A4 posters given to the parish council to distribute.



Sizewell C  
**Have your say**

### Sizewell C Consultation

# Drop In Session

## Town Council Office, 10 Riverside, Framlingham

**11am to 3pm – Tuesday, 18 December, 2012**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

**Your views are important to us as we shape the plans for Sizewell C.**

**To contact us or get further information:**

- Visit the Sizewell C Information Office at 48 High Street, Leiston
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# Ipswich 10 January

¼ advert placed in East Anglian Daily Times, Ipswich Star, Felixstowe Star and Free Paper on 29 December.

500 A5 flyers and 20 A4 posters distributed to 6 Ipswich libraries, UCS (venue) and Tourist Information Centre on 2 January.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Public Exhibition**  
University Campus Suffolk,  
Waterfront Building, Neptune Quay, Ipswich

**10am to 4pm – Thursday, 10 January, 2013**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

For full details of all the proposals, please visit our website – <http://sizewell.edfenergyconsultation.info>

**Your views are important to us as we shape the plans for Sizewell C.**

**To contact us or get further information:**

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## Bredfield 11 January

Letter given to Parish Clerk to distribute to residents.

# Sizewell C Consultation Meeting

Village Hall, Bredfield  
Friday 11 January 2013 at 7pm

### Dear Resident,

On 21 November 2012, EDF Energy launched Stage 1 of the public consultation on its options and proposals for a new nuclear power station at Sizewell.

Among the developments proposed to support the construction of Sizewell C are options to locate a Park & Ride site beside the A12 in this area. Potash Corner is one option we are proposing, alongside two others, which include our preferred site on land north of Wickham Market.

As part of the consultation process, which will run until 6 February, 2013, a meeting will be held at Bredfield Village Hall at 7pm on Friday 11 January 2013, with members of the EDF Energy Sizewell C team.

Full details of all of EDF Energy's proposals can be viewed at  
<http://sizewell.edfenergyconsultation.info>

Please come along and have your say on the plans for Sizewell C.

Regards,

Tom McGarry  
Communications Manager, Sizewell C



## Rendlesham 15 January

1,200 A5 flyers and 20 A4 posters delivered to all residential and business addresses in Rendlesham and the surrounding area on 30 December.



**Sizewell C  
Have your say**

**Sizewell C Consultation  
Drop In Session  
Community Centre, Rendlesham**

**2pm to 6pm – Tuesday, 15 January, 2013**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

To book a 15 minute appointment with an EDF Energy representative contact Nicola Corbett before the event by calling: **01728 833466** or email: [nicola.corbett@edf-energy.com](mailto:nicola.corbett@edf-energy.com)

Your views are important to us as we shape the plans for Sizewell C.

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## Lowestoft 16 January

¼ advert placed in Lowestoft Journal on 4 January and in EDP on 15 January.

500 A5 flyers and 20 A4 posters distributed to Lowestoft library, Town Hall (venue) and Lowestoft Town Partnership to distribute on 3 January.



Sizewell C  
**Have your say**

## Sizewell C Consultation Public Exhibition

Waveney District Council Offices –  
High Street, Lowestoft

**11am to 2pm – Wednesday, 16 January, 2013**

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

For full details of all the proposals, please visit our website –  
<http://sizewell.edfenergyconsultation.info>

**Your views are important to us as we shape the plans for Sizewell C.**

**To contact us or get further information:**

- Visit the Sizewell C Information Office at 48 High Street, Leiston
- Call our freephone number 0800 197 6102\*
- Write to us at Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ
- Email [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
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Sizewell C  
**Have your say**

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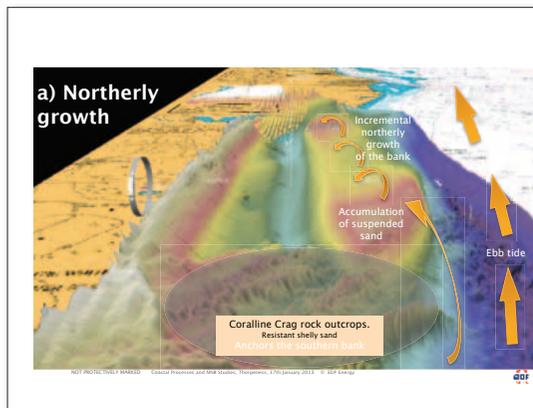
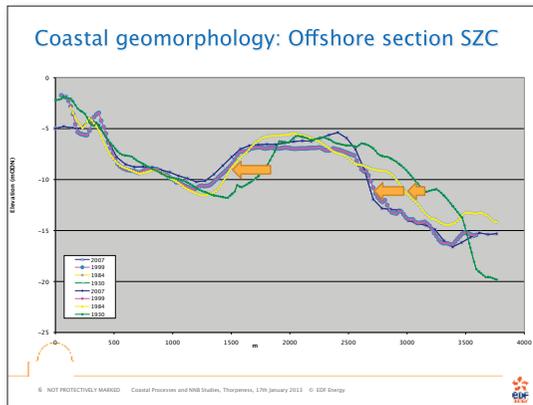
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# Thorpeness Coastal Processes 17 January

¼ page advert placed in Coastal Scene on 4 January.

500 A5 flyers and 20 A4 posters distributed to public places and notice boards in Thorpeness and Aldeburgh.



## Sizewell C Consultation Drop-In Session Coastal Processes

Lakeside, Thorpeness Hotel and Golf Club, Thorpeness

5pm to 9pm – Thursday, 17 January, 2013

EDF Energy is currently consulting with local people on its proposals for a new power station at Sizewell.

One of the issues people have raised during the consultation has been the possible effect Sizewell C's construction could have on coastal processes.

This drop-in session is to allow local people to discuss coastal processes with representatives from EDF Energy, as well as having their say on all the Sizewell C proposals.

For full details of all the proposals for Sizewell C visit our website – <http://sizewell.edfenergyconsultation.info>

Your views are important to us as we shape the plans for Sizewell C.

### To contact us or get further information:

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Lakeside, Thorpeness Hotel and Golf Club, Thorpeness

5pm to 9pm – Thursday, 17 January, 2013

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## Felixstowe 23 January

¼ advert placed in Felixstowe Star on 9 January.  
500 A5 flyers and 20 A4 posters distributed to  
public places around Felixstowe.



## Sizewell C Consultation Public Exhibition Town Hall, Felixstowe

3pm to 6.30pm – Wednesday, 23 January, 2013

Please come along and have your say on the plans for a new nuclear power station at Sizewell.

For full details of all the proposals, please visit our website –  
<http://sizewell.edfenergyconsultation.info>

Your views are important to us as we shape the plans  
for Sizewell C.

### To contact us or get further information:

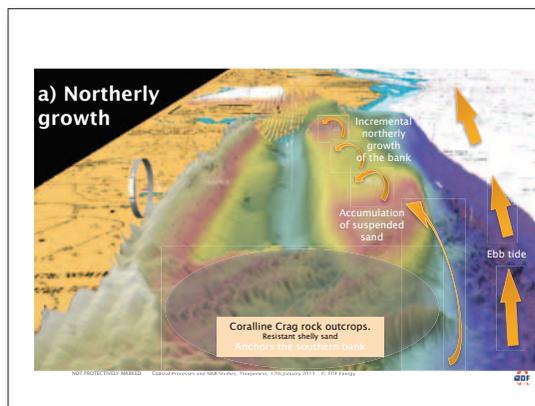
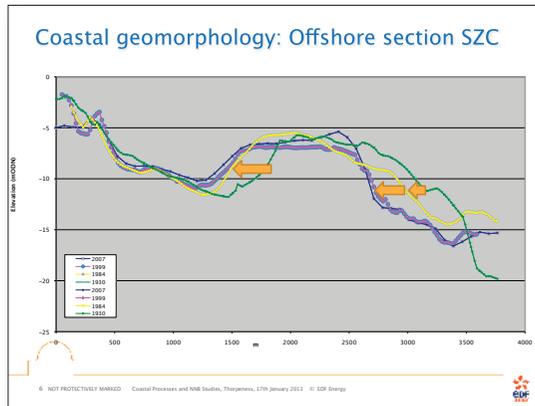
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# Snape Coastal Processes 29 January

PDF flyer produced and supplied to Bill Parker to distribute.



## Sizewell C Consultation Coastal Processes Presentation and Q&A

Britten-Pears Building, Snape Maltings, Snape

4pm to 6pm – Tuesday, 29 January, 2013

EDF Energy is currently consulting with local people on its proposals for a new power station at Sizewell.

One of the issues people have raised during the consultation has been the possible effect Sizewell C's construction could have on coastal processes.

This event includes a presentation on coastal processes and the opportunity to ask questions of the EDF Energy representative.

Please register your attendance by contacting Nicola Corbett on 01728 833891 or [nicola.corbett@edf-energy.com](mailto:nicola.corbett@edf-energy.com).

For full details of all the proposals for Sizewell C visit our website – <http://sizewell.edfenergyconsultation.info>

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- Twitter @edfesizewellc
- Or visit our website <http://sizewell.edfenergyconsultation.info>

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# Go with the Flow Youth Bus

Dates: 31 - 2 February 2013

Wickham Market, Aldeburgh,  
Saxmundham & Leiston

500 A5 Flyers and 20 A4 posters produced for each event and distributed to all libraries, youth groups and public places in each local area. Banner hung at Leiston skatepark. Panel produced for the bus. Exhibition boards created for use at the events.



## HAVE YOUR SAY

## ON SIZEWELL C

### Go with the Flow Bus

EDF Energy is consulting the public on its plans to build a new nuclear power station at Sizewell.

