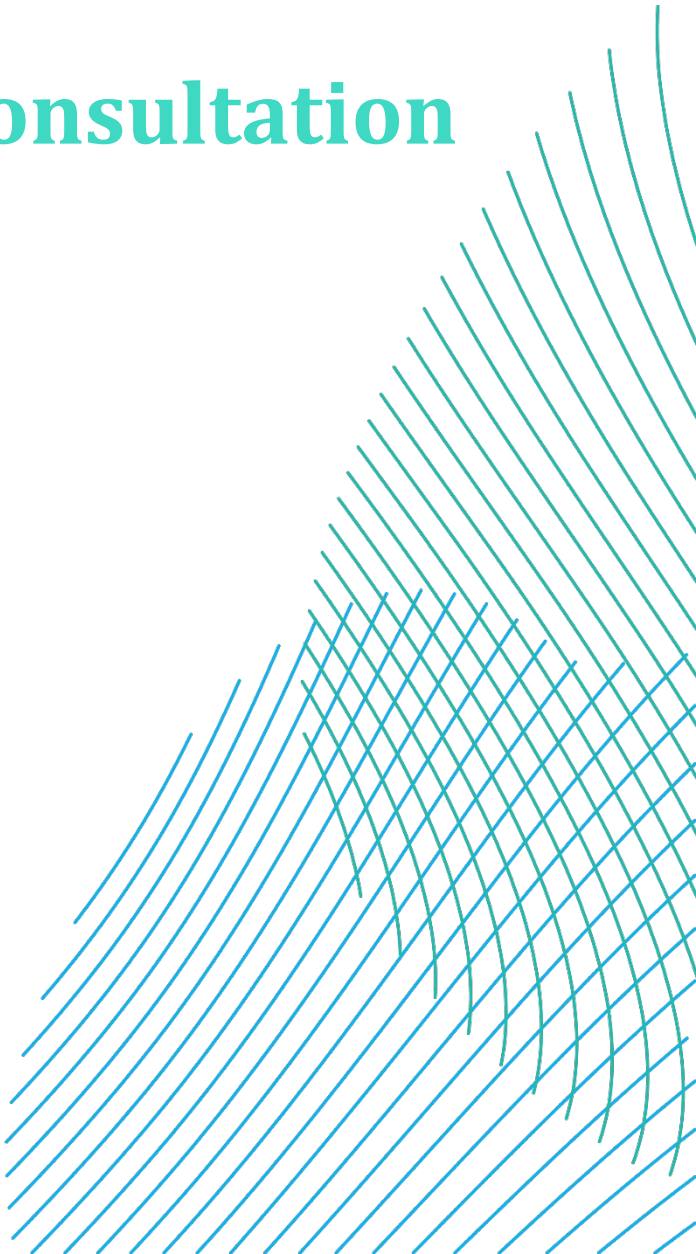
Stallingborough Combined Cycle Gas Turbine (CCGT) and Carbon Capture Plant (CCP) Non-Statutory Consultation Report

August 2024



Contents

Executive summary

This Consultation Report provides an overview of non-statutory consultation activities undertaken by RWE Generation UK plc ('The Applicant'), to inform proposals for the Stallingborough Combined Cycle Gas Turbine (CCGT) and Carbon Capture Plant (referred to as the 'Proposed Development'), a new generating plant and associated infrastructure in North East Lincolnshire.

The Proposed Development will be fuelled by natural gas and will require a new natural gas pipeline to be brought into the Main Site from the main gas transmission network (around 12km away) that runs from Easington to Hatton (Lincolnshire).

Additionally, the Proposed Development will require an electrical connection to export the electricity to the national network. This will be to the existing National Grid Grimsby West Substation (around 4km away), or a new substation proposed as part of the Grimsby to Walpole upgrade.

Engagement overview

The Proposed Development was publicly launched in May 2023 by the Applicant. A press release was sent to local, regional and national media and information was sent to key stakeholders, informing them of the Proposed Development and offering briefings.

From Spring 2023 engagement meetings took place with key stakeholders including statutory and non-statutory consultees such as the host and neighbouring local authorities, to introduce them to the Proposed Development. Ahead of the launch of the non-statutory public consultation, a round of briefings was offered to locally elected officials.

The six-week non-statutory public consultation took place between Monday 8th April and Monday 20th May 2024. During the non-statutory consultation phase, various engagement channels were employed to foster an open dialogue with the community regarding the preliminary plans for the Proposed Development. These channels included dedicated project webpages, a newsletter sent to over 13,000 properties around the Proposed Development, in-person and digital events, stakeholder briefings, and local media engagement.

As such, a hybrid consultation approach was adopted, combining in-person events with digital engagement through online information and webinars. A telephone number was also provided for the public to ask questions, relay feedback or request printed materials. This approach ensured that individuals who were unable to or might prefer not to attend in-person events, could still access the consultation materials and actively participate in the process.

Hardcopies of the feedback form were made available at the three public events held at Immingham Town Hall, Projekt Renewable, Grimsby and CATCH, Redwood Park Estate, Stallingborough. They were also available at the deposit points in Grimsby Central Library and Immingham Library. Individuals also had the option to provide feedback through Freepost, a dedicated phoneline, and email, ensuring accessibility and flexibility in the consultation process.

A business event was also held, and an in-person presentation was given to Stallingborough Parish Council.

Following the non-statutory consultation period, the feedback received was collected and analysed. All feedback has been reviewed and considered as outlined in this report. Where appropriate, it will be used to inform the design and evolution of the Proposed Development.

Throughout the six-week consultation period, 38 responses were received.

51 individual users viewed the website with a total of 382 page views during the consultation period.

In total, 84% of respondents to the feedback form agreed that the UK needs a mix of energy generation to meet both future demand and our targets for net zero.

Respondents were asked what elements of the Proposed Development were important to them. Air quality was selected by 13% of respondents, followed by flood risk, safety and decarbonisation of the electricity industry, which were selected by 11% of the respondents.

There were a number of issues raised by respondents, most notably comments around environmental impacts, queries about safety of the technology, impact on identified assets and cumulative impacts.

A number of respondents stated a preference for the electrical connection to be underground as opposed to overhead lines. The Applicant is exploring options for the connection to the substation, including if it will be via underground cables or overhead lines or a combination of both.

Next steps

The Applicant will continue to undertake further design development, surveys and environmental studies as part of the Environmental Impact Assessment process.

A statutory consultation is planned for 2025. This consultation will provide an opportunity for both the general public and statutory and non-statutory consultees to provide further comments on the progressed project design.

Introduction

Project overview

This document reports on the non-statutory consultation regarding the initial plans for the Proposed Development, a natural gas-fired generating plant equipped with carbon capture technology. The purpose of this report is to outline the non-statutory consultation process, inform stakeholders of the feedback received and to provide the Applicant's response to the feedback. This report was completed in August 2024 and information is therefore correct to that date.

The Proposed Development is located on the south bank of the Humber Estuary near Stallingborough, North East Lincolnshire. The generating plant will produce up to 900 megawatts (MWe) of decarbonised, secure, flexible energy and will capture up to 2 million tonnes per year of carbon dioxide (CO_2), preventing it from being released to the atmosphere. The project will make a significant contribution to the UK's energy security and support the move towards net zero.

The Proposed Development includes:

- A combined cycle gas turbine plant and associated infrastructure.
- Water cooling infrastructure (likely to be abstracted from the Humber Estuary) required as part of the operational processes for the generating plant.
- Carbon capture infrastructure to capture and condition the CO_2 in the flue gas emitted after the combustion of natural gas.
- Supporting infrastructure such as:
    - Natural gas pipeline to supply fuel to the generating plant.
    - Electrical connection to a National Grid Substation.

The Proposed Development will connect into a carbon transportation pipeline, via a new spur line, which is expected to transfer the captured carbon to offshore storage facilities beneath the North Sea. The Applicant is a capture partner of the Viking Carbon, Capture and Storage (CCS) scheme and therefore the preferred option is for transport of the captured CO_2 to be via the Viking CCS scheme.

The Viking CCS comprises:

- A new onshore pipeline from Immingham to Theddlethorpe
- Repurposing of the existing Lincolnshire Offshore Gas Gathering System (LOGGS) pipeline
- Offshore storage beneath the North Sea

The Viking CCS DCO application for the Immingham to Theddlethorpe pipeline has been accepted for examination by the Planning Inspectorate. The examination is expected to close on 26 September 2024, with a decision expected in March 2025. The planning process for the spur line will follow on from this. More information about Viking CCS can be found here - www.vikingccs.co.uk

Legislative context

As the Proposed Development would generate over 50MW of electricity, it is classed as a Nationally Significant Infrastructure Project (NSIP) and will be subject to the Development Consent Order (DCO) planning process, a specialised framework for managing large and complex infrastructure projects.

Since the Proposed Development includes carbon capture technology, it directly contributes to the energy transition to net zero and as such it is a low carbon technology classified as being of Critical National Priority under the Overarching National Policy Statement (EN-1).The Secretary of State for the Department of Energy Security and Net Zero will make the decision regarding the application's outcome, based on the recommendations and findings of the Planning Inspectorate.

Effective consultation is a critical element of the DCO process, offering an opportunity for community and stakeholder input into the evolving proposals. The feedback received, in conjunction with technical studies and environmental assessments, would be used to inform and shape the DCO application before it is submitted to the Planning Inspectorate.

The Planning Act 2008 includes the requirement for statutory consultation prior to application submission, and outlines requirements such as publicity and statutory consultees to be consulted. The Applicant has taken a multi-stage approach to consultation, opting to undertake a non-statutory initial consultation to help inform the design development, ahead of a statutory consultation planned for 2025.

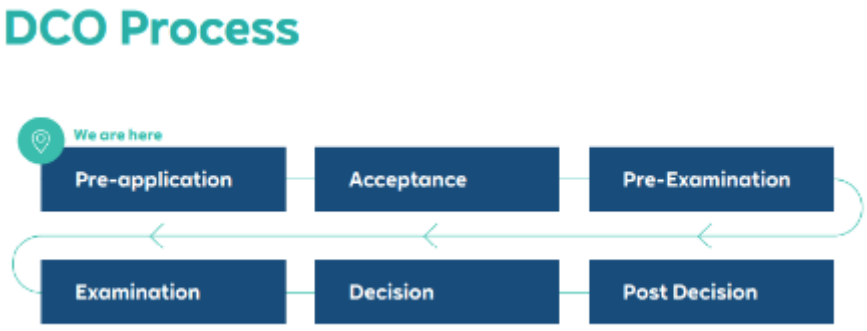


Figure 1 Development Consent Order Process

Approach to engagement

The Applicant is conducting a two-phase consultation process. The initial non-statutory consultation served to introduce the public to the proposals and give them an early opportunity to provide their views.

The later statutory consultation, which will be delivered in line with the requirements of the Planning Act 2008, will then provide an opportunity for both the public and statutory and non-statutory consultees to provide further comments on the progressed project design and environmental assessment work.

The first phase of engagement focused on introducing the Proposed Development to key stakeholders, including MPs, councillors and statutory and non-statutory consultees. The Applicant met with officers at the host local authority North East Lincolnshire Council (NELC) in November 2023 and shared the planned approach to engagement and consultation.

Meetings were also held with officers at North Lincolnshire Council, Lincolnshire County Council and West Lindsey District Council over Winter 2023/2024 to provide an update on the project, including the approach to consultation. There was no direct feedback on the consultation strategy.

The six-week non-statutory public consultation ran from Monday 8th April to Monday 20th May 2024. Inclusivity and accessibility were core objectives of the consultation. As such, a hybrid consultation approach was adopted, combining in-person events with digital engagement through online information and webinars. A telephone number was also provided for local people to ask questions, relay feedback or request printed materials. This approach ensured that individuals who were unable to or might prefer not to attend in-person events, could still access the consultation materials and actively participate in the process.