We are sorry that the bad weather forced us to cancel the previously scheduled Sizewell C consultation events on the Go With The Flow Bus. But we are pleased to say we have rescheduled them.

Meet the EDF Energy team on the Go With The Flow bus at:

Market Hill, Wickham Market	7pm – 9pm on Thursday, 31 January, 2013
Seaman Avenue, Saxmundham	6.30pm – 9.30pm on Friday, 1 February, 2013
Leiston Skatepark	11am – 3pm on Saturday, 2 February, 2013
King's Field, Aldeburgh	7pm – 9pm on Saturday, 2 February, 2013

Come and chat to the team about Sizewell C - find out what it's all about and what this might mean for you.

**Your views are important to us as we shape the plans for Sizewell C.**

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## Have your say on Sizewell C!

Go with the Flow Bus, here at Leiston Skatepark  
11am to 3pm – Saturday, 2 February, 2013





Appendix B.9 Consultation Questionnaire: Stage 1



# Consultation

## Questionnaire

**Sizewell C** | Proposed  
Nuclear  
Development  
Stage 1 Pre-Application Consultation

*November 2012*







# 1 The Sizewell C Proposals

**Welcome** to the EDF Energy Stage 1 consultation for Sizewell C. We are seeking your views on our initial proposals and options to develop a new nuclear power station at Sizewell.

This questionnaire has been designed to be answered with the information presented in our Consultation Document: Summary which can be downloaded from our website [www.sizewell.edfenergyconsultation.info](http://www.sizewell.edfenergyconsultation.info).

Hardcopies will be available at our exhibitions, the Sizewell C Information office (48-50 High Street, Leiston, IP16 4EW), a number of local libraries, or from the offices of Suffolk County, Suffolk Coastal District, Waveney District and Ipswich Borough Councils.

To give us your views you can either fill out this form or, if you prefer, respond via our website. You can also call our freephone number 0800 197 6102 during normal office hours. To give us your views you can answer as few or as many questions as you like; there is a mix of general questions on each aspect of the proposals, as well as some more detailed ones. If you would rather just submit an overall comment please answer Question 1.

Please write your responses clearly in dark ink within the boxes and return this form via Freepost to:

**Sizewell Nuclear New Build,  
FREEPOST LON20574,  
London W1E 3EZ**

All comments for this first stage of consultation need to be received by 6 February 2013.

EDF Energy is proposing to build a new nuclear power station called Sizewell C, consisting of two UK EPR reactor units, along with associated development to facilitate the construction and operation of the power station. This may include temporary campus accommodation for workers; park and ride facilities; a lorry park; and other transport infrastructure including rail and road improvements.

The Government has identified a need for new nuclear power stations to be built as part of its plans for maintaining security of energy supply as Britain moves to a low carbon economy. Sizewell is one of the sites identified by the government following a process of consultation and sustainability appraisal as potentially suitable for a new power station.

What are your overall views on EDF Energy's proposals to build a new power station at Sizewell C and associated development?





## 2 The Sizewell C Proposals

The temporary use of land at the Sizewell C development site would include construction working areas, temporary structures and bridges, a jetty, and potentially an accommodation campus and some rail infrastructure. A landscape strategy would be implemented to restore areas following construction.

What are your views on the proposed temporary developments at the Sizewell C development site?

## 3 The Sizewell C Proposals

Our proposals include a new visitor centre for Sizewell. There are three potentially suitable locations for the visitor centre:

a

### Option 1: Lover's Lane

This is to locate the visitor centre at Lover's Lane. Do you think this option is:

Appropriate

Inappropriate

Don't know

b

### Option 2: Sizewell Beach

This involves siting the visitor centre at Sizewell Beach. Do you think this option is:

Appropriate

Inappropriate

Don't know

c

### Option 3: Goose Hill

This puts the visitor centre on Goose Hill next to the proposed car park for Sizewell C. Do you think this option is:

Appropriate

Inappropriate

Don't know

d

Please explain your preferences below.



## 4 Accommodation

During the peak construction period EDF Energy expects about 34% of the construction workforce would live at home and 66% to live in temporary accommodation in the area. We propose to accommodate between 2,000 and 3,000 workers in a temporary accommodation campus – preferably in the proposed Option 1 campus immediately adjacent to the development site.

The remaining workers are expected to live either in owner occupation, in private rental accommodation, or in tourist accommodation.

What are your views on EDF Energy's overall accommodation strategy?

## 5 Accommodation: Campus

We have proposed three alternative options for the temporary accommodation campus:

**a** **Option 1: Development Site Campus (our preferred option)**  
This campus would be immediately adjacent to the Sizewell C development site, next to the site entrance on the B1122. Do you think this option is:

Appropriate  Inappropriate  Don't know

**b** **Option 2: Sizewell Gap Campus**  
This site is off the Sizewell Gap, 2.5km from the Sizewell C development site on Lover's Lane. Do you think this option is:

Appropriate  Inappropriate  Don't know

**c** **Option 3: Leiston East Campus**  
This site is to the east of Leiston in fields to the south of the Sizewell Sports and Social Club. Do you think this option is:

Appropriate  Inappropriate  Don't know

**d** Please explain your preferences below.



# 6 Transport

To reduce the volume of freight which will need to be delivered by road, we envisage that both sea and rail would play major roles in the delivery of construction materials to the development site.

We also propose to possibly use park and ride facilities, a lorry park and a large accommodation campus near to the main development site to further reduce traffic impacts on local roads.

What are your views on EDF Energy's overall transport strategy?

# 7 Transport: Northern Park and Ride

EDF Energy considers that park and ride could play an important role during the peak years of construction, acting to significantly reduce the amount of commuter traffic on local roads. We are proposing to build two temporary park and ride developments near the A12 – one for drivers approaching Sizewell from the north and the other for drivers approaching from the south. There are three alternative options for the northern park and ride facility:

**a Option 1: Yoxford Road**  
This site is approximately 1.5km south-east of the village of Yoxford on the B1122. Do you think that this options is:  
 Appropriate  Inappropriate  Don't know

**b Option 2: Darsham**  
This site is located next to Darsham station. Do you think that this option is:  
 Appropriate  Inappropriate  Don't know

**c Option 3: A12/A144 Junction**  
This site is located at the junction of the A12 and the A144 south of Halesworth. Do you think that this option is:  
 Appropriate  Inappropriate  Don't know

**d** Please explain your answers below.



## 8 Transport: Southern Park and Ride

There are three alternative options for the southern park and ride. Our preferred southern site is Option 1 at Wickham Market.

**a Option 1: Wickham Market (our preferred southern option)**  
This is located at the junction between the A12 and the B1078/B1116 to the north-east of Wickham Market. Do you think this option is:

Appropriate       Inappropriate       Don't know

**b Option 2: Woodbridge**  
This is located to the west of the A12 at the A12/A1152 Woods Lane junction, north-west of Woodbridge. Do you think this option is:

Appropriate       Inappropriate       Don't know

**c Option 3: Potash Corner**  
This is located at Potash Corner on Scott's Lane, west of the A12 close to the village of Bredfield. Do you think this option is:

Appropriate       Inappropriate       Don't know

**d** Please explain your preferences below.

## 9 Transport: Road Freight

In order to manage road deliveries of material to the Sizewell C development site, we are considering the construction of a lorry park. Our preferred option would be to locate the lorry park with the southern park and ride facility (detailed in Qu. 8). An alternative however, would be to locate the lorry park at a standalone site further south on the A12/A14 (see Qu. 10).

What are your views on this approach to managing HGV movements, including whether you prefer locating the lorry park with a park and ride facility or separately?



# 10 Transport: Lorry Park

There are three proposed alternative locations for a standalone lorry park (rather than at the southern park and ride):

**a Option 1: Orwell Lorry Park (West)**  
 This site is located on land to the west of the existing Orwell Crossing Lorry Park on the A14. Do you think this option is:  
 Appropriate     Inappropriate     Don't know

**b Option 2: Orwell Lorry Park (East)**  
 This site is located on land to the east of the existing Orwell Crossing Lorry Park on the A14. Do you think this option is:  
 Appropriate     Inappropriate     Don't know

**c Option 3: A12/A14 Seven Hills Junction**  
 This site is located at the A12/A14 Seven Hills Junction. Do you think this option is:  
 Appropriate     Inappropriate     Don't know

**d** Please explain your preferences below.

# 11 Transport: Junction and Road Improvements

The narrow bend in the village of Farnham is widely recognised to be a significant issue on the 'four villages' stretch of the A12. The bend creates a potential safety concern, particularly when two large vehicles are passing. We have identified three potential options to address this issue, which involve road or junction improvements. Please give us your views on each option.

**a Option 1: A bypass of Farnham**  
 This is a bypass around the village of Farnham. Do you think that this options is:  
 Appropriate     Inappropriate     Don't know

**b Option 2: Widen the road at Farnham bend**  
 This would involve widening the road at Farnham bend. Do you think that this option is:  
 Appropriate     Inappropriate     Don't know

**c Option 3: HGV traffic controls at Farnham**  
 This is to implement HGV traffic controls at Farnham bend. Do you think that this option is:  
 Appropriate     Inappropriate     Don't know

**d** Please explain your answers below.

# 12 Transport: Local Road Network

Aside from the potential impacts in Farnham, EDF Energy recognises that there may be other impacts on the local road network and has proposed various measures for managing the movement of people and freight during the construction phase.

At this time our view is that a full four village bypass cannot be justified as a result of the expected 5-15% rise in traffic we forecast at the peak construction period.

Do you have any further comments about the potential impact of Sizewell C related traffic on the local road network?

# 13 Transport: Rail

EDF Energy considers that rail would play an important role in the delivery of freight during construction and will explore with Network Rail the possibility of constructing a 'passing loop' at Wickham Market Station on the Ipswich to Lowestoft train line that would increase capacity on that line. There are then two alternatives that are being considered which could increase the scope to use rail during the construction of Sizewell C, our preferred option being the extension of the line into the development site (Option 2):

a

## Option 1: New rail terminal

This is to build a new, larger rail terminal north of King George's Avenue near Leiston industrial estate. Do you think that this option is:

Appropriate  Inappropriate  Don't know

b

## Option 2: Temporary rail extension (preferred option)

This is to extend the existing rail line into the Sizewell C development site, which would bring freight directly to the construction areas, removing the need for additional HGV trips on Lover's Lane. Do you think that this option is:

Appropriate  Inappropriate  Don't know

c

Please explain your answers above.



# 14 Transport: Rail

If the existing rail line is extended to the main development site there are three alternative options for the route. Our preferred options are the green and red routes.

## a

### Red route (one of our preferred routes)

The red route passes through Leiston, spurring off to the Sizewell C site north of Leiston industrial estate. Do you think that this option is:

Appropriate       Inappropriate       Don't know

## b

### Green route (one of our preferred routes)

The green route spurs off before Leiston. Do you think that this option is:

Appropriate       Inappropriate       Don't know

## c

### Blue route

The blue route also spurs off the existing track before Leiston. It is the longest of the routes and would enter the construction site where we would prefer to locate our campus accommodation. Do you think that this route is:

Appropriate       Inappropriate       Don't know

## d

Please explain your answers above.

# 15 People and Economy

EDF Energy is keen to ensure that people living in the Sizewell area can make the most of the opportunities arising from the development.

Do you have any comments on our proposals, including our approach to education, training and local supply chain initiatives?





# 16 Consultation Process

As part of this Stage 1 consultation, EDF Energy has produced a number of documents, including a consultation document and summary, and is holding a number of public meetings and exhibitions.

Do you have any comments about the consultation process so far?



# 17 Feedback

Name	Title	First name	Last name
------	-------	------------	-----------

Are you responding on behalf of an organisation?  Yes  No

If so, which?

Job title

Address

Postcode

Email

Your personal details (if you provide any) will be held securely by EDF Energy and its consultants in accordance with the Data Protection Act 1998, and will be used solely in connection with the consultation process and subsequent planning applications. Your response may be published as part of our consultation programme (including any personal details if included in the response). We will not otherwise publish personal details or publicly attribute a response to an identified individual. Except as noted below, your personal details will not be passed to any third parties. Your response could be made available (with your personal details) in due course to the relevant planning or local authority or government body so they take it into account. Although not directly within our control, we will request that your personal details are not made publicly available by them and in any event they will be required to comply with the Data Protection Act 1998 when using your personal data. By completing this questionnaire you confirm you have read and accept this Privacy notice.



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EDF Energy Ltd 40 Grosvenor Place London SW1X 7EN  
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Appendix B.10      Example Newspaper Notice of the Published SoCC (November 2012)



# Sizewell C Have your say

EDF Energy has just published a document setting out how we plan to consult with local people about our proposals for a new nuclear power station at Sizewell and its associated development.

This document, the Sizewell C Statement of Community Consultation, is available to view at [www.edfenergyconsultation.info](http://www.edfenergyconsultation.info). You can also read it at Leiston Town Council and Suffolk Coastal District Council offices throughout the consultation exercise or collect a copy from the Sizewell C Information Office at 48 High Street, Leiston.

Stage 1 of our public consultation will begin on Wednesday 21 November 2012 and will run until Wednesday 6 February 2013. The Sizewell C Initial Proposals and Options consultation documents will be available from the start of consultation. We will hold a series of public exhibitions throughout Stage 1 and would like to invite you to attend and give your views on our plans for Sizewell C.

## Exhibitions will be held at:

TOWN	VENUE	DATE	TIME
Leiston	Leiston United Church, High Street, Leiston	Friday 23 November	2pm – 8pm
Leiston	Leiston United Church, High Street, Leiston	Saturday 24 November	12.30pm – 4.30pm
Theberton	St Peter's Church, Theberton	Monday 26 November	2pm – 8pm
Westleton	The Village Hall, Darsham Road, Westleton	Tuesday 27 November	2pm – 8pm
Saxmundham	Market Hall, High Street, Saxmundham	Thursday 29 November	2pm – 8pm
Yoxford	The Village Hall, Old High Road, Yoxford	Friday 30 November	12pm – 5pm
Stratford St Andrew	The Riverside Centre, Great Glemham Road	Saturday 1 December	10am – 4pm
Southwold	The Methodist Church, East Green, Southwold	Tuesday 4 December	2pm – 8pm
Halesworth	The Rifle Hall, London Road, Halesworth	Wednesday 5 December	2pm – 8pm
Wickham Market	The Village Hall, High Street, Wickham Market	Thursday 6 December	2pm – 8pm
Aldeburgh	The Baptist Church, High Street, Aldeburgh	Friday 7 December	2pm – 8pm
Melton/Woodbridge	The Lindos Centre, Saddlemakers Lane, Melton	Saturday 8 December	10am – 4pm

Information on later stages of consultation will be publicised in advance of each stage, as explained in the Sizewell C Statement of Community Consultation.

## For further information please contact us by:

- Visiting the **Sizewell C Information Office at 48 High Street, Leiston**  
The office is open throughout the consultation period from 9.30am - 5pm, Monday to Friday and 9am - 12pm on Saturdays from 15 December to 2 February. The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January 2013.
- Calling our freephone number **0800 197 6102\***
- Writing to us at **Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ**
- Emailing **sizewell@edfconsultation.info**
- Twitter **@edfenergy\_sizewellc**
- Visiting our website **www.edfenergyconsultation.info**

\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.





Appendix B.11      Published SoCC (Stage 1) (November 2012)

### Statement of Community Consultation

Prepared pursuant to section 47(1) of the Planning Act 2008.

### About this Statement of Community Consultation (SOCC)

This SOCC sets out how EDF Energy<sup>1</sup> proposes to consult local communities about its plans for a new nuclear power station at Sizewell in Suffolk.

EDF Energy took into account the views of Suffolk Coastal District Council and Suffolk County Council about what was to be in this document before finalising it and making it available for inspection by the public.

### Government Policy

The Government has decided that new nuclear power stations should play a significant role in the future generation of electricity for the UK.

The National Policy Statement for Nuclear Power Generation (EN-6), which was designated by Government in July 2011, describes the need for new nuclear power stations and identifies Sizewell as one of the sites potentially suitable for the deployment of a new nuclear power station by the end of 2025.

### Sizewell C Proposals

EDF Energy plans to build a new nuclear power station on land to the north of the existing Sizewell A and B power stations.

Development on the main site would include: two UK EPR units (a type of Pressurised Water Reactor); supporting cooling water infrastructure, fuel and waste storage facilities, ancillary, training and office buildings; transmission infrastructure; National Grid 400kV substation; sea protection; access and parking arrangements including a new access road to the power station and permanent bridge.

To support the construction of the power station there would also be construction working areas and other temporary facilities including a marine offloading facility and temporary bridges. We are also proposing to build a visitors' centre near the site.

In addition to the construction of the power station, associated development is proposed, which would be necessary to facilitate the building and operation of Sizewell C. This development may include proposals for accommodation for workers; parking facilities; freight holding facilities; and other transport infrastructure.

Building a new power station at Sizewell C would potentially affect the lives of those living in communities close to the main site and associated development sites through, for example: construction operations; increased traffic; visual impact; loss of public access to parts of the site(s); and environmental impacts.

<sup>1</sup> NNB Generation Company Limited, whose registered office is at 40 Grosvenor Place, London, SW1X 7EN (referred to in this document as "EDF Energy")

The potential environmental impacts that may occur as a result of the building and operation of the power station and associated development could include potential impacts on: local geology; the Suffolk coastline; water and air quality; drainage and flood risk; local ecology and wildlife; landscape and visual amenity; archaeology and cultural heritage; rights of way; noise and vibration; and transportation.

The new power station would however, also bring significant benefits and provide low carbon electricity for approximately five million homes, which in turn would help to achieve the Government's climate change targets. As a multi-billion pound investment, Sizewell C would also create significant employment and economic opportunities for local people and businesses during its construction and operation.

## The Planning Process

EDF Energy will apply to the Secretary of State under the Planning Act 2008 for development consent to construct and operate the power station and associated development. The Planning Inspectorate (PINS), acting as the examining authority on behalf of the Secretary of State, will examine EDF Energy's application and seek the public's views on it. PINS will then submit its recommendation on the application to the Secretary of State who will make the final decision on it. The Secretary of State will make his decision in accordance with national policy, taking account of the local impacts of the proposals.

Before PINS will accept an application on behalf of the Secretary of State, it must be satisfied that EDF Energy has conducted adequate pre-application consultation. The pre-application consultation will also be important in relation to the examination process after the application has been accepted.

Local authorities also have an important role in this process. In addition to considering this SOCC, Suffolk Coastal District Council and Suffolk County Council will act as statutory consultees, they may comment upon the quality of EDF Energy's consultation, make their own representations on the application once submitted, produce a local impact report and work with EDF Energy to produce a statement of common ground.