Stakeholder engagement

Engagement with local representatives

The Site boundary presented at the non-statutory consultation stage included the potential corridors identified within the areas of search for the national grid electrical connection and natural gas pipeline. The area spanned the administrative boundaries of North East Lincolnshire Council, North Lincolnshire Council, West Lindsey District Council and Lincolnshire County Council, which informed the approach to stakeholder engagement. Leaders and relevant ward councillors at each of the local authorities, host and neighbouring MPs and parish councils, were informed of the proposals ahead of the non-statutory consultation, with an invitation to be briefed on the project.

These meetings at a preliminary stage helped to provide an overview of the Proposed Development and gain an early steer on the project's design and consultation programme, while opening an ongoing communication channel with local representatives.

A full list of local representatives briefed can be found in the table below.

Stakeholder	Date of meeting
Joint meeting with Martin Vickers (MP for Cleethorpes) and Lia Nici (MP for Great Grimsby)	Friday 4th August 2023
Councillor Thomas Smith, North Wolds Divisional member, Lincolnshire County Council	Monday 11th March 2024
Martin Vickers, MP for Cleethorpes	Wednesday 20th March 2024
Councillor Martin Hill OBE, Leader of Lincolnshire County Council	Wednesday 20th March 2024
Lia Nici, MP for Great Grimsby	Thursday 28th March 2024
Councillor Philip Jackson, Leader, North East Lincolnshire Council	Tuesday 2nd April 2024
Stallingborough Parish Council	Wednesday 10th April 2024

All local representatives were sent by post a copy of the non-statutory consultation brochure, newsletter, feedback form and a covering letter to publicise the consultation. An email about the non-statutory consultation was also sent.

Landowner engagement

As part of the initial project development, the Applicant identified landowners and tenants whose land may be impacted by the Proposed Development in advance of the non-statutory consultation to inform the initial design.

In Spring/Summer 2023 a covering letter was sent to identified landowners and persons with interest in land (PILs) outlining in broad terms the Proposed Development. Land interest questionnaires (LIQs) were also sent along with requests for ecological survey access. This engagement continued, including reaching out to other landowners as the survey and study areas expanded.

The study area increased over time from the original gas pipeline route corridors to add in a wider buffer. The HV electrical connection corridor was also increased to include an extra buffer and was widened again to reflect the possibility of the Grimsby West substation being relocated as part of National Grid's Grimsby to Walpole DCO.

The gas pipeline and electrical connection corridors are still in the preliminary design phase, undergoing careful planning and assessment. The Applicant is looking at a number of options and is in the process of contacting all landowners within these corridors and undertaking studies to ensure the most appropriate routes are selected. The boundary of the connection corridors consulted on during non-statutory consultation is provided in Figure 2 below.

Figure 2 Plan of the site area for the Proposed Development as presented in the non-statutory consultation materials

Landowners across the connection corridor boundaries were sent a letter and a copy of the newsletter at the start of the non-statutory consultation, inviting them to comment on the proposals.

More detailed engagement with landowners around the gas pipeline and electrical connection route corridors will take place once the options have been refined. The Applicant will continue to engage with impacted landowners throughout the consenting process.

Engagement with statutory consultees

As part of the development of the technical design and environmental assessment work, engagement has taken place with a number of statutory and non-statutory consultees since January 2023, including the relevant local authorities, Historic England, Environment Agency and Natural England.

Technical engagement with statutory and some non-statutory consultees (such as RSPB) took place during 2023 and early 2024, and will continue throughout the consenting of the Proposed Development. On 9th February 2024, the Applicant submitted its Environmental Impact Assessment (EIA) scoping report to the Planning Inspectorate, who subsequently consulted the relevant statutory bodies. The Planning Inspectorate released its Scoping Opinion on 24th March 2024..

Following receipt of the EIA Scoping Opinion in March 2024, five Expert Topic Groups have been established to bring together stakeholders to discuss key issues and help inform the design development. The topics for these groups are planning, water, ecology, transport and heritage.

Alongside the EIA Scoping Opinion, the Planning Inspectorate notified the Applicant of the consultation bodies to be notified in accordance with Regulation 11 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations).

As part of the non-statutory consultation, all those on the Regulation 11 Notification List were posted a copy of the non-statutory consultation brochure, newsletter, feedback form and a covering letter to publicise the consultation. An email about the non-statutory consultation was also sent.

An introductory meeting with the Planning Inspectorate took place on Thursday 23rd November 2023 and subsequent meetings were held on Wednesday 10th April 2024 and Wednesday 31st July 224. Under section 51 of the Planning Act 2008, the Planning Inspectorate makes available a copy of the advice provided in meetings with Applicants. This can be found on the project page on the Planning Inspectorate's website: https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010161/s51advice

Public consultation

Approach to consultation

The non-statutory consultation which ran between Monday 8th April and Monday 20th May 2024 introduced the Proposed Development to the wider local community.

The aim was to clearly convey the proposals and gather community feedback. Members of the public could complete the feedback form on the project webpage, fill in a hard copy at the public consultation events or provide comments by writing, telephoning or emailing the Applicant. Contact details were published on all the consultation materials and on the project webpage.

Promoting the consultation

To ensure inclusivity and to gain responses reflective of the local population, the non-statutory consultation was promoted through a wide range of different mechanisms, as outlined below.

Newsletter

A four-page newsletter was mailed to all residential and business addresses within the mailing area, shown in the larger lilac area in Figure 3. The mailing area included 13,000 local addresses, capturing all addresses within 2km of the preliminary natural gas pipeline and electrical connection route corridors (shown in the Figure 3 as the darker purple area). A copy of the newsletter is included in appendix one.

It is anticipated that the Applicant will reduce the mailing area during the statutory consultation as more refined corridors for the gas pipeline and electrical connection are established as part of the ongoing surveys of land likely to be impacted by the Proposed Development.

The newsletter included a brief overview of the project, details of the consultation events, deposit locations, a project timeline, the Site location, a link to the website and the various contact channels.

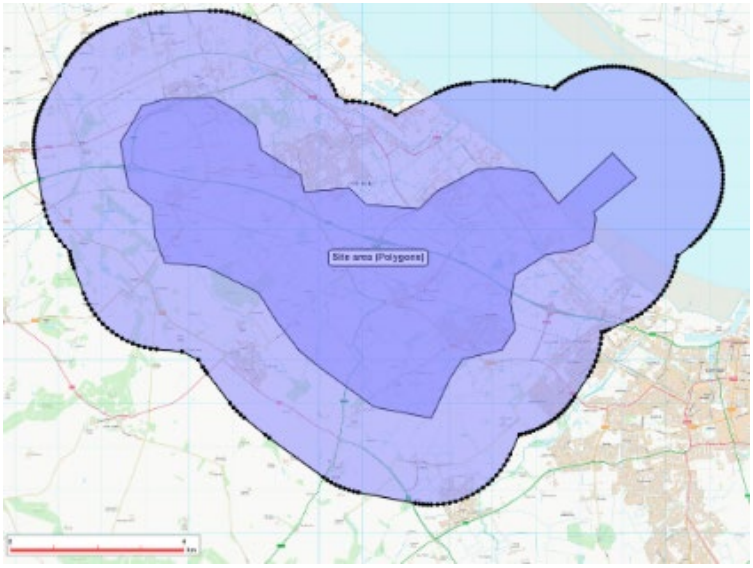


Figure 3 The non-statutory consultation mailing area

Mailing packs

There were a number of key stakeholders, groups and organisations identified through desk-top research, including hard to reach groups, elected representatives and statutory parties. These individuals and groups also received hard copies of the consultation material via a mailing pack which included:

- Newsletter
- Covering letter with telephone, email and freepost contact details
- Consultation brochure
- Feedback form
- Postage paid envelope

Appendix two details the list of recipients. Appendix three details the covering letter.

Poster

Posters were distributed to the relevant parish councils accompanied by a letter requesting their local display. This helped to raise public awareness and ensured that information about the consultation reached a broad local audience. The posters were distributed to the following locations:

- Projekt Renewables
- Grimsby Library
- Great Limber Parish Council
- Stallingborough Parish Council
- Healing Parish Council
- Immingham Town Council
- Ulceby Parish Council
- Great Coates Parish Council
- South Killingholme Parish Council
- Paull Parish Council

- Sunk Island Parish Council

A copy of the poster is shown in appendix four.

Press releases

A press release was issued at the start of the non-statutory consultation to announce the launch of the consultation. A copy of this press release is included in appendix five. A further press release was issued in week three of the consultation to provide an update on the consultation events and to remind the public of the opportunity to make comments.

These releases were distributed to regional and local media outlets (print and broadcast) as well as energy-focused publications. The Grimsby Telegraph published an article about the consultation on 13th April 2024. A copy if this coverage is included in appendix six.

Consultation materials

A variety of consultation materials were produced to facilitate the engagement process. This included a newsletter, a comprehensive consultation brochure, exhibition boards and interactive online content.

Dedicated Project Webpage

A dedicated project webpage, www.rwe.com/stallingborough was live throughout the non-statutory period to provide information about the proposals, and to host the exhibition materials and online feedback form.

The webpage presented information about the Proposed Development, the consultation programme and the need for carbon capture. A Documents Library allowed visitors to view and download all consultation documents, ensuring online visitors could access the same materials available at the in-person consultation events. The Documents Library included:

- Non-Statutory Consultation Brochure
- Non-Statutory Consultation Feedback Form
- Non-Statutory Consultation Newsletter
- Non-Statutory Consultation Poster
- Carbon Capture and Storage (CCS) Frequently Asked Questions (FAQ)
- Non-Statutory Consultation Exhibition Boards
- Environmental Impact Assessment Scoping Report
- Environmental Impact Assessment Scoping Opinion

Figure 4 below shows the number of visitors to the website during the non-statutory consultation period. 51 individual users viewed the website with a total of 382 page view.

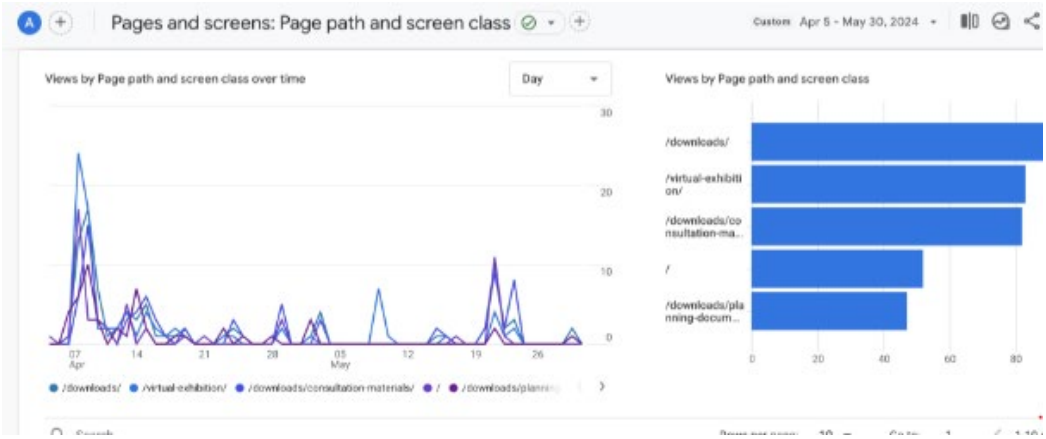


Figure 4 – Analysis of visitors to the website

Additionally, the webpage provided an opportunity to sign up for the webinar events and to register for updates throughout the duration of the consultation and planning process.

Figure 5 below shows a screenshot of the consultation website – www.rwe.com/stallingborough:

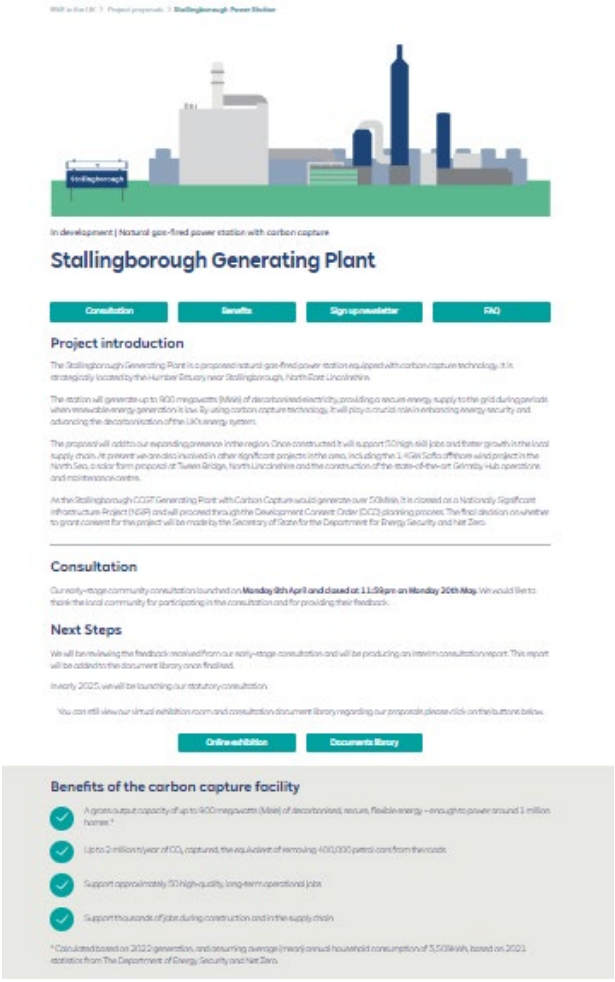


Figure 5 – Screenshot of the consultation website

Non-Statutory Consultation Brochure

A comprehensive 20-page consultation brochure was available to help provide detailed information and plans. A copy of the consultation brochure is available in appendix seven.

The consultation brochure was proactively sent to key stakeholders, schools, community groups and hard-to-reach groups in advance of the consultation launch. It was available for pickup at the three in-person events and from the deposit locations.

Carbon Capture and Storage (CCS) Frequently Asked Questions (FAQ)

An eight page document was available to help explain the carbon capture and storage process in a non-technical, easy-to-understand way. The FAQ document was available at the in-person events and online. A copy of the FAQs is available in appendix eight.

Deposit locations

Copies of the newsletter, feedback form (with Freepost return envelopes) and the consultation brochure were available at two deposit locations as outlined below. Hard copies could be requested (free of charge) by phone and email.

Location	Opening times
Grimsby Central Library Town Hall Square, Grimsby, DN31 1HG	Tuesday to Friday 8.30am - 5.30pm Saturday 9am - 1pm
Immingham Library Pelham Road, Immingham, DN40 1QF	Monday to Friday 9am – 5pm Saturday 9am – 1pm

Consultation events

In-person events

Three in-person events were hosted at local venues in close proximity to the site. These events were scheduled to ensure inclusivity, with one event on a Saturday and two events on weekdays running into the evening. The event details and number of attendees at each event were as follows:

Date	Time	Location	Number of attendees
Friday 12th April 2024	1pm – 7pm	Immingham Town Hall, Civic Centre, Pelham Road, Immingham, DN40 1QF	39
Saturday 20th April 2024	10am – 4pm	Projekt Renewable, Grimsby, DN31 1UZ	6
Thursday 9th May 2024	1pm – 7pm	CATCH, Redwood Park Estate, Stallingborough, Grimsby, DN41 8TH	21

At each event there were:

- 13 Exhibition Boards providing succinct project information. A copy of the boards is included in appendix nine.
- Maps of the entire Site, including the initial natural gas pipeline and electrical connection route corridors.
- Copies of the non-statutory consultation brochure and FAQ to take away.
- Feedback forms to complete at the event or at home (with a Freepost envelope).
- Copy of the EIA Scoping Report to view.
- Members of the project team available to talk through the proposals and to answer any questions.

Webinars

As part of the hybrid approach to consultation, two webinars were hosted for those who could not attend the in-person events. The webinar details are as follows:

Date	Time	Number of attendees
Wednesday 24th April 2024	6.30pm – 8pm	4
Tuesday 14th May 2024	6.30pm – 8pm	3

The project team provided an overview of the Proposed Development and participants were then given the opportunity to ask any questions.

Business breakfast

A session was held for local businesses and key stakeholders on Thursday 9th May 2024. The session involved a presentation by the project team and an opportunity to ask questions. In total, 9 people attended the event, held at the CATCH facilities in Stallingborough.

Feedback form

Although there were a variety of channels to comment on the proposals during the non-statutory consultation, the feedback form served as the main channel for gathering community feedback on the presented proposals. The online feedback form remained live throughout the non-statutory consultation period. A copy of the feedback form is available in appendix ten.

The feedback form incorporated a combination of multiple-choice questions and free-text sections to provide participants with the flexibility to express their views comprehensively. As well as general comment boxes, the form also directly requested feedback on key elements of the proposals, including the initial natural gas pipeline and electrical connection route corridors.

Respondents were also asked if they represented an organisation and if so which one; if they wished to be kept up to date on the proposals and whether they were a landowner or a person with interest in land.

In addition to the feedback form, responses were welcomed through various alternative channels, including email, phone, and traditional letter submissions.

Feedback

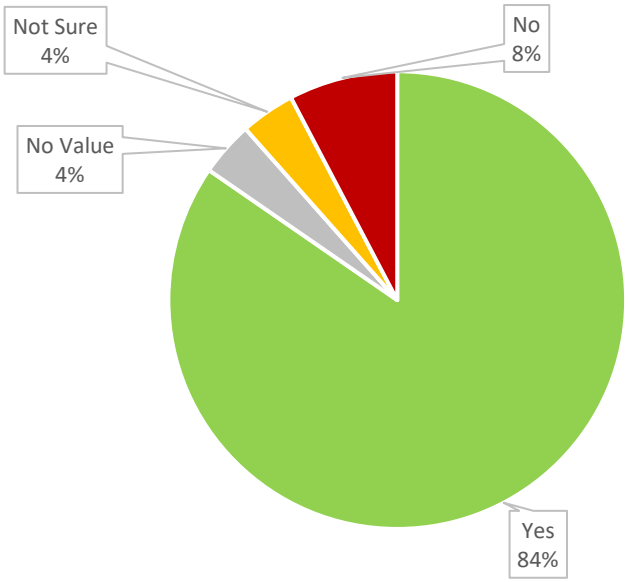
In total, 38 consultation responses were received during the non-statutory consultation. 27 were via the feedback form, of which 19 received were completed digitally and eight hard copy forms were completed at the events or received in the post. There were 11 responses received via the dedicated project inbox, nine of these were from statutory consultees.

Channel	Total
Community feedback form online	19
Community hard copy feedback forms	6
Community responses via email	2
Statutory responses via hard copy feedback forms	2
Statutory responses via email	9
TOTAL	**38**

The responses to the consultation have been analysed and free-text responses have all been categorised and grouped into issues and themes.

Feedback form analysis

Q1. Do you believe that the UK needs a mix of energy generation to meet both future demand and our targets for net zero?



Question one on the feedback form asked respondents if they believed the UK needs a mix of energy generation and what the reasons were behind their selection.

In total, 84% of respondents answered “Yes” to this question; 8% of respondents answered “No” and 8% respondents said there were “Not sure” or did not answer.

In total, nine respondents provided comments in the free text box grouped into the following themes and issues:

Theme	Issue	Times mentioned
Energy policy	Support for an energy mix	4
	Support for new ways of energy generation	1
	Preference for renewables	2
	Opposed to gas	2
	Opposed to nuclear	2
	Opposed to fossil fuels	1
	States net zero is not achievable	1
	Focus should be on reducing our reliance on imports	1
Need for scheme	Area already has a number of projects	1
Design	Preference for underground cabling	1

Q2. Do you have any comments about the location of the proposals for a generating plant with carbon capture near Stallingborough?

Question two was an open text question to try and capture the views of the community about the location of the Proposed Development.

There were 21 answers to this question.

The comments received in response were categorised into themes and issues. The number of times an issue was raised is detailed in the table below. Some respondents may have raised more than one issue in their response.

Theme	Issue	Times mentioned
General	Opposed to the Proposed Development	1
	Opposed to the use of fossil fuels	1
	Awareness of other local projects e.g. solar farm and cumulative impacts	1
Location	No comment	5
	Good location	5
	Concerned about conflict with existing/proposed energy projects	1
	Sites should be chosen closer to areas that require the energy so that transmission lines can be shorter	1
Environmental	Concern regarding the impact of Proposed Development on drainage	2
	Concern the Proposed Development may have an impact on the locally protected chalk stream system	1
	Minimise visual impact	1
	Concerns on potential impact on SSSI status of the coast	1
	Concern on loss of habitat	1
	Concerns on traffic impact, particularly Kings Road in Immingham	1
Design	Concern regarding routing of gas pipeline on land	1
	Concern relating to the viability of CCS technology	1
	Concerns regarding the substation and the current plans for the Grimsby to Walpole upgrade	1

Q3. The generating plant will need to connect to the Grimsby West Substation (or another substation that may be planned as part of the Grimsby to Walpole upgrade). Do you have any comments on the grid connection corridor options presented?

Question 3 was a free text box question, giving an opportunity for the community to provide their views on the initial proposed grid connection route and that options for overhead line, underground cables or a combination of both were being considered.

There were 19 answers to this question.

The comments received in response were categorised into themes and issues. The number of times an issue was raised is detailed in the table below. Some respondents may have raised more than one issue in their response.

Theme	Issue	Times mentioned
Design	Underground cabling should be utilised	10
	No comment	3
	Could a connection be made with existing cables for the Hornsea corridor?	1
Land use	Ensure appropriate agreement is sought with the relevant drainage board	1
	Concern relating to impact of pylons on local property prices	1
	Seeking reassurance that landowners will be compensated for access and use of land	1
Environmental	Concern of impact on agricultural land	1
	Visual impact of pylons	1
	Cumulative impact with other pylon projects in the area	1
Safety	Concerns relating to safety of any connection due to flood risk	1

Q4. The generating plant will need to connect to the main gas transmission network that runs from Easington to Hatton (Lincolnshire). Do you have any comments on the proposed pipeline routes presented on page 8 of the consultation brochure?

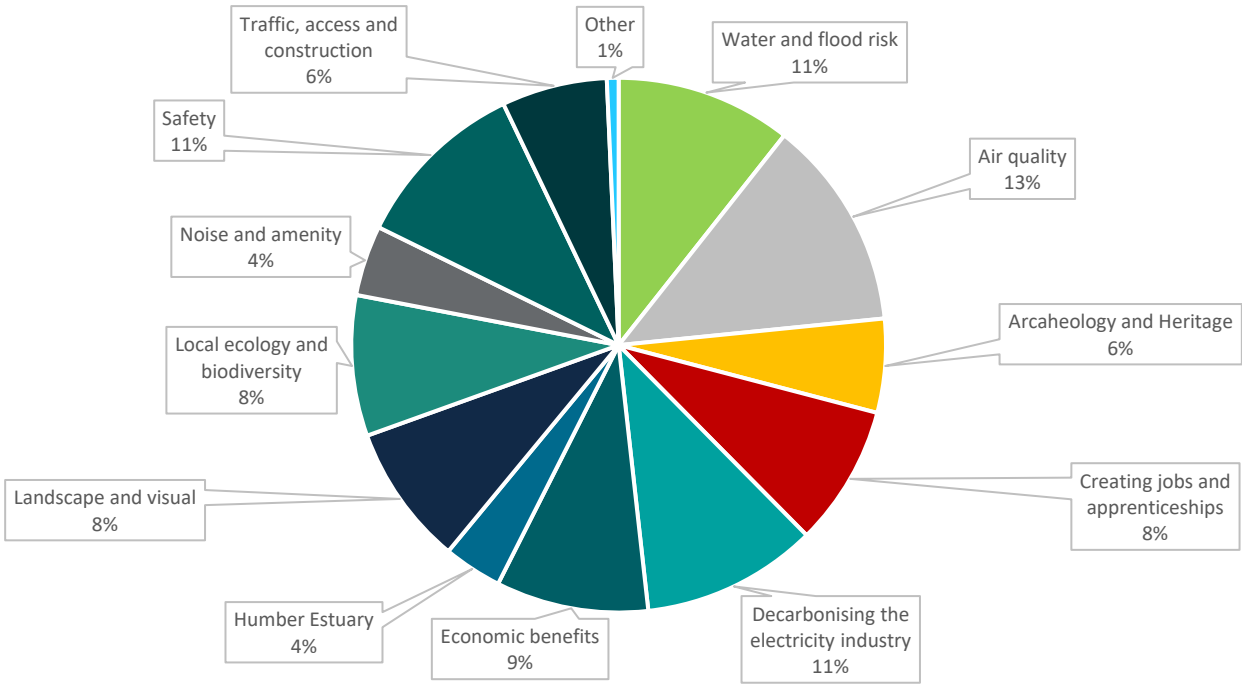
Question 4 provided an opportunity for the community to provide their views on the initial proposed natural gas pipeline route corridor.