## The Consultation Process

EDF Energy considers it likely that the pre-application consultation on the proposals for a new nuclear power station at Sizewell and associated development will take place over two main stages, which may be supplemented by further stages of limited, focused consultation if considered necessary. The first stage of consultation will consider the 'Initial Proposals and Options' for Sizewell C. Where possible it will set out options for development so that the views of consultees can be taken into account in drawing up more detailed plans. Following Stage One consultation, the responses and feedback gathered will inform the development of the plans, ahead of a second round of public consultation which will focus on the 'Preferred Proposals' for Sizewell C. Again, feedback from this, and any supplemental stages of consultation, will be considered prior to submitting EDF Energy's application to the Secretary of State.

EDF Energy intends to publicise each stage of consultation well in advance of the start of the process and this document explains how we will do this.

## Environmental Information

The Sizewell C proposals constitute a development requiring assessment of likely significant effects on the environment. EDF Energy will therefore carry out an Environmental Impact Assessment (EIA) and will submit a full Environmental Statement as part of its application for development consent. The Environmental Statement will be informed by the consultation process.

The main consultation document published for the Stage One consultation will include summary preliminary environmental information in respect of the initial options and proposals. EDF Energy will also publish a separate Environmental Report as part of the Stage One consultation, which will provide more detailed preliminary environmental information.

Members of the local community and other interested parties will have access to both the main Consultation Document and the Environmental Report. The detailed information in the Environmental Report could be used alongside the main Consultation Document to inform feedback to the consultation.

A further environmental report, presenting the initial findings of the EIA, will be published as part of the consultation on the preferred proposals for Sizewell C at Stage Two.

These documents will provide information on the main environmental issues arising from the development. This will include the scope for any associated land restoration, landscaping and other mitigation or compensatory measures for any impact on natural habitats.

## Related Consultations

EDF Energy is aware of various consultations relating to the energy sector which have taken place over the last two years in the local area and further activity is likely to take place in the future. Examples include National Grid, consulting on Bramford to Twinstead Tees; Galloper Wind Farm Ltd's consultation in respect of its proposals for the Galloper Offshore Wind Farm, which is now in the examination stage of the development consent process; Scottish Power Renewables and Vattenfall Wind Power's consultation for the East Anglia ONE Offshore Windfarm, for which the development consent application is currently expected to be submitted in November 2012; and the Suffolk Resilience Forum is proposing to consult on emergency planning arrangements for Sizewell A and B early in 2013.

We will attempt to co-ordinate our consultation activity with any further related events to avoid public confusion and consultation fatigue.

## Consultation Timetable

EDF Energy will endeavour to confirm dates for all stages of consultation and publicise these dates at least ten days in advance of the start of each consultation period. EDF Energy will do this in a number of ways which could include: publicising the consultation in local media and publishing advertisements in local newspapers; writing to the county, district, town and parish councils and other key stakeholders; and circulating a newsletter to all homes and businesses within a 10-mile radius of Sizewell. Details of the consultation activities involved will be included in this publicity including dates and venues of public exhibitions.

Responses to the consultation should be submitted to EDF Energy by the end of each stage of consultation using the contact information shown below in the 'Contact Information' section. We may be requested to make consultation responses available to PINS.

Stage One consultation on initial proposals and options will involve consideration of our early proposals and we have therefore set a period of eleven weeks for formal consultation.

EDF Energy will then consider the feedback received. We cannot pre-empt what issues and opportunities will arise from the responses to our consultation so it is not possible to forecast when the second stage of consultation will begin. EDF Energy is committed to carrying out in-depth consultation and to consider all the feedback received. We will take the time necessary to do this and will develop our preferred proposals informed by the feedback from the Stage One consultation.

After the Stage One consultation, EDF Energy will summarise the main issues raised during the consultation and present this in a newsletter which will be circulated to all homes and businesses within a 10-mile radius of Sizewell.

Stage Two consultation on our preferred proposals will cover our more detailed plans taking into account responses received at Stage One. We may therefore set a longer period for formal consultation.

We will continue to engage with consultees in between the stages of consultation, including any further stages of focused consultation, up to and beyond the submission of the application.

EDF Energy will report on the responses received during its pre-application consultation in a Consultation Report, which will be submitted to the Secretary of State with the development consent order application for Sizewell C.

## Scope of the Consultation

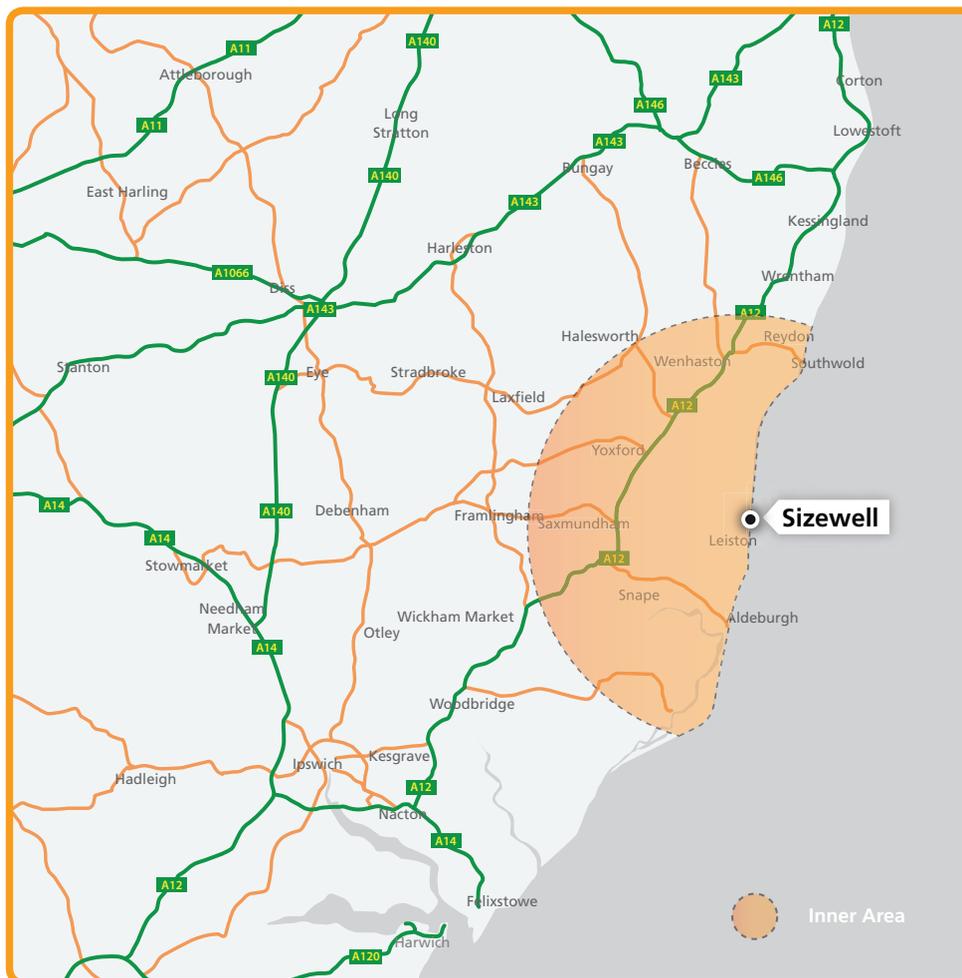
As part of the consultation, we will be seeking views on the proposals as set out in the published consultation documentation. The principles of whether or not there is a need for a new nuclear power station, and whether Sizewell C is a potentially suitable site, have already been determined by Parliament.

While the views of local communities expressed through this consultation will be influential in developing our proposals, EDF Energy must also take into account the views of local authorities and other statutory consultees, and consider what is practical and achievable in terms of delivering a new nuclear power station.

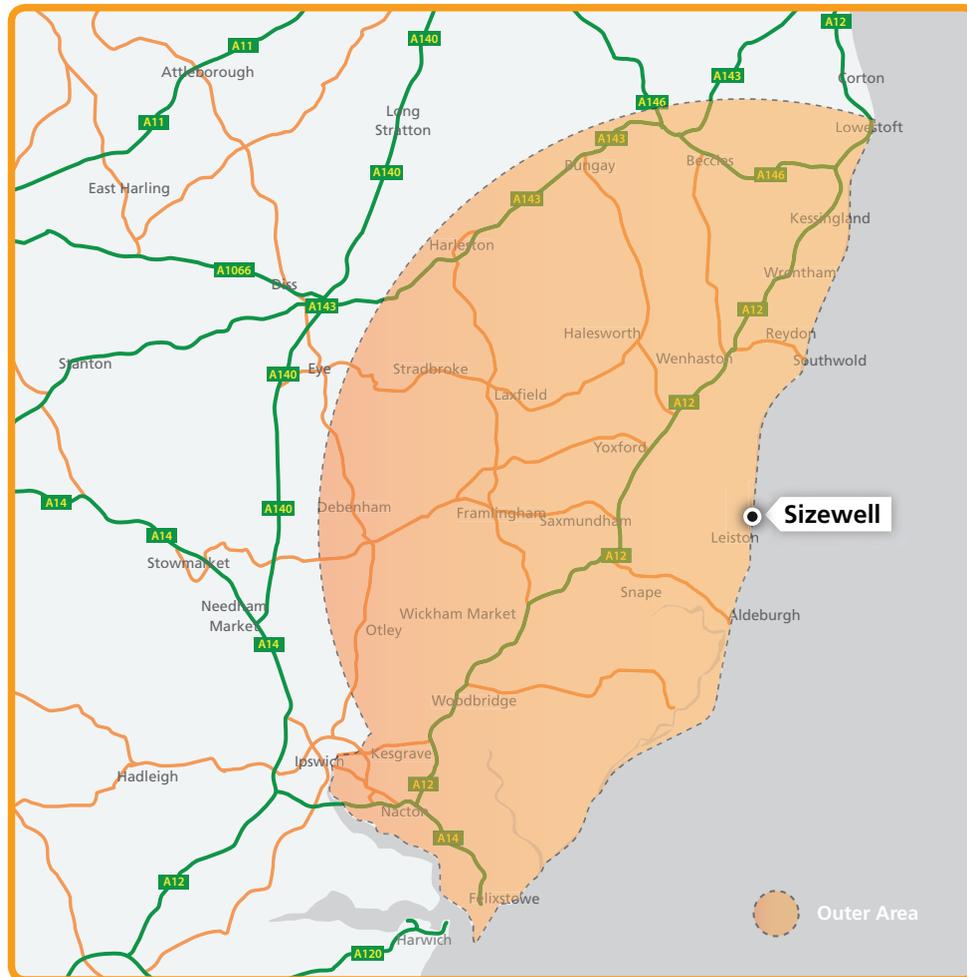
Those living, working or otherwise using the local areas closest to the proposed Sizewell C site and any associated development sites, along with the statutory consultees, are the focus of the consultation exercise. However, EDF Energy will also seek the views of the wider public and will have regard to all consultation responses received.

Community consultation will be undertaken within two geographic areas as identified on the following plans:

- Inner area: covering communities within an approximate 10-mile radius of Sizewell and in the vicinity of proposed associated development sites (this includes any potential associated development sites beyond the 10-mile radius of Sizewell).
- Outer area: a 20-mile radius which would include Lowestoft to the north, the east of Mid Suffolk to the west but stretching further to the south to incorporate the A14 corridor from the east of Ipswich to Felixstowe.



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Due to the focus on those living, working or otherwise using the local areas closest to the development sites, consultation will be focussed within the inner area, with public events near locations where development is proposed. Public and stakeholder engagement will also be undertaken in the outer area to help facilitate feedback from the wider public.

## Consultation Activity

**Consultation Materials:** EDF Energy will produce the following documents for the Stage One Initial Proposals and Options consultation:

- Consultation Document
- Consultation Document Summary
- Environmental Report
- Transport Strategy and supporting information

EDF Energy currently intends to produce a suite of documents, including a summary document, for the Stage Two consultation.

The Stage One documents listed above will be available to the local community in the manner described below.

Hard copies of all of the documents will be available to view at the EDF Energy Leiston office (address and opening hours below), at public exhibitions, in selected libraries and council offices in Suffolk Coastal, Waveney and Ipswich. Copies of the documents for consultees to take away with them will be available upon request and may be subject to reasonable copying charges.

The documents will also be available at all of these locations on DVD and to download from the project website:

<http://sizewell.edfenergyconsultation.info>

The Stage One consultation and summary documents will be accompanied by forms to assist the local community in completing and submitting their feedback to EDF Energy's proposals. If requested, we will commission translation into any minority languages used locally (such as Polish, Lithuanian and Portuguese).

**Newsletters:** EDF Energy will publicise the consultation programme, including information on how people can respond and reports on key project milestones, in its 'Sizewell C' newsletter. The newsletter will be distributed to all homes and businesses within a 10-mile radius of Sizewell.

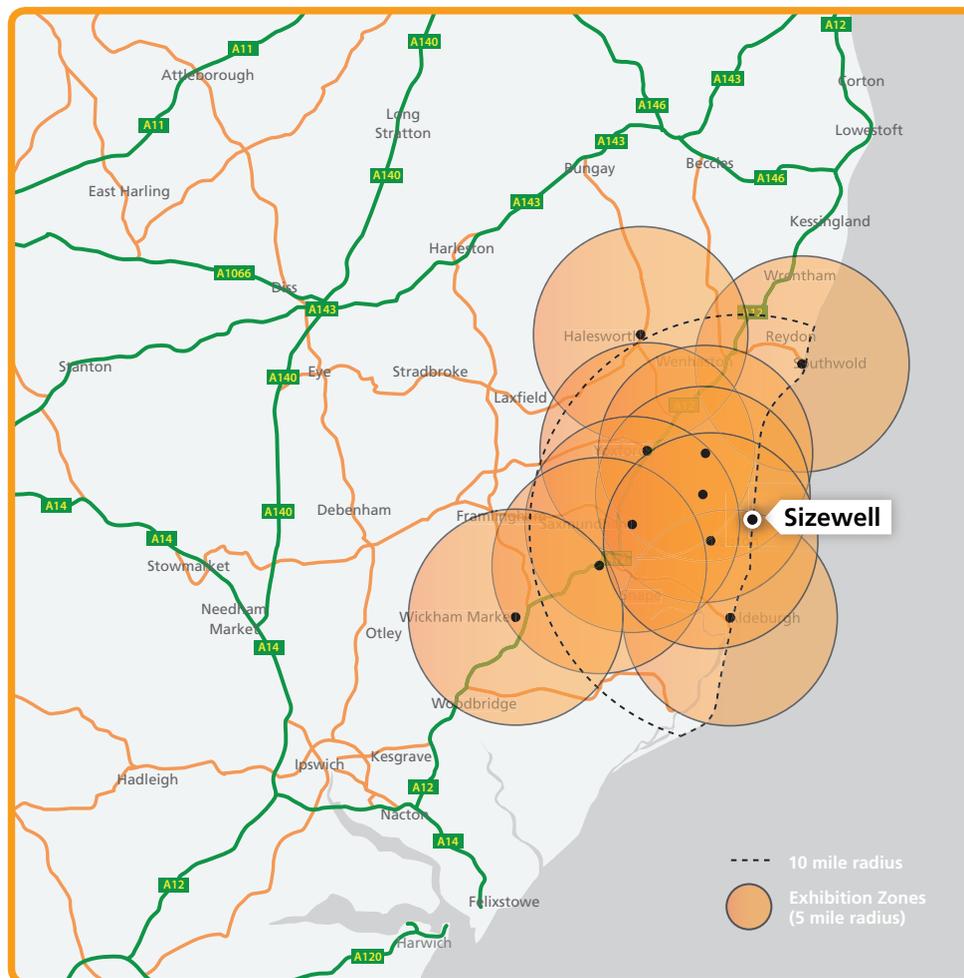
**Local Media:** EDF Energy will publicise the consultation and associated activities in the local media ahead of the formal public consultation stages and will update local media channels on its consultation activity.

**Public Exhibitions:** We will hold exhibitions and events throughout the consultation period. An early event will be held with the Sizewell Residents' Association. The following locations in and just beyond the inner area are likely to host staffed exhibitions, which will use presentation boards and literature to explain the proposals:

- Leiston
- Aldeburgh
- Theberton
- Saxmundham
- Westleton
- Stratford St Andrew
- Yoxford
- Southwold
- Wickham Market
- Halesworth



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Hosting events in these areas means that the majority of people living within the 10-mile inner area will be no more than five miles from a Sizewell C consultation exhibition or event.

In the outer area, and in centres with large populations such as Ipswich, we may hold shorter exhibitions or community meetings at:

- Ipswich
- Woodbridge
- Lowestoft
- Felixstowe
- Framlingham
- Beccles
- Kesgrave

Workplace exhibitions will be held for staff at the Sizewell A and B power stations and for staff of Suffolk Coastal District Council and Suffolk County Council. Other public exhibitions and events may be organised if required.

Following the public exhibitions at Stage One, exhibition materials will be on permanent public display at EDF Energy's Leiston office (address and opening hours below). The exhibition material will remain available for the public to view when the formal consultation stages have finished, as well as being available to download from the project website.

**Presentations:** Town and Parish Councils can request meetings and presentations during the public consultation programme.

**'Drop-in' Sessions:** Some villages or towns which are not locations for exhibitions, or those communities which require more opportunities to engage with the EDF Energy Team, may find 'drop-in sessions' useful. These sessions would operate like surgeries, where local people can have discussions with members of the team.

**Engagement with Hard-to-Reach Groups:** EDF Energy has consulted a number of organisations which represent 'hard-to-reach' stakeholders (i.e. demographic groups that do not usually engage in consultation activity, as well as people with disabilities who may have problems accessing the consultation information). Following the feedback received, home visits, bespoke presentations and advertorials in specific publications are among some of the proposed actions to be considered.

**Project Website:** All consultation material will be available to download from the project website:

<http://sizewell.edfenergyconsultation.info>

Consultees will be able to submit their feedback in hard copy by post or via an online form.

**Social Media:** EDF Energy will establish a Twitter account so followers can be updated on the latest events and the milestones achieved during the public consultation.

**Sizewell C Community Forum:** EDF Energy will also set up a Sizewell C Community Forum. It will consider and advise on issues that might affect the local community as a result of EDF Energy's planning proposals, principally those arising from the development of a new power station on land to the north of Sizewell B and any associated development. Consideration of the principle of building new nuclear power stations will not be within the scope of the forum. The membership will be made up of representatives of the local community and local stakeholder organisations.

Other activities and informal consultation may be carried out on specific elements of the proposals between the end of Stage One and the beginning of Stage Two consultation. Additional activities that may be carried out for the Stage Two consultation if considered necessary and appropriate include:

**Workshops:** Community representatives and stakeholders may find workshops useful and the EDF Energy Team will consider helping to organise such workshops on relevant and appropriate aspects of the development.

**Focus Groups:** EDF Energy could commission focus groups, or hold other events as necessary, to engage specific interests or hard-to-reach groups.

## Next Steps

Further details on the timings of the formal stages of community consultation will follow, principally through the media, EDF Energy website, publicity and through direct contact with stakeholders.