There were 19 answers to this question.

The comments received in response were categorised into themes and issues. The number of times an issue was raised is detailed in the table below. Some respondents may have raised more than one issue in their response.

Theme	Issue	Times mentioned
Location	No comment	8
	Opposed to presented plans	2
	Concern over breadth of pipeline corridor presented	1
	Preference for works to be underground wherever possible	1
Operation	Opposed to use of imported gas	1
Energy policy	Opposed to use of gas	1
	Supportive of use of gas	1
Land use	Ensure appropriate agreement is sought with the relevant drainage board	1
	Impact on land	1
	Seeking reassurance that landowners will be compensated for access and use of land	1
Environment	Concern over impact on local wildlife	1
General	More information required on gas pipeline corridor	1

Q5. What elements of the project are most important to you? (tick all that apply)



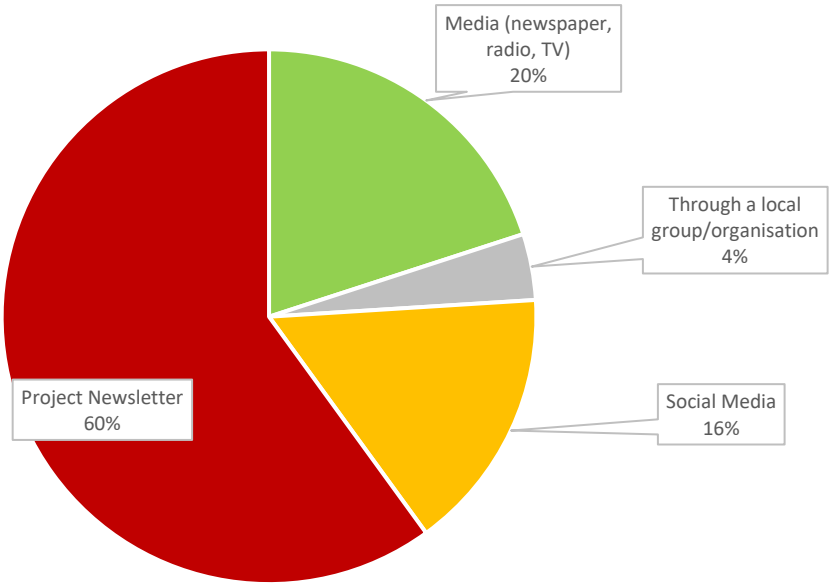
This question was multiple choice inviting respondents to select which aspects of the project were most important to them. Underneath was a free text box for people to provide details about "Other" elements of the Proposed Development not listed.

There were a range of responses with air quality listed as the most important aspect at 13%. Flood risk, safety and decarbonisation of the electricity industry were all selected by 11% of the respondents.

Only one respondent provided other aspects of the Proposed Development that were important to them, and this included:

Theme	Issue	Times mentioned
Location	Concerned about conflict with existing/proposed energy projects	1

Q6. How did you find out about this consultation?



The Applicant was keen to understand how people found out about the consultation. In total, 60% indicated that they became aware of the consultation through the non-statutory consultation newsletter, while 16% reported discovering it through social media. 20% of respondents said they learned about the consultation via traditional media channels. Only 4% of people learned about the consultation through a local group/organisation. One respondent who chose "other" specified they found out about the consultation from the Planning Inspectorate.

Q7. Do you have any comments about the consultation process or the consultation material?

This question provided respondents with an open-text box, giving them the opportunity to articulate their views on the consultation process and the consultation material provided. 14 respondents answered this question.

Theme	Issue	Times mentioned
Communication	No comment	3
	Positive comments on the consultation process/materials	5
	More information needed/ critical of lack of detail	4
Energy policy	Critical of utilising fossil fuels	1
Community	More information needed on impacts on residents	2

Q8. Do you have any other comments about the proposals?

This question included a free-text box for respondents to provide any final feedback about the proposals.
The comments received in this section were categorised into themes and comments. The number of times a particular comment was raised is detailed in the table below. Some respondents may have mentioned more than one comment in their response.

Theme	Issue	Times mentioned
General	General support	7
	General opposition	2
	Technology not proven	1
Communication	Commends consultation with the community	1
	More information on management of waste required	1
	More detailed information needed on gas and electrical connection corridors	2
	Peer-reviewed evidence should be presented to prove efficacy of CCS	1
	Clarity should be provided on whether the project will proceed if the Viking CCS pipeline does not go ahead	1
Energy policy	Opposed to fossil fuels	1
	Opposed to CCS	1
	Supportive of CCS	2
	Project requires government funding	1
Land use	Concerned that compulsory purchase orders could be utilised for gas/grid connections	1
Location	Concerns over amount of industry in the area	1
Safety	Safety concerns regarding further concentration of industry in the area	1

Email responses

During the consultation period, respondents could also email the project email info@stallingboroughccs.com, call the dedicated phone line (01469 818 004) or send a letter to FREEPOST RWE Decarbonisation to provide their feedback on the proposals.

During the consultation period, two emails were deemed as consultation responses and were subject to separate analysis distinct from the feedback forms received.

Theme	Comment/concern	Times mentioned
General	General support for Proposed Development	1
	General disagreement with Proposed Development	1
	Request to stay updated on Proposed Development	1
Environmental	Project will lead to loss of wildlife	1
	Project will lead to loss of use of some of the countryside	1
	Concern about visual impacts	1
Construction	Concern about construction noise	1
	Concern about construction traffic	1
Safety	Concern about the safety of the gas pipeline	1
Economic	Concern jobs will be just for construction	1
Land Use	Proposals may have impacts on assets/businesses	1

Responses from statutory consultees

Dedicated analysis was conducted separately for statutory consultees, distinct from the examination of consultation responses from the local community. The findings from this analysis are detailed in the section below.

During the non-statutory consultation, 11 responses from statutory consultees were received. The consultee and a summary of their responses is set out in the tables below:

Consultee	Summary of Response
Coal Authority (CA)	The Site is not located within a defined coalfield area and therefore the CA has no comment to make.
Energy Assets Networks (EAN)	Provided asset plans for consideration.
Great Limber Parish Council	Completed feedback form. Parish Council is mostly interested in traffic, access, construction, landscape and visual impacts and benefits of the Proposed Development, including jobs.
GTC UK	Requested a shape file of the site area to analyse against their asset map.
National Gas Transmission (NGT)	Request discussion regarding NGT assets in the area.
National Grid Electricity Transmission (NGET)	Details of existing and future infrastructure in the area. Request that all existing and future assets are given due consideration, including access to maintain assets, safety clearance if building near assets and landscaping near assets. Requested that NGET is consulted in the earliest stages and where the Proposed Development intends to acquire land, extinguish rights, or interfere with any of NGET apparatus, protective provisions will be required in a form acceptable to it to be included within the DCO. A map detailing NGET's assets in the area was provided.
Network Rail (NR)	Insufficient information at this stage to assess full impact on NR infrastructure. Comments made that the Applicant would need to consider Network Rail's assets, including the impact of construction traffic. Requirement for protective provisions to be included in DCO. Request for the developer to work closely with NR Asset Protection.
Newark and Sherwood District Council (NSDC)	No comment to make at this time but wish to receive formal notification of any further consultation under the Planning Act 2008.
North East Lindsey Internal Drainage Board	Completed a feedback form at the exhibition. Site is adjacent to IDB maintained Middle Drain Branch 3 and any cabling through drains will require consent from the IDB.
Northern Power Grid (NPG)	Request for interaction plans to be provided to assess against any NPG assets.
North Kesteven District Council	No comments at this stage.

Response to issues

Below is a summary of the common themes and questions that were raised by the community and statutory consultees during the non-statutory consultation and the Applicant's response to these issues.

What the feedback told us	Response
General comments	
Opposed to the Proposed Development/CCS	Generating plants with carbon capture technology are essential in the UK's transition to a decarbonised energy system, providing low-carbon, reliable and flexible energy at times when energy from renewable sources is insufficient to meet demand. In their recent report, the Climate Change Committee note that in 2035 the British electricity system will require carbon capture and storage (CCS), whether in post-combustion power plants or "blue" hydrogen production to fuel hydrogen turbines. Within their central scenario, there is a requirement for 17GWe of dispatchable low-carbon capacity, with a range of 12-20 GW across the scenarios. In the future, carbon capture generating plants will operate alongside renewables to ensure security of supply, including during periods of low renewable generation and periods of peak demand. The Proposed Development will capture up to 2 million tonnes /year of CO_2, the equivalent of removing 400,000 petrol cars from the roads as well as supporting new jobs during operation and construction.
General support for the Proposed Development/CCS	The Applicant has noted the comments of support.
The technology is not proven / concern relating to the viability of CCS technology	Carbon capture is recognised as a key, proven technology in reducing greenhouse gas emissions around the world. It has been applied in a wide range of industries since 1972. The Applicant has been involved in the research and development of Carbon Capture, Utilisation and Storage (CCUS) since 2008. A pilot facility at the RWE Niederaussem Innovation Centre in Germany currently captures about 300 kg of carbon dioxide per hour – equating to a carbon capture rate of 90 percent based on the volume of flue gas processed. The Applicant's UK CCS projects will build on this work and will deliver up to 4.7 GW of generation and capture 11 million tonnes of CO_2 per year.

Will the Proposed Development proceed if CCS pipeline does not go ahead	The Proposed Development will connect into a carbon transportation pipeline, via a new spur line, which is expected to transfer the captured carbon to offshore storage facilities beneath the North Sea. The Applicant is a capture partner of the Viking CCS scheme and therefore the preferred option is for transport of the captured CO_2 via the Viking CCS scheme. However, other delivery partners are being considered for the transport of the CO_2.
Proposed Development requires government funding	The Government has committed to two CCUS industrial clusters by the mid-2020s and a further two clusters by 2030, termed the Track-1 and Track-2 of the Cluster Sequencing process. The purpose of the Government's Cluster Sequencing Programme is to encourage the development of innovative new CCUS technologies. Similar funding mechanisms have successfully driven investment in renewable technologies in recent years. The scheme is designed to encourage private investment in new technologies so they can be rolled out quickly and at scale. The Proposed Development is being developed with a target to be eligible for Track-2 Phase-2 funding. The Applicant will continue to work with the Government regarding its timetable for Track-2.

Energy Policy	
Supportive of use of gas Support for an energy mix Support for new ways of energy generation Preference for renewables	Carbon capture and storage (CCS) provides a source of flexible, low-carbon power generation which will make an important contribution to a resilient net zero electricity mix. It is a logical partner to renewable energy, as a bridge technology in order deliver the transition to a zero-carbon economy whilst ensuring security of electricity supply.
Opposed to gas Opposed to fossil fuels	Generating plants with carbon capture technology are essential in the UK's transition to a decarbonised energy system, providing low-carbon, reliable and flexible energy at times when energy from renewable sources is insufficient to meet demand. In their recent report, the Climate Change Committee note that in 2035 the British electricity system will require CCS, whether in post-combustion power plants or "blue" hydrogen production to fuel hydrogen turbines. Within their central scenario, there is a requirement for 17GWe of dispatchable low-carbon capacity, with a range of 12-20 GW across the scenarios. In the future, carbon capture generating plants will operate alongside renewables to ensure security of supply, including during periods of low renewable generation and periods of peak demand.
Opposed to nuclear	Noted.
Net zero is not achievable	Climate change is a global problem and requires business, communities and governments working together. The Climate Change Committee's Sixth Carbon Budget concludes that "CCUS (carbon capture, utilisation and storage) is essential to achieving net zero, at lowest cost, in the UK" and that scenarios where CCUS is excluded or minimised are "likely to significantly increase cumulative emissions over the period to 2050."
Focus should be on reducing our reliance on imports	The Proposed Development is well placed to help bolster the UK's energy security, whilst contributing to a low carbon future. Electricity demand is likely to double by 2050. The UK needs to be able to produce large amounts of low carbon electricity to meet this need. Gas-fired power stations are the logical partner for renewable energy, as a bridge technology to ensure the transition to a zero-carbon economy is accelerated whilst ensuring a reliable and secure electricity supply.

Location	
Good location	The Applicant has noted there is support for the location of the Proposed Development.
Sites should be chosen closer to areas that require the energy so that transmission lines can be shorter	The Proposed Development is located North East of Stallingborough along the industrial area of the South Humber Bank. The site is allocated in North East Lincolnshire Council's Local Plan for employment use, with an indicative sector attributed for 'Renewables and energy' as a guide to the most suitable use for the site. It benefits from a number of key attributes which strategically support energy development at this location: • Close to natural gas and electrical connections. • Close proximity to a water supply for cooling purposes. • 4km from the Port of Immingham to assist with deliveries of plant and equipment during construction to minimise disruption. • Close to a proposed carbon transportation pipeline.
Concern over breadth of pipeline route corridor presented	The possible electrical connection and natural gas pipeline route corridors are in the preliminary design phase, undergoing careful planning and assessment. The Applicant is looking at a number of options, therefore the site boundary at this non-statutory consultation stage shows a large area where these potentially may go. The Applicant will continue to liaise with those landowners within the routing corridors following identification of preferred options and is undertaking studies to ensure the most appropriate routes are selected.

Environmental	
Concern regarding impact of development on drainage	A Flood Risk Assessment (FRA) and Outline Drainage Strategy (ODS) are being prepared to support the DCO application. The FRA will assess the risk of flooding pre- and post- development from all sources (fluvial, tidal, pluvial, groundwater, sewer and artificial sources) for the operational lifetime of the Proposed Development, giving due regard to sea level, peak flow and peak rainfall climate change allowances. As part of the ODS, the Applicant will develop a strategy for draining the site, taking consideration of the need for water quality treatment. This will be discussed with North East Lincolnshire Council (operating as the Lead Local Flood Authority) and the Internal Drainage Board. The plan will identify the general approach to drainage and the required storage volume to meet policy requirements.
Project may have impact on the locally protected chalk stream system	The chalk rivers were identified within the Environmental Impact Assessment (EIA) Scoping Report and assigned as 'High importance'. The chalk rivers will be assessed from a hydrological (surface water/run off) and hydrogeological (baseflow) aspect. Impacts identified during the EIA will be discussed with technical stakeholders and mitigation proposed to protect the chalk rivers where relevant.
Concern about visual impact	The Applicant will consider the landscape character of the site and its relationship with nearby communities, roads, the coast and Public Rights of Way, to identify the potential effects on the local landscape and visual amenity. As part of the assessments on landscape and visual impact, the Applicant will make appropriate recommendations for how land can be best utilised to mitigate any resulting impacts on the landscape and reduce the visual impact of the project. These assessments will help to support a core goal of the Applicant, which is to design a development that works alongside the surrounding landscape, ensuring minimal visual disruption and preserving the amenity of the area.

Concerns on potential impact on SSSI status of the coast Concern on loss of habitat/impact on wildlife Loss of use of countryside	The Humber Estuary is a Site of Special Scientific Interest. As part of the EIA work, the Applicant is undertaking surveys to establish the habitats and species present on both the Main Site, and the potential gas pipeline and electrical connection corridors. This will provide valuable information on the location of any protected and/or priority habitats or species, and the potential impact of the project on species, habitats as well as surrounding sites of ecological importance. This includes marine life, mammals and birds associated with the Humber Estuary. Ecological information will be utilised with the aim of minimising impacts to the nature conservation interests of the area wherever possible. Mitigation measures will be devised including avoidance, compensation and mitigation to reduce any identified likely potential significant effects from the construction, operation or decommissioning of the project on ecological features. Once any likely significant effects have been mitigated, opportunities for ecological enhancement will be identified to achieve 'biodiversity net gain'. Technical work will be undertaken as part of the DCO process to quantify the change in biodiversity units predicted to arise from the Proposed Development, and to determine the Biodiversity Net Gain (BNG) that can be achieved via habitat enhancement and creation. A BNG uplift of at least 10% in biodiversity units is being targeted, noting that BNG is currently expected to become mandatory for NSIPs from late November 2025.
Concerns on traffic impact, particularly King's Road in Immingham Construction traffic	The Applicant will undertake a transport assessment which will assess the potential impacts of the project on the local and strategic road network in the surrounding area. This will also set out the proposed sustainable transport measures that can be implemented during the construction and operational phases of the project to minimise disruptions to local roads and communities. As part of the assessment, a detailed access review is being undertaken to develop suitable access points and routes for the site. This will be consulted on with North East Lincolnshire Council and any other local planning authorities, National Highways and other stakeholders as relevant.

Concern of impact on agricultural land	The likely significant effects of the construction (temporary) and operational (permanent) stages of the Proposed Development on agricultural soil will be assessed in the EIA based on the sensitivity or importance of the resource and the magnitude of potential impact. With regards to the agricultural land at the Main Site, an Agricultural Land Classification (ALC) soil survey will be undertaken to inform the agricultural land assessment.
Construction impacts	
Construction noise	As part of the DCO process, the Applicant will investigate any potential local impacts as a result of the construction of the Proposed Development and will propose measures to mitigate them. This will be proposed as part of the DCO application in the form of an Outline Construction Environmental Management Plan (CEMP).
Concerns jobs will only be available during the construction phase	The Proposed Development would support at least 50 high-quality, long-term jobs and hundreds of jobs during construction and in the supply chain.
Construction traffic impact on Network Rail assets	The Applicant is engaging with technical stakeholders to discuss the Proposed Development and understand any particular assets needing consideration. The Applicant has reached out to Network Rail to join the Expert Topic Group set up with stakeholders of similar interests to discuss transport matters. Construction traffic impacts will be considered as part of the Traffic, Transport and Access chapter of the Preliminary Environmental Information Report (PEIR) that will be prepared in support of the statutory consultation scheduled for 2025. In order to ensure that the scheme does not impact on operational railway safety, the Applicant will liaise closely with Network Rail Asset Protection to ensure that the haulage routes into the site are appropriate, and the design and construction of the new facility and associated infrastructure will not have an adverse impact on railway operations.
Land use	
Statutory consultee confirming no assets in the area / expect no impacts	These comments have been noted.

Statutory consultee confirming a potential impact with assets which should be considered	The Applicant will continue to liaise with landowners and asset owners on the interface between the Proposed Development and their land. The Applicant will provide more detailed information on the Proposed Development at statutory consultation for further comment.
Must retain access to assets	
Landscaping requirements near assets	
Impact on land /assets	
Ensure appropriate agreement is sought with the relevant drainage board	
Safety clearance to assets required	
Request for protective provisions to be included in DCO	The Applicant will engage with statutory undertakers as part of the Proposed Development's full pre-application consultation. The Applicant will discuss the inclusion of protective provisions in the draft DCO with the appropriate parties.

Concern relating to impact of pylons on local property prices	It is intended that no electrical apparatus/cables or pipelines will be installed under residential properties or within residential gardens. The Applicant is exploring options for the electrical connection to the existing National Grid Grimsby West substation or a new substation proposed as part of the Grimsby to Walpole upgrade., including if it will be via an underground cable or an overhead line or a combination of both. The Holford Rules – guidelines for the routing of electricity transmission lines - form the basis upon which the decision-making process for siting electricity transmission lines and minimising the potential impacts of such infrastructure. They are referenced in National Policy Statement for Electricity Networks Infrastructure (EN-5), and they must be embodied in proposals for new electricity transmission lines. The Holford Rules advise that routes should seek to avoid routing close to residential areas where possible. A statutory consultation is planned for 2025. This will provide an opportunity for both the general public and statutory and non-statutory consultees to provide further comments on the electrical grid connection to the National Grid Grimsby West Substation or a new substation proposed as part of the Grimsby to Walpole upgrade.
Seeking reassurance that landowners will be compensated for access and use of land.	The Cycle Gas Turbine (CCGT) and Carbon Capture Plant (CCP) will be located on the Main Site, which is owned by the Applicant. The Applicant will engage with those persons with an interest in land affected by the electrical grid connection and natural gas pipeline connection corridors. The Applicant will seek to acquire land and rights required for the Proposed Development by voluntary negotiation wherever applicable. The exercise of compulsory powers will be the last resort and also subject to statutory compensation.

Concern regarding routing of the electrical connection and gas pipeline on land	The electrical connection and natural gas pipeline route corridors are in the preliminary design phase, undergoing careful planning and assessment. The Applicant is looking at a number of options, therefore the Site boundary at this non-statutory consultation stage shows a large area where these potentially may go. The Applicant will continue to liaise with landowners within the routing corridors following identification of preferred options and are undertaking studies to ensure the most appropriate routes are selected.
Concerned that compulsory purchase orders could be utilised for gas/grid connections	Compulsory purchase powers can support the delivery of a range of development, regeneration and infrastructure projects in the public interest. In order to obtain powers of compulsory acquisition and to gain planning consent to build the Proposed Development, the Applicant is required to make an application for a Development Consent Order (DCO). The application will be made to the Planning Inspectorate, who will examine the application and make a recommendation to the Secretary of State, who will ultimately decide whether the application is granted permission and whether the Applicant is able to use compulsory acquisition powers or not. Before submitting the application, the Applicant must consult people that have a legal interest in the land that will be compulsory acquired by the Proposed Development. Consultation with affected land interests will be part of the statutory consultation. It will provide another opportunity to share views on the Proposed Development and enable the Applicant to take this into account in developing and refining the proposals before submitting the DCO application. It is intended that no electrical apparatus/cables or pipelines will be installed under residential properties or within residential gardens.
Design	
Preference for underground cabling	The Applicant is exploring options for the electrical connection to the substation, including if it will be via underground cables or overhead lines or a combination of both.

Concerns regarding the substation and the current controversy of the Grimsby-Walpole project	The Applicant is aware of other projects in the area, including National Grid's Grimsby to Walpole project. The Applicant is liaising with National Grid on the potential interface between the two projects.
Could a connection be made with existing cables for the Hornsea corridor?	The Hornsea cables are designed specially to meet the transmission requirements for the Hornsea Project and will be at a suitable time transferred to the OFTO. These cables will not meet the technical requirements of the Proposed Development. Furthermore, the Applicant has asked National Grid for the most suitable connection substation and National Grid has recommended Grimsby West Substation (or another substation that may be planned as part of the Grimsby to Walpole upgrade). As a result, the Applicant has commissioned an electrical grid connection study to meet the requirements of the Proposed Development to connect to National Grid's recommended substation.