Following the end of the consultation exercise, EDF Energy will consider all consultation responses, before submitting its application to the Secretary of State for consent to construct and operate the power station and associated development. A detailed Consultation Report, explaining what consultation has taken place and discussing where responses to the consultation have influenced the final proposals, will accompany the application.

## Contact Information

For further information, please contact EDF Energy in one of the following ways:

- Visit the EDF Energy Leiston office at **48-50 High Street, Leiston, IP16 4EW (opening hours below)**
- Call Freephone **0800 197 6102**
- Email **[sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)**
- Write to **Sizewell Nuclear New Build, FREEPOST LON20574, London, W1E 3EZ**
- Follow us on twitter **@edfesizewellc**

Subject to the closure over the Christmas period mentioned below, during the Stage One consultation, EDF Energy's Leiston office will be open **Monday to Friday from 09:30 to 17:00 (excluding public holidays), and from 15 December 2012 until 2 February 2013** the office will also be open on **Saturdays 09:00 to 12:00**. During the period when public exhibitions are taking place, the office will be open to provide consultation literature only. **The office will close at 12:00 on 22 December 2012 and re-open at 09:30 on 2 January 2013**. Information on the opening hours of the Leiston office during later stages of consultation will be publicised in advance of those stages.



Appendix B.12      Newsletters (Stage 1) (November 2012)



## Sizewell C Have your say

Over the next 11 weeks (21 November 2012 - 6 February 2013), you have the opportunity to have your say on EDF Energy's early plans to build a new nuclear power station, Sizewell C.

This Stage 1 consultation is your first opportunity to look at our initial proposals and options, and to give us feedback on our work so far.

We want to hear from people in the local community, including all those living, working or who otherwise use the area around the Sizewell C and associated development sites.

We will carefully consider your feedback when preparing our detailed proposals for this project, before we apply to the Secretary of State for a Development Consent Order. Prior to submitting the application, we will hold at least one further stage of consultation.

This newsletter sets out some of the key facts about Sizewell C, tells you where you can find out more detail, and explains how you can have your say.

We encourage you to give feedback on:

- Our overall proposals for the Sizewell C nuclear power station;
- Options for associated development (such as park and ride sites and accommodation for workers) needed to support the construction and/or operation of the power station; and
- The potential effects on the local community, both positive and negative.



### EDF Energy is delighted to begin formal consultation on its proposed new nuclear power station, Sizewell C

I would like to say how much we are looking forward to talking to local communities in Suffolk and with other stakeholders about our proposals.

Sizewell C would generate enough electricity to supply one in five homes in Britain. It would make an important contribution to the UK's future needs for low-carbon, secure and affordable energy. It would also create significant business, training and employment opportunities locally, regionally and throughout the UK.

I urge you to play an active role in this consultation process. We are committed to giving your feedback serious consideration and will take it into account as we prepare detailed plans for Sizewell C.

*Richard Mayson  
Director of Planning and External Affairs, Nuclear New Build, EDF Energy*

# The Sizewell C Power Station

The proposed development site is located directly to the north of Sizewell B power station.

## The permanent development would include:

- Two UK EPR units and associated buildings (the 'Nuclear Island'), turbine halls and electrical buildings (the 'Conventional Island')
- Cooling water infrastructure including pumphouses, associated buildings, tunnels extending out to sea and headworks
- Fuel and waste storage facilities including interim storage for nuclear waste and spent fuel
- External plant including bulk storage tanks
- Operational service centre and ancillary, office and storage buildings
- Transmission infrastructure, including a National Grid 400kV substation, removal and relocation of one existing National Grid pylon/tower and associated realignment of power lines
- Internal roads, a bridge, car parking and a helipad
- Access road to adjoin the B1122 and related junction improvements
- Sea protection
- Simulator building / training centre
- A Sizewell visitor centre - We are proposing to build a new visitor centre that would eventually replace the temporary centre at Sizewell B
- Landscaping of the areas to be restored following their use during construction

## Construction

Should we receive the necessary consents, and once the site has been prepared, we expect that construction of the power station would take approximately seven to nine years.

During construction, additional land would be needed temporarily for construction purposes, which would include:

- Construction working areas, laydown areas, workshops, storage and offices
- Temporary structures including a concrete batching plant
- Spoil / stockpile storage
- Temporary bridges between the power station and associated works areas
- A jetty - part of which could remain permanently
- A temporary rail extension into the construction site
- Works areas on the foreshore for the installation of cooling water infrastructure and sea protection
- Construction roads, fencing, lighting and security features
- Site access arrangements and coach, lorry and car parking
- A development site accommodation campus



Indicative operational landscape plan.

# The Reactor Explained

The Sizewell C site would have two reactors, capable of generating enough electricity to supply approximately five million homes in Britain.

The design of the UK EPR is based on technology used successfully and safely around the world for many years. It includes innovations to enhance performance and safety. The UK EPR is currently undergoing a Generic Design Assessment process, carried out by the Office for Nuclear Regulation (ONR) and the Environment Agency. For more information see: [www.hse.gov.uk/newreactors](http://www.hse.gov.uk/newreactors)

## Fuel and waste

The design of the UK EPR makes the most efficient use of fuel possible, ensuring the least possible amount of spent fuel is produced.

Spent fuel removed from the reactors would initially be stored underwater in a reactor fuel pool. The spent fuel and intermediate-level radioactive waste would be kept on-site until a national geological disposal facility becomes available.

Low-level waste would be treated on-site to limit its volume and, after appropriate conditioning and packaging, it would be removed for disposal.

## Safety

We make safety our overriding priority. Nuclear power is one of the most rigorously regulated industries in the UK. In order to operate the proposed new nuclear power station we would require a nuclear site licence from the ONR and environmental permits from the Environment Agency.

## Decommissioning

At the end of electricity generation at Sizewell C the site would be decommissioned, a process likely to take about 20 years.

However, the spent fuel store would continue to operate until a national geological disposal facility becomes available.



## Illustrative UK EPR unit layout

- |                              |                                         |                                    |
|------------------------------|-----------------------------------------|------------------------------------|
| Ⓐ Reactor building           | Ⓔ Radioactive waste processing building | Ⓛ Operator building                |
| Ⓑ Four Safeguard buildings   | Ⓜ Emergency diesel generator building   | Ⓜ Outfall structure                |
| Ⓒ Fuel building              | Ⓨ Turbine building                      | Ⓨ Conventional electrical building |
| Ⓓ Nuclear auxiliary building | Ⓩ Power transmission platform           |                                    |

## Accommodation & Transport



We have initial plans for accommodating and transporting the large numbers of people needed to build Sizewell C, and in addition are aiming to reduce the volume of freight on roads.

Our aim is to limit the traffic pressure caused by workers travelling to and from the Sizewell C development site.

We propose to build a temporary accommodation campus and park and ride facilities to reduce the number of journeys taken. In addition, we aim to minimise the volume of freight on the roads by moving construction materials by sea and rail, where practicable.

### Accommodation

When construction is at its peak, we estimate that about 34% of the construction workforce would live at home and commute to work on a daily basis. The remaining 66% would live in temporary accommodation in the area.

We propose to build a temporary accommodation campus to house between about 2000 - 3000 people. This would have many benefits including relieving pressure on privately-rented housing and tourist accommodation.

### Park and Ride

Park and ride facilities would significantly reduce the amount of Sizewell C traffic on local roads during the peak years of construction.

We propose to build two temporary park and ride sites near the A12 – one for drivers approaching Sizewell from the north and the other for those approaching from the south. The park and ride sites would have spaces for about 1,000 cars in each. The southern park and ride could also include lorry parking.

### Rail Transport

We propose to upgrade and extend parts of the existing rail network near Sizewell, so that it could be used for the delivery of freight during construction and help reduce road HGV movements.

This includes options for either a new rail terminal in Leiston or a rail extension into the development site, for which we are proposing three possible routes.

### Sea Transport

Our proposed jetty would play a major role in moving freight during construction, significantly reducing the need for road transport.

The jetty would allow the sea delivery of bulky materials and very large items known as Abnormal Indivisible Loads (AILs), and the removal of excavated material.

### Lorry Management

Some freight would have to come by road and we are therefore considering a range of management systems which may require the construction of a lorry park with around 50 - 100 parking spaces.

We would prefer the lorry park to be built at the southern park and ride site as this avoids the need for additional development. However, there are also three other options for a 'standalone' lorry park.

### Road Improvements

Our proposed investments in rail, sea, accommodation, park and ride facilities would help to limit road traffic impacts. However some of the most likely areas for impact during construction are the A12 and B1122.

A12 - It is our view at this time that a four village bypass cannot be justified as a result of impact from Sizewell C. However the bend at Farnham could require improvements for which we are considering a number of options.

B1122 - It is anticipated that the B1122 would be the approved HGV route for traffic between the A12 and the Sizewell C construction site. The junction of the A12 with the B1122 at Yoxford is likely to require improvement to ensure a smooth flow of traffic.



## Local Opportunities

Sizewell C would be one of the biggest and most technologically complex construction projects ever built in the UK.

We believe it would create long-lasting opportunities for the local economy.

A key benefit would be the high quality employment and training it would generate. Many of the skills needed would be transferable, and we would work to develop sustainable skills for future generations as well as for those who would work on Sizewell C itself.

It is expected that about 5,600 workers would be employed on site during the peak of the construction period.

Once the power station was operational, about 900 people would be employed on site, as well as a further 1,000 during planned 'outages' when the reactors would be shut down for routine maintenance.

These roles would range from caterers, secretaries and drivers to engineers and managerial staff. We would create an employment brokerage service to support local people looking for work at Sizewell C.