Safety	
Concerns relating to safety of any connection due to flood risk	Safety is of upmost importance in the design of the Proposed Development. A Flood Risk Assessment and Outline Drainage Strategy are being prepared to accompany the DCO application. The FRA will assess the risk of flooding pre- and post-development from all sources (fluvial, tidal, pluvial, groundwater, sewer and artificial sources) for the operational lifetime of the Proposed Development, giving due regard to sea level, peak flow and peak rainfall climate change allowances. As part of the ODS, the Applicant will develop a strategy for draining the site, taking consideration of the need for water quality treatment. This will be discussed with North East Lincolnshire Council (operating as the Lead Local Flood Authority) and the Internal Drainage Board. The plan will identify the general approach to drainage and the required storage volume to meet policy requirements.
Safety concern of CCS pipeline (leaks)	Safety is of upmost importance in the design and operation of the Proposed Development. CO_2 storage sites are carefully chosen to ensure the highest confidence in permanent storage and there are rigorous site characterisation, monitoring and verification procedures in place to ensure the CO_2 stays stored. These assessments and procedures are required before a project is allowed to proceed. The risks of a leak from carbon dioxide from a pipeline are extremely small and the UK Code of Practice for pipelines to transport CO_2 are recognised as being the most cautious in the world, with the design and operation receiving detailed scrutiny from the Health and Safety Executive.

Safety concerns regarding further concentration of industry in the area	Safety is of upmost importance in the design of this project. The Proposed Development is situated in an industrial area which contains a number of sites which are allocated in the North East Lincolnshire Local Plan for employment use (including for Renewables and energy) and regulated in accordance with The Control of Major Accident Hazards (COMAH) Regulations (2015). All COMAH sites have their own processes around safety of workers in the event of an incident and consequently would have assessed their impact on surrounding receptors. It is also the responsibility of upper tier COMAH sites to review and update their off-site emergency plans and Safety Reports to take into consideration the potential impact of domino sites. It is assumed that existing safety precautions at neighbouring industrial sites, along with the implementation of a final Construction Environmental Management Plan at the Site, secured via requirement of the draft DCO, will mitigate the risk of domino effects occurring. If further specific mitigation is required as a result of the introduction of the Proposed Development, this will be reported in the Environmental Statement, on the basis of information available at the time of assessment, as either embedded or additional mitigation. It is anticipated that additional controls will be identified through future COMAH licence applications in consultation with the Health and Safety Executive at that time.
Safety concerns of more gas pipelines	Safety is of upmost importance in the design of this project. In Great Britain natural gas is distributed to domestic, commercial and industrial consumers through an onshore network of buried pipes totalling around 275,000km. These are regulated by the Health and Safety Executive (HSE). The HSE states *"We know that if the pipeline is properly designed and constructed then the likelihood of failure when it is brought into service will be remote. With adequate standards of inspection, monitoring and maintenance during its life the risks from the pipeline will be kept to a very low level. HSE's pipelines inspectors will assess the adequacy of the operator's design and inspect the construction phase of the project. Further inspections will follow during the pipeline's operational life."*

Cumulative impacts	
Area already has a number of projects, including solar farm	As part of the planning process, the Applicant will assess the cumulative impacts of the Proposed Development during the construction and operation stages. The impact of the Proposed Development will be considered in conjunction with the potential impacts from other projects or activities which are both reasonably foreseeable in terms of delivery (e.g. have planning consent) and are located within a relevant geographical scope where environmental impacts could act together to create a more significant overall effect. A number of other proposed developments have been identified in the vicinity of the Proposed Development in the EIA Scoping Report that could potentially result in cumulative impacts during its construction and operation. The status of all applications will be reviewed and assessed in the PEIR that will be prepared in support of the statutory consultation scheduled for 2025.
Concern about conflict with existing/proposed energy projects	
Concerns over amount of industry in the area	
Cumulative impact with other pylon projects in the area	
Communications	
More detailed information required	The Proposed Development is currently at an early stage of development. The aim of the non-statutory consultation was to introduce the proposals to the community and get feedback on the early-stage plans. All the feedback received has been reviewed and considered (in this report) and will be used to help develop the proposals further ahead of the statutory consultation in 2025, at which stage the Applicant will present more detailed proposals and preliminary environmental information.
More information on management of waste required	The Outline Construction Environmental Management Plan (CEMP), to be submitted with the DCO application, will include the implementation of industry standard practice and control measures for environmental impacts arising during construction, such as the approach to waste management on site. An Outline Site Waste Management Plan (SWMP) will also be included with the DCO Application. The contractor will use the Outline CEMP to produce their final CEMP and SWMP prior to works commencing on site.
Request to stay updated	Interested parties can keep informed on the project by signing up for updates at rwe.com/stallingborough.

Positive comments consultation process/materials	The positive feedback for the consultation process/materials is noted.
Peer-reviewed evidence should be presented to prove efficacy of CCS	Peer-reviewed results from the Applicant's carbon capture pilot plant can be found in Moser et al. 2013 (https://doi.org/10.1016/j.egypro.2013.06.119), Weir et al. 2023 (https://doi.org/10.1016/j.ijggc.2023.103914), or from the Technology Center Mongstad in Faramarzi et al. 2016 (https://doi.org/10.1016/j.egypro.2017.03.1271) among others.
Further engagement needed with statutory consultees	The Applicant will continue to engage with statutory consultees throughout the consenting and design development process.

Conclusion

The non-statutory consultation for the Proposed Development marked a crucial early phase in engaging local communities and pertinent stakeholders, providing them with an opportunity to share their feedback and insights on the initial proposals.

In response to the feedback garnered during the non-statutory consultation, the Applicant will continue to undertake further design development, surveys and environmental studies. The Applicant plans to undertake statutory consultation in 2025, in which both communities and statutory and non-statutory consultees will be invited to contribute further feedback. The statutory consultation will include events designed to allow the public to closely examine the updated plans. All parties who received notification about the non-statutory consultation and/or who have registered for updates will automatically be invited to participate in the statutory consultation.

An integral component of the statutory consultation will be the inclusion of a Preliminary Environmental Information Report (PEIR) which will to set out an initial assessment of the likely environmental effects of the Proposed Development.

Members of the public and interested parties will be able to view the refined gas pipeline and electrical connection corridors and will be able to provide their views.

More detailed information will be provided in a suite of consultation material on the design and layout of the Proposed Development.

The project webpage rwe.com/stallingborough will remain live throughout the pre-application process, ensuring continued public access to project details and facilitating a revisit of the plans. The website will be updated to reflect the latest developments.

Appendix one – Consultation newsletter

Stallingborough Combined Cycle Gas Turbine Generating Plant with Carbon Capture

Public consultation

Monday 8th April to Monday 20th May 2024

RWE Generation UK is delighted to introduce our preliminary proposals for the Stallingborough Combined Cycle Gas Turbine (CCGT) Generating Plant with Carbon Capture, a new power station, close to the Humber Estuary near Stallingborough, North East Lincolnshire.

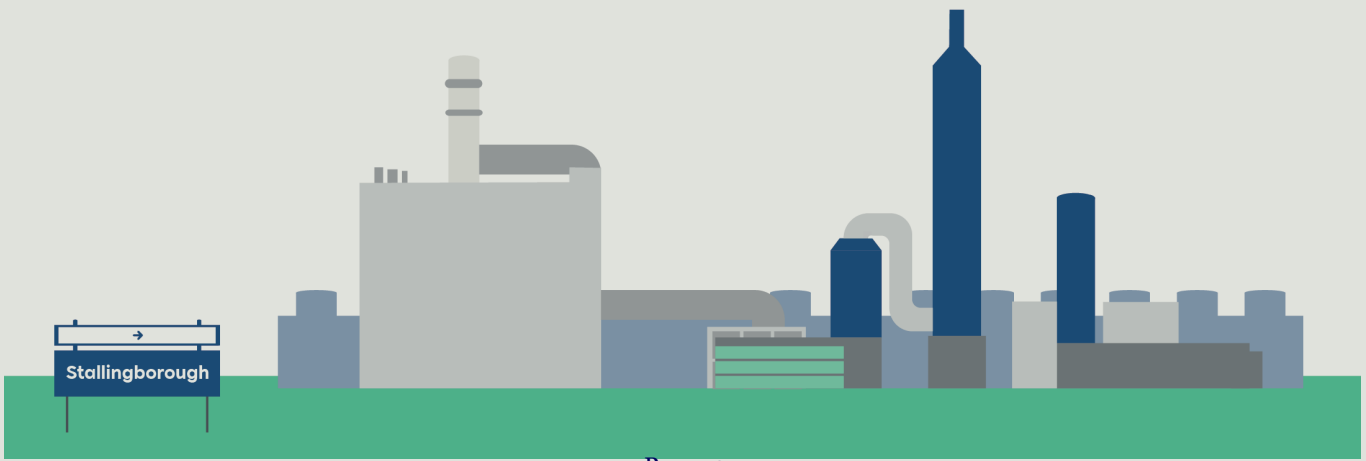
The power station will produce up to 900 megawatts (MWe) of decarbonised, secure, flexible energy – enough to power around 1 million homes[1]. The project will make a significant contribution to the UK's energy security and support the move to net zero. Our proposals will also contribute to RWE's growing presence in the region, bringing new long-term jobs and supply chain opportunities to the local economy.

Seeking your views

Our proposals are at a preliminary design stage. As such, this is a perfect opportunity for us to gain feedback from local people, so you can help us to shape the plans. The early-stage consultation will run from **Monday 8th April, lasting for six weeks, until 11:59pm on Monday 20th May 2024**.

Following this consultation period, we will consider the feedback received, ahead of another round of 'statutory' consultation on our more detailed proposals, planned for 2025. Your input is important to us, and we look forward to receiving your views in relation to our proposals.

Scan the QR code to visit our consultation website



[1]Calculated based on 2022 generation, and assuming average (mean) annual household consumption of 3,509kWh, based on 2021 statistics from The Department of Energy Security and Net Zero.

Our proposals

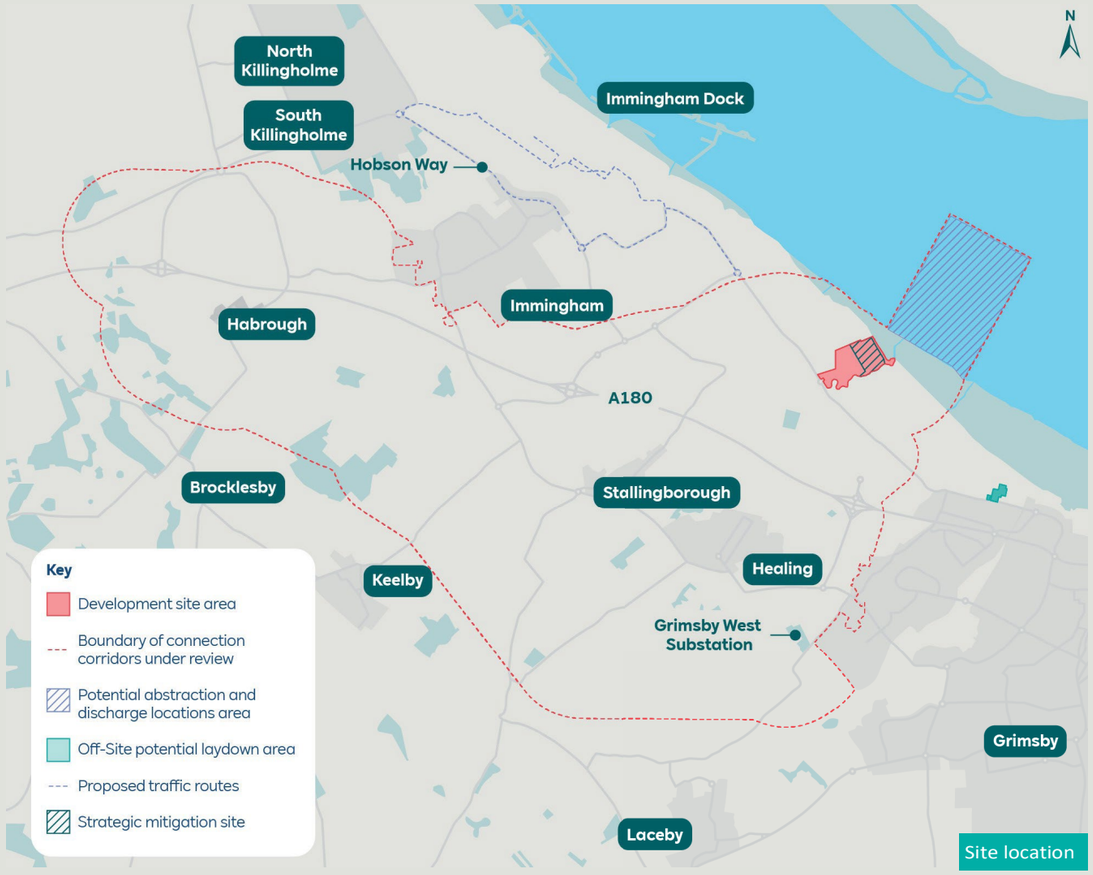
The proposed site for the Stallingborough CCGT Generating Plant with Carbon Capture is located on Hobson Way, approximately 3.5km to the east of Stallingborough village. The state-of-the-art power station will help to deliver reliable, flexible, low carbon supply of electricity to the grid during periods where renewable energy generation is low.

The generating plant will be fuelled by natural gas and therefore will require a new gas pipeline to be brought into the site from the main gas transmission network that runs between Easington and Hatton (Lincolnshire). The generating plant will require an electrical connection, to the National Grid Grimsby West Substation (or potentially another substation that may be planned as part of the Grimsby to Walpole upgrade), where it will transfer the electricity to the national network. The captured carbon dioxide will be transferred via a pipeline to offshore storage facilities beneath the North Sea.

The potential electrical connection and pipeline routes are in the preliminary design phase, undergoing careful planning and assessment. We are looking at a number of options, therefore our plan shows an area where the electrical connection and pipeline may go. It is important to note **no cables or pipelines will be installed under residential properties or within residential gardens**.

As the generating plant would produce over 50MWe, it is classed as a Nationally Significant Infrastructure Project (NSIP) and will proceed through the Development Consent Order (DCO) planning process. The final decision on whether to grant consent for the project will be made by the Secretary of State for the Department of Energy Security and Net Zero.

We are undertaking an Environmental Impact Assessment to assess the potential significant effects (both positive and negative) the project could have on the environment. As part of the DCO application, we will produce an Environmental Statement which will outline where significant environmental effects are identified and include proposed measures to avoid, mitigate or compensate for these effects to reduce the project's impact on the environment.



Site location

Indicative timeline

- **April/May :** Early stage (non-statutory) consultation
- **Spring/Summer 2024:** Review all community feedback
- **Early 2025:** Statutory public consultation on more progressed plans
- **Autumn/Winter 2025:** Development Consent Order application submitted
- **2026:** Examination process by the Planning Inspectorate
- **2027:** Determination by the Secretary of State for Energy Security and Net Zero

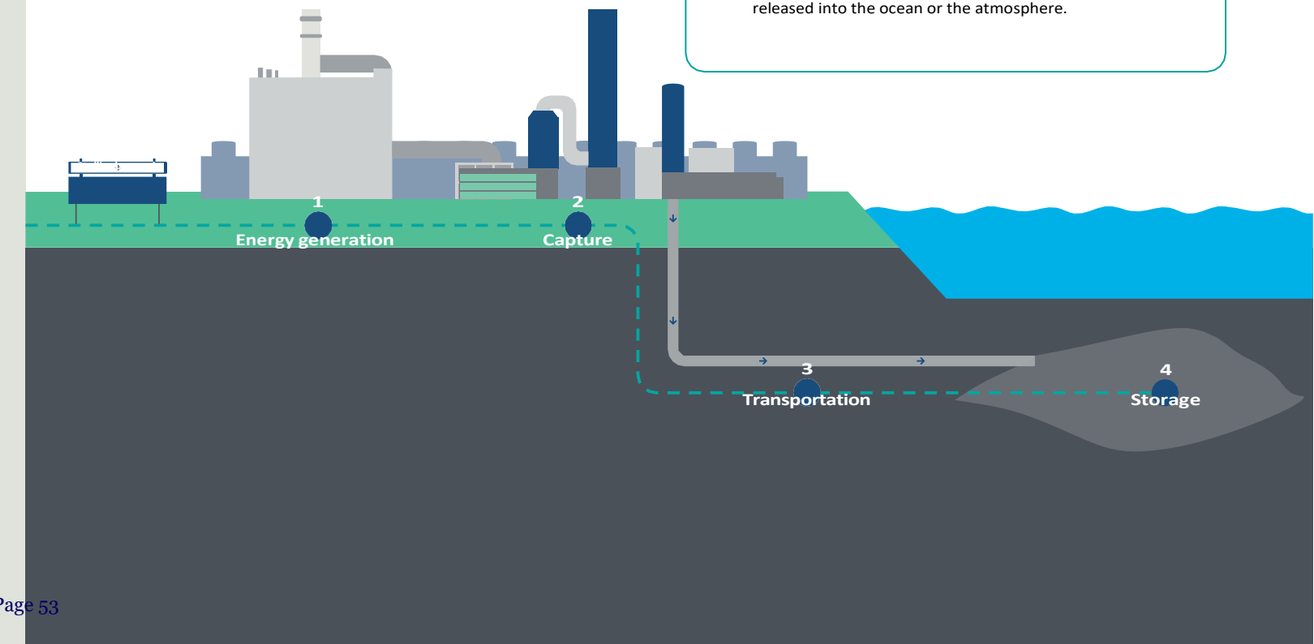
Benefits of the carbon capture facility:

- A gross output capacity of up to 900 megawatts (MWe) of decarbonised, secure, flexible energy – enough to power around 1 million homes
- Up to 2 million tonnes/year of CO_2 captured, the equivalent of removing 400,000 petrol cars from the roads
- Create approximately 50 high-quality, long-term operational jobs
- Support thousands of jobs during construction and in the supply chain

Carbon Capture and Storage

Carbon capture is a proven technology which will help support the transition to net zero, by allowing the decarbonisation of reliable and flexible electricity generation sources that can support and work alongside renewable generation.

1. **Energy generation:** Carbon dioxide (CO_2) emissions are produced during the combustion of natural gas for the generation of power by a Combined-Cycle Gas Turbine (CCGT) power station.
2. **Capture:** CO_2 is captured from the flue gas with a proven and already applied process so that it is not released into the atmosphere.
3. **Transportation:** The captured CO_2 will be compressed and transported via a pipeline.
4. **Storage:** The CO_2 is stored underground permanently, safely and securely within depleted gas reservoirs beneath the sea. These are located around 3km beneath the seabed and 140km from the coast, preventing it from being released into the ocean or the atmosphere.



Who is RWE?

RWE Is the largest power producer in the U.K., with a clear strategy to become carbon neutral by 2040. RWE Generation UK is part of RWE AG and operates approximately 7GWe of conventional, efficient gas-fired capacity in the UK, which supports the transition to renewables by providing a reliable and flexible source of power around the clock. RWE Generation UK is the developer proposing this project at Stallingborough.

RWE includes an operational portfolio of hydro, biomass and, onshore and offshore wind, with a total installed capacity of 4.6GWe, plus a large pipeline of projects in development.

Beyond Stallingborough, other RWE projects in the Yorkshire and Humber region include the 1.4GWe £3bn Sofia offshore wind project, currently in development in the North Sea, a solar proposal at Tween Bridge, North Lincolnshire and the state-of-the-art operations and maintenance centre, Grimsby Hub, which is currently under construction.

How to get involved!

We hope that you will take the opportunity to learn more about our proposals. The deadline for responses is 11:59pm on **Monday 20th May 2024**.

Visit our website:
View our plans, learn more about our proposals and provide us with your feedback by visiting our website at **rwe.com/stallingborough**.

Contact us:
If you have any questions, suggestions, or would like to provide feedback on our proposals, our dedicated team is here to assist you. You can reach us via:

01469 818004

info@stallingboroughccs.com

FREEPOST RWE Decarbonisation

Join us at our Consultation Events
Join us at our in-person consultation events or webinars to engage directly with our project team, ask questions, and share your thoughts. You'll find a full list of event details below:

Consultation Events

Date	Time	Location
Friday 12th April 2024	1pm-7pm	**Immingham Town Hall**, Civic Centre, Pelham Road, Immingham, DN40 1QF
Saturday 20th April 2024	10am-4pm	**Projekt Renewable**, Grimsby, DN31 1UZ
Wednesday 24th April 2024	6.30pm-8pm	**Online webinar** – Register at rwe.com/stallingborough
Thursday 9th May 2024	1pm-7pm	**CATCH**, Redwood Park Estate, Stallingborough, DN41 8TH
Tuesday 14th May 2024	6.30pm-8pm	**Online webinar** – Register at rwe.com/stallingborough

Deposit points

Copies of the consultation material can be viewed at the below locations:

Grimsby Central Library Town Hall Square, Grimsby, DN31 1HG	Tuesday to Friday 8.30am - 5.30pm Saturday 9am - 1pm
Immingham Library Pelham Rd, Immingham, DN40 1QF	Monday to Friday 9am – 5pm Saturday 9am – 1pm

Unable to get online?

If you are unable to access the internet, have any accessibility requirements or would prefer a hardcopy of our material please contact us on our dedicated phoneline: **01469 818004**.

A member of our team would be happy to arrange for copies of the consultation information to be sent in the post (free of charge), in the format required, or to record your feedback over the phone.

Appendix two – Groups and organisations

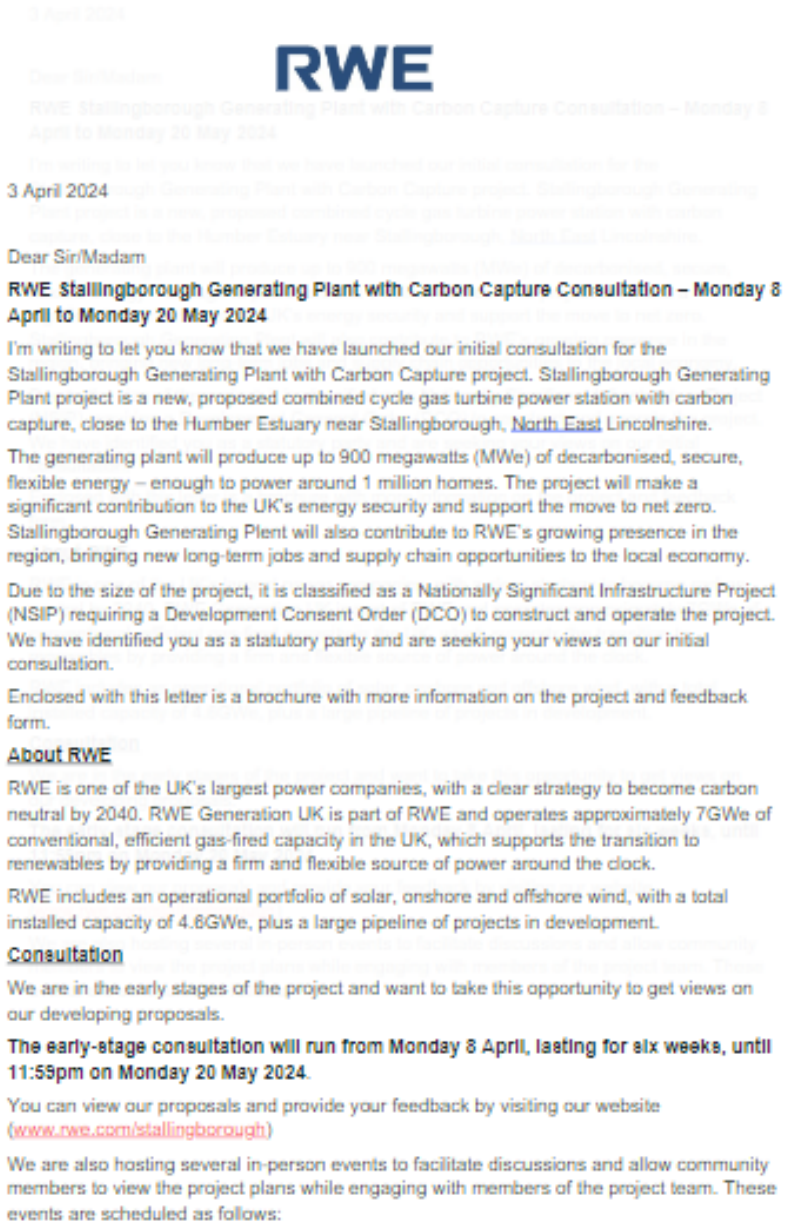
The groups and organisations that received the consultation material packs included:

Type of organisation/group	Opening times
Hard to reach/Seldom heard	Age UK North East Lincolnshire Age UK Lindsey Lincolnshire Sensory Services (formerly deaf association) Lincolnshire Autistic Society Lincolnshire North Federation of WI Lace Housing Lincolnshire Council for voluntary youth services Lincolnshire Federation of Young Farmers Lincoln and Lindsey Blind Society Lincolnshire Traveller Initiative Harbour Place Grimsby & Cleethorpes Area Doorstop The Salvation Army YMCA Humber Anchor Housing Group properties and other care homes Positively Disabled N E Lincs Foresight North East Lincolnshire Ltd Adult Autism Service Care Plus Group
Religious organisations	Church of St Peter & St Paul, Healing Keelby Methodist Church Saint Bartholomew's St Lawrence Church St Edmund's Church
Schools	Stallingborough C of E Primary School The Children's House Healing Academy Healing Primary School Eastfield Primary School Canon Peter Hall C of E Primary School Pilgrim Academy Oasis Academy Immingham Coomb Briggs Primary Academy

Section 42 Consultees	The Health and Safety Executive The National Health Service Commissioning Board and the relevant integrated care board All NHS Trusts in England (except foundation trusts) Natural England Historic England The relevant fire and rescue authority The relevant police and crime Commissioner The relevant parish councils The Environment Agency The Civil Aviation Authority NATS Integrated transport authorities (ITAS)/ Passenger Transport Executives The relevant strategic highways company Relevant transport authority Office for Health Improvement and Disparities Health Security Agency Trinity House The Crown Estate Commissioners Homes and Communities Agency The Forestry Commission The Secretary of State for Defence Maritime and Coastguard Agency The Marine Management Organisation Coal Authority Drainage Boards Railways Road transport The relevant water and sewage undertakers The relevant public gas transporter The relevant electricity distributor with CPO Powers The relevant electricity transmitter with CPO Powers The relevant electricity interconnector with CPO Powers The relevant electricity generator with CPO Powers Docks and Harbour Authorities

Section 43 Consultees	North East Lincolnshire Council Lincolnshire County Council North Lincolnshire Council West Lindsey District Council East Lindsey District Council Boston Borough Council East Riding of Yorkshire Council North Kesteven District Council City of Lincoln Council City of Doncaster Council Newark and Sherwood District Council Peterborough City Council Cambridgeshire County Council Leicestershire County Council Nottinghamshire County Council Norfolk County Council Rutland County Council North Northamptonshire Council Bassetlaw District Council
Key stakeholders	Local and neighbouring MPs Leader and deputy leader of Lincolnshire County Council Leader and relevant ward councillors at North East Lincolnshire Council Leader and relevant ward councillors at North Lincolnshire Council Leader and relevant ward councillors at West Lindsey District Council

Appendix three – Covering letter to groups and organisations



3 April 2024

Dear Sir/Madam

RWE Stallingborough Generating Plant with Carbon Capture Consultation – Monday 8 April to Monday 20 May 2024

I'm writing to let you know that we have launched our initial consultation for the Stallingborough Generating Plant with Carbon Capture project. Stallingborough Generating Plant project is a new, proposed combined cycle gas turbine power station with carbon capture, close to the Humber Estuary near Stallingborough, North East Lincolnshire.

The generating plant will produce up to 900 megawatts (MWe) of decarbonised, secure, flexible energy – enough to power around 1 million homes. The project will make a significant contribution to the UK's energy security and support the move to net zero. Stallingborough Generating Plant will also contribute to RWE's growing presence in the region, bringing new long-term jobs and supply chain opportunities to the local economy.

Due to the size of the project, it is classified as a Nationally Significant Infrastructure Project (NSIP) requiring a Development Consent Order (DCO) to construct and operate the project. We have identified you as a statutory party and are seeking your views on our initial consultation.

Enclosed with this letter is a brochure with more information on the project and feedback form.

About RWE

RWE is one of the UK's largest power companies, with a clear strategy to become carbon neutral by 2040. RWE Generation UK is part of RWE and operates approximately 7GWe of conventional, efficient gas-fired capacity in the UK, which supports the transition to renewables by providing a firm and flexible source of power around the clock.

RWE includes an operational portfolio of solar, onshore and offshore wind, with a total installed capacity of 4.6GWe, plus a large pipeline of projects in development.

Consultation

We are in the early stages of the project and want to take this opportunity to get views on our developing proposals.

The early-stage consultation will run from Monday 8 April, lasting for six weeks, until 11:59pm on Monday 20 May 2024.

You can view our proposals and provide your feedback by visiting our website (www.rwe.com/stallingborough)

We are also hosting several in-person events to facilitate discussions and allow community members to view the project plans while engaging with members of the project team. These events are scheduled as follows:

- Friday 12 April, 1pm-7pm; Immingham Town Hall, Civic Centre, Pelham Road, Immingham, DN40 1QF
- Saturday 20 April, 10am-4pm; Projekt Renewable, Grimsby DN31 1UZ
- Thursday 9 May,1pm-7pm; CATCH, Redwood Park Estate, Stallingborough, DN41 8TH

In addition to these events, we will also be hosting two online webinars as an alternative for those unable to attend in-person:

- Wednesday 24 April, 6:30pm-8pm
- Tuesday 14 May, 6:30pm-8pm

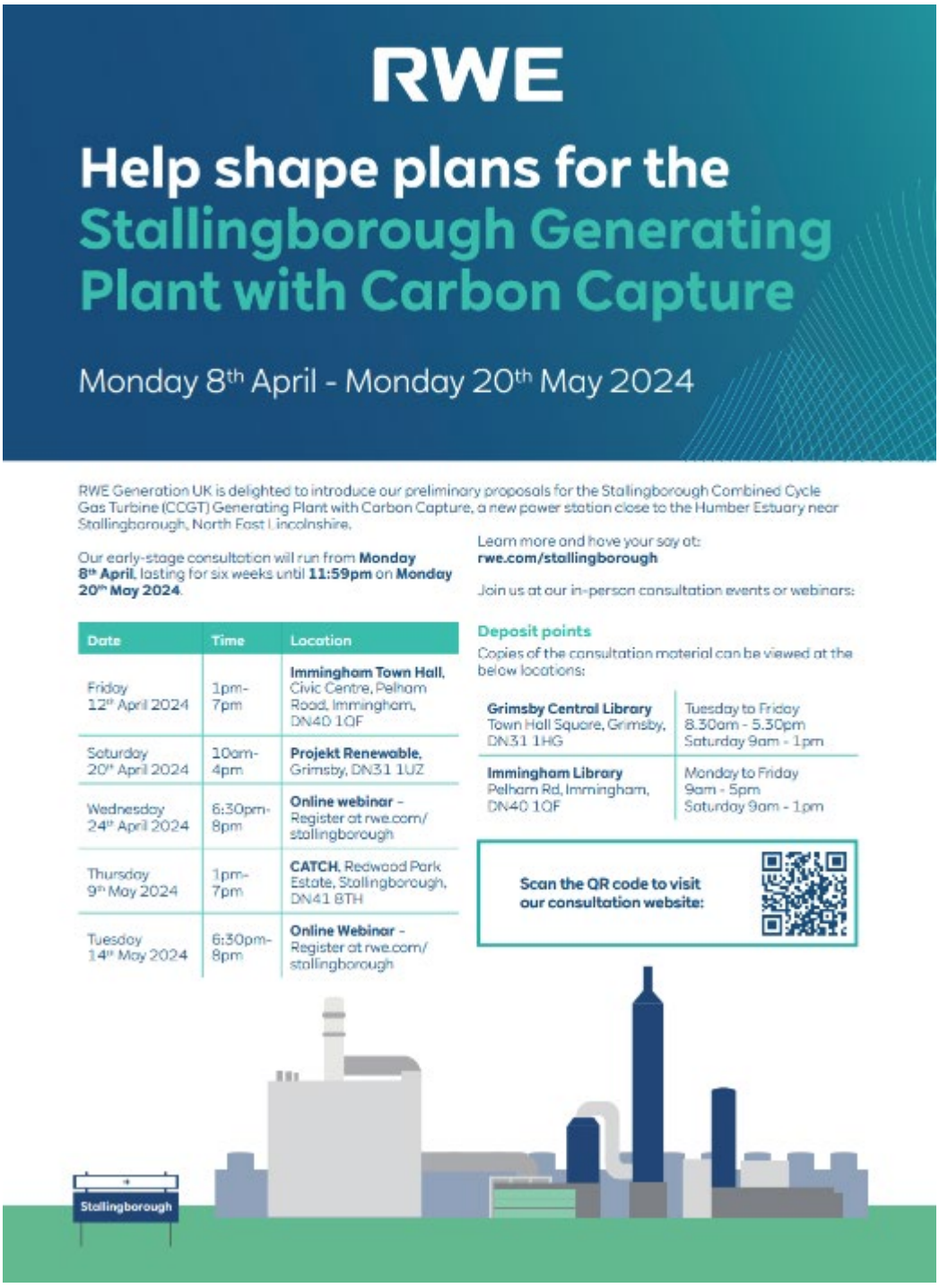
We hope that you take the opportunity to come and view our plans for Stallingborough Generating Plant. In the meantime, if you have any questions about the project, please do not hesitate to contact the communications team at info@stallingboroughccs.com or 01469 818004.

Yours Sincerely,

Jon Pearce

Project Development Manager RWE Generation UK

Appendix four – Consultation poster



Appendix five – Press release issued launch of consultation

RWE

RWE

Press release

RWE announces public consultation for planned 900-megawatt Stallingborough carbon capture gas-fired power plant

Swindon, 09 April 2024

RWE, the UK's leading electricity generator, has announced a public consultation for a new, gas-fired generating station with carbon capture at Stallingborough, close to the Humber Estuary. The proposed development would have an installed capacity of up to 900 megawatts (MW), capable of generating enough electricity to power the equivalent of one million typical homes.

As operators of the largest fleet of gas-fired power stations in the UK and a leading renewables company, RWE considers carbon capture and storage (CCS) to be a viable solution for delivering decarbonised, reliable, and dispatchable power, while supporting the UK's target of decarbonising its power system by 2035.

The public consultation got underway on **Monday, 8th April and will run for 6 weeks until Monday, 20th May 2024**. RWE would like to invite the local community to attend one of its three in-person events at:

- **Immingham Town Hall on Friday, 12th April 2024 from 1pm to 7pm.**
- **Projekt Renewable, Grimsby on Saturday, 20th April 2024 from 10am to 4pm.**
- **CATCH, Stallingborough on Thursday, 9th May 2024 from 1pm-7pm.**

In addition to the in-person events, the project team will also be hosting two online webinars. Interested parties can register at rwe.com/stallingborough. These will be held on:

- **