A website run by the Suffolk and Norfolk Chambers of Commerce is already available for businesses to register their interest in becoming suppliers:

[www.sizewellsupplychain.co.uk](http://www.sizewellsupplychain.co.uk)

We will work in partnership with schools, colleges, businesses, training providers, local authorities and central government to help build education programmes and skills appropriate for the area.

We will put particular emphasis on helping people who are currently unemployed or economically inactive, or who need new skills or want their current skills improved.

EDF Energy already runs successful apprenticeships and graduate schemes, which will be expanded to support Sizewell C.



Students at an Enterprise Centre opening day in Somerset



## Sizewell C and the UK's energy needs

By the end of this decade, power stations producing about a quarter of the UK's total electricity output are due to close.

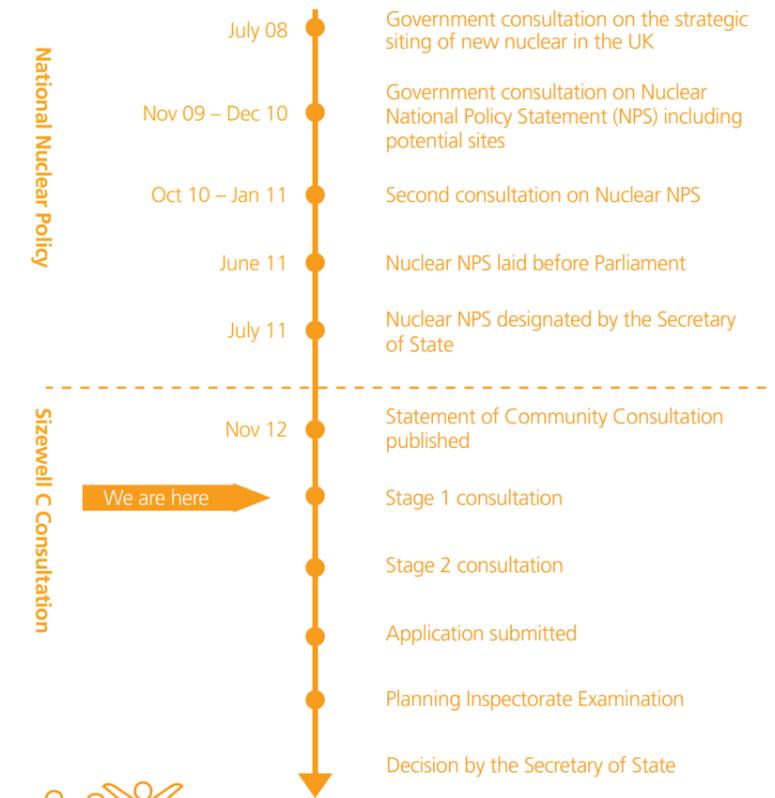
This comes at a time when demand for electricity is expected to rise, as Britain makes the transition to becoming a low-carbon economy.

The Government has decided that new nuclear power stations would help to maintain security of supply, while also enabling Britain to meet its climate change targets as nuclear power is a low-carbon source of electricity generation.

Sizewell C has been designated by the Government as one of eight 'potentially suitable' sites for new nuclear power generation in England and Wales.

In developing its policy, the Government looked in some detail at a wide range of factors before deciding that Sizewell could potentially be suitable as the site for a new nuclear power station. These fundamental decisions have been taken nationally and were widely consulted on, so are not covered as part of this consultation.

### Sizewell C consultation: where are we now?



## Sizewell C Information Office

The Sizewell C Information Office in Leiston (48-50 High Street, Leiston, IP16 4EW) will be open for local people to get information and ask questions about Sizewell C from Wednesday 21 November.

### Opening hours during public consultation:

During the first fortnight of the Stage 1 public consultation there will be a series of public exhibitions taking place. The office will still be open between 9.30 - 5:00 at this time, with staff on hand to provide literature on the proposals.

After this time the office will be open every Saturday from 9:00 until 12:00 from 15 December until 2 February 2013. The office will close from midday on 22 December and re-open on 2 January 2013.



## Exhibitions

These are the dates of our forthcoming public exhibitions, which will be an opportunity for you to find out more about our plans, speak to representatives of EDF Energy and share your feedback on our proposals:



TOWN	VENUE	DATE	TIME
Leiston	Leiston United Church, High Street	Friday 23 November	2pm – 8pm
Leiston	Leiston United Church, High Street	Saturday 24 November	12.30pm – 4.30pm
Theberton	St Peter's Church	Monday 26 November	2pm – 8pm
Westleton	The Village Hall, Darsham Road	Tuesday 27 November	2pm – 8pm
Saxmundham	Market Hall, High Street	Thursday 29 November	2pm – 8pm
Yoxford	The Village Hall, Old High Road	Friday 30 November	12pm – 5pm
Stratford St Andrew	The Riverside Centre, Great Glemham Road	Saturday 1 December	10am – 4pm
Southwold	The Methodist Church, East Green	Tuesday 4 December	2pm – 8pm
Halesworth	The Rifle Hall, London Road	Wednesday 5 December	2pm – 8pm
Wickham Market	The Village Hall, High Street	Thursday 6 December	2pm – 8pm
Aldeburgh	The Baptist Church, High Street	Friday 7 December	2pm – 8pm
Melton / Woodbridge	The Lindos Centre, Saddlemakers Lane, Melton	Saturday 8 December	10am – 4pm

## How To Have Your Say

We are keen to hear your views on this Stage 1 Consultation for Sizewell C and we encourage your feedback.

- A public questionnaire can be found online at <http://sizewell.edfenergyconsultation.info>
- You can email your comments to [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Written responses can be posted to **Sizewell Nuclear New Build, FREEPOST LON20574, London, W1E 3EZ**
- You can also call our freephone number **0800 197 6102\*** (during normal office hours)
- You can also contact the team on Twitter [@edfesizewellc](https://twitter.com/edfesizewellc)
- Copies of all the consultation documents are available to view during the Stage 1 Consultation period at the Sizewell C Information Office (48-50 High Street, Leiston, IP16 4EW) during normal office hours; in the offices of Suffolk County, Suffolk Coastal District, Waveney District and Ipswich Borough Councils; and at the public exhibitions and events that will be held during the consultation period
- The consultation documents will also be available in a number of local public libraries, on disc and to download by visiting the Project website <http://sizewell.edfenergyconsultation.info>
- If you have a general EDF Energy customer/billing enquiry, please call **0800 096 9000**

\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.



Please remember: the deadline for responses to this first stage of our consultation is Wednesday 6 February 2013.



Appendix B.13      Publication/Notice of S47 Consultation

# Sizewell C Have your say



**EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.**

Stage 1 of our public consultation runs from Wednesday, 21 November 2012 until Wednesday, 6 February 2013. A series of public exhibitions are being held in the area, for details visit <http://sizewell.edfenergyconsultation.info>

**Your views are important to us and help shape the plans for Sizewell C.**

**Exhibitions will be held at:**

TOWN	VENUE	DATE	TIME
Leiston	Leiston United Church, High Street	Friday 23 November	2pm – 8pm
Leiston	Leiston United Church, High Street	Saturday 24 November	12.30pm – 4.30pm
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Melton / Woodbridge	The Lindos Centre, Saddlemakers Lane, Melton	Saturday 8 December	10am – 4pm

Information on later stages of consultation will be publicised in advance of each stage, as explained in the Sizewell C Statement of Community Consultation.

**For further information please contact us by:**

- Visiting the **Sizewell C Information Office at 48 High Street, Leiston**  
The office is open throughout the consultation period from 9.30am – 5pm, Monday to Friday and 9am – 12pm on Saturdays from 15 December to 2 February. The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January 2013.
- Calling our freephone number **0800 197 6102\***
- Writing to us at **Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ**
- Emailing [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- Twitter [@edfeszewellc](https://twitter.com/edfeszewellc)
- Visiting our website <http://sizewell.edfenergyconsultation.info>

\*This is a freephone number but please note that you may be charged if you are calling from a mobile phone.





Appendix B.14 Newsletter (May 2013)



# Thank you

**Nearly 1300 responses have been received by EDF Energy following the Sizewell C Stage 1 consultation. We would like to thank everyone who responded.**

From 21 November 2012 to 6 February 2013, EDF Energy consulted local people and stakeholder groups from across East Suffolk on its initial proposals and options for Sizewell C, a new nuclear power station which could be developed on land to the north of Sizewell B on the Suffolk coast.

## Local people were asked for their views on:

- The overall proposals for the Sizewell C nuclear power station.
- Options for associated development needed to support construction and/or operation (such as park and ride facilities and campus accommodation).
- The potential effects on the local community.

A large number of detailed points and a wide range of views have been expressed by respondents to the consultation, all of which we are now taking into account.

[www.edfenergyconsultation.info](http://www.edfenergyconsultation.info)



## Some of the key themes include:

- The majority of responses indicate support for the development, subject to various suggestions for reducing the impacts of construction. However, there was also feedback opposing the building and operation of a new nuclear power station.
- There is support for the overarching accommodation strategy albeit with differing views on the location, size and number of campus sites.
- On transport there is widespread support for the strategy of limiting impacts on roads through the use of sea, rail and park and ride facilities, again with a variety of views expressed on the individual sites and specific elements of the proposals.
- With regard to road improvements: of the three options that were consulted on for Farnham, there is strong support for the Farnham bypass although many respondents also expressed a view that a full four village bypass would be necessary. There is a general desire to see further information and proposals on transport issues, particularly on the B1122.

# What Next?

We are now undertaking more detailed analysis of responses to the Stage 1 proposals. The responses will be published in a report on consultation which will be submitted to the Planning Inspectorate with the application for development consent.

EDF Energy will also be conducting various technical studies which will support the development of more detailed proposals. These proposals will then be subject to further public consultation. The following work will be taking place over the months to come:

## Associated Development

At Stage 1 consultation we presented options for where associated development, such as the accommodation campus and park and ride facilities, could be located. We will be examining the feedback received from local people and the issues raised to help inform future decisions on preferred sites.

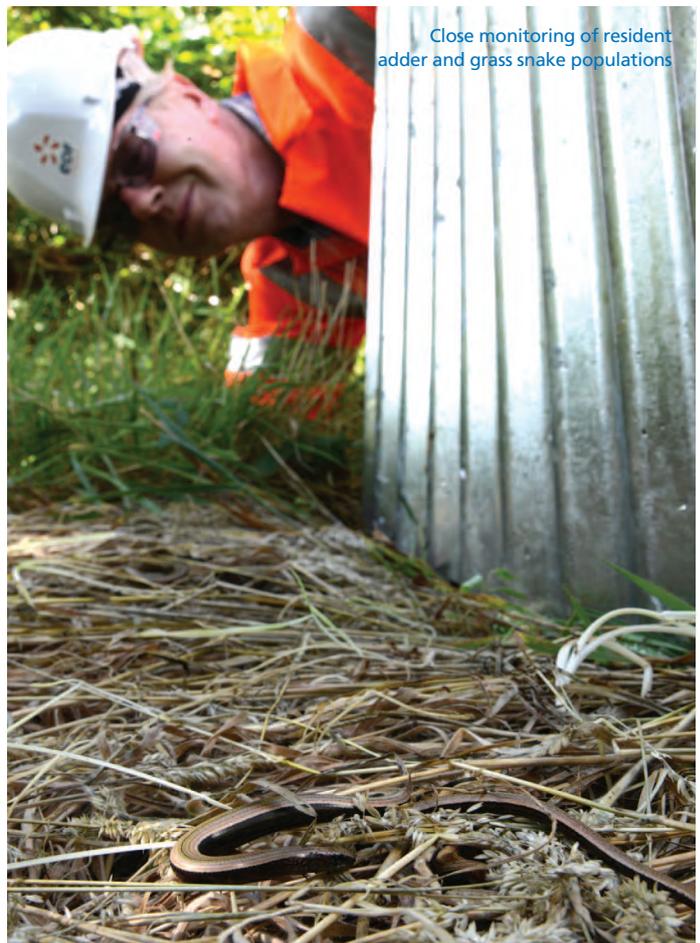


## Ecological Surveys

We will be carrying out further ecological surveys within and around the main site and construction area.

## Groundwork Investigations

We are planning ground investigation works at a range of locations both onshore and offshore over the coming months. We will update our website with information and will aim to alert neighbours in advance of any activity taking place.



Close monitoring of resident adder and grass snake populations

**SIZEWELL C**



●  
Statement of  
Community  
Consultation

●  
Stage 1  
Consultation

●  
Further  
Consultation

●  
Application for  
Development Consent

●  
Consent

●  
Construction

●  
Operational

Sizewell C development process

## Groundwater Monitoring

This summer we will start groundwater monitoring within and around the main site and Sizewell Marshes SSSI. This will provide important information on baseline groundwater conditions to inform the groundwater impact assessment that will be carried out in the run-up to a future stage of consultation.

## Socio-economics

Sizewell B is currently undertaking a planned refuelling outage. The Sizewell C Team is surveying local businesses and the workers who are temporarily living in the area to achieve a better understanding of where people live and the potential benefits to the local economy. The data collected will be used to help inform our accommodation proposals and wider socio-economic analysis.

## Transport Strategy

Over the course of 2013 we will be developing the traffic model which will be used to inform our understanding of impacts on local roads, including the A12 and B1122. We will also be progressing further studies on the design of the jetty and on rail issues including the options for extending the Saxmundham-Leiston branch line into the construction site.



Sizewell foreshore



Groundwater monitoring on the Sizewell C site



Students at EDF Energy Conference

## Nuclear New Build – National Update

On 19 March EDF Energy was granted planning permission by the Secretary of State for Energy and Climate Change to construct and operate Hinkley Point C in Somerset. The decision followed three years of community consultation and a year long examination by the Planning Inspectorate.

The planning permission is a major step forward for the project and follows recent regulatory permissions, including the granting of a Nuclear Site Licence, the approval of the power station's design (Design Acceptance Certification) and the award of key environmental permits.

To view the Secretary of State's planning decision and the recommendations made by the Planning Inspectorate on

EDF Energy's application please visit:

<http://infrastructure.planningportal.gov.uk/projects/south-west/hinkley-point-c-new-nuclear-power-station>

However, before work can start on the main construction an agreement is needed with Government on the price of electricity from Hinkley Point C. This will help EDF attract investors and is an important step towards a final investment decision to allow the multi-billion-pound project to proceed.

At the time of writing, intensive discussions with Government were progressing to achieve a fair and balanced deal for consumers and investors. Hinkley Point C would provide a sustainable source of low carbon energy, and 7% of the UK's electricity for 60 years.



## Sizewell C Community Forum

As part of the overall activity involved in the public consultation on Sizewell C, EDF Energy established a Community Forum for the discussion of local issues during the planning process. The forum has an independent chairman and is made up of the EDF Energy Sizewell C team, elected representatives of the local community and other stakeholder groups.

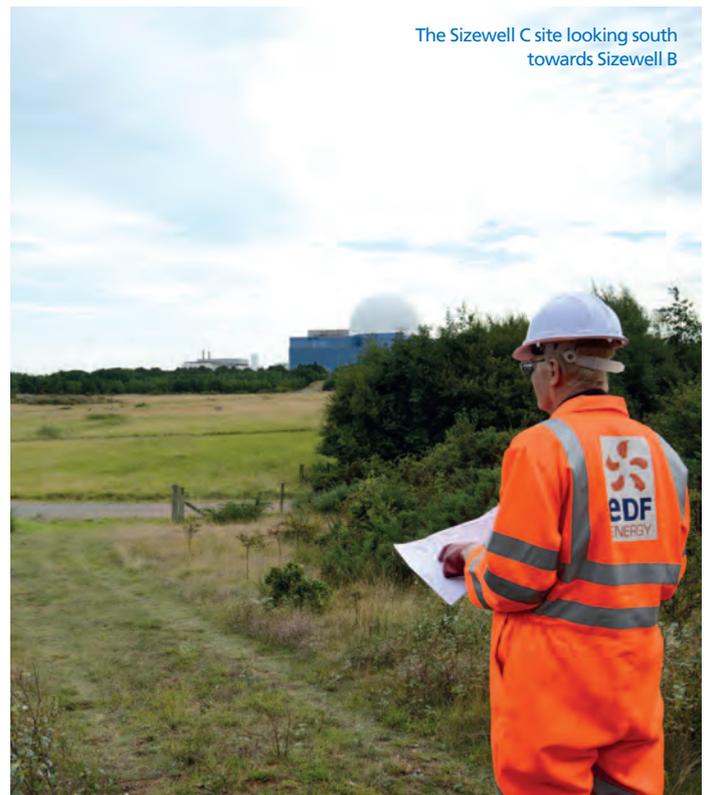
The Sizewell C Nuclear New Build team shared preliminary feedback from the Stage 1 consultation at the Community Forum last month.

Thirty-nine representatives from the communities around Sizewell and other stakeholders gathered for the meeting at the Sizewell Sports and Social Club in Leiston.

The group was told that work continues on analysing the results and this was early feedback on the themes raised by respondents to the first stage of consultation.

The next Community Forum meeting will take place in October. To view the minutes of previous meetings or to find out more visit: <http://sizewell.edfenergyconsultation.info>

The Sizewell C site looking south towards Sizewell B



### Contact us

If you want to find out the latest news on Sizewell C you can:

- Visit our website: <http://sizewell.edfenergyconsultation.info>
- Follow us on Twitter: [@edfeszewellc](https://twitter.com/edfeszewellc)
- If you have any questions you can email us: [sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)
- You can also call our freephone number **0800 197 6102\*** (during normal office hours)
- You are welcome to visit the Sizewell C Information Office (**48-50 High Street, Leiston, IP16 4EW**) during normal office hours.

\* If you have a general EDF Energy customer/billing enquiry, please call **0800 096 9000**



Appendix B.15 Sample Print Advert (November 2012)

# Sizewell C Have your say

**EDF Energy is currently consulting with local people on our proposals for a new nuclear power station at Sizewell and its associated development.**

Our public consultation began on Wednesday, 21 November, 2012, and will run until Wednesday, 6 February, 2013.

A series of public exhibitions are being staged in the area, for details visit <http://sizewell.edfenergyconsultation.info>

They can also be viewed at Leiston Town Council and Suffolk Coastal District Council offices throughout the consultation period.

Or visit the Sizewell C Information Office at 48 High Street, Leiston.

The office is open from 9.30am – 5pm, Monday to Friday and 9am – 12pm on Saturdays from 15 December to 2 February.

The office will be closed from 12pm on 22 December and will re-open at 9.30am on 2 January 2013.

**Your views will be important to us  
as we shape the plans for Sizewell C.**



# To contact us

- Visit the Sizewell C Information Office at **48 High Street, Leiston**
- Call our freephone number **0800 197 6102\***
- Write to us at **Sizewell Nuclear New Build, FREEPOST LON20574, London W1E 3EZ**
- Email **[sizewell@edfconsultation.info](mailto:sizewell@edfconsultation.info)**
- Twitter **@edfesizewellc**
- Or visit our website  
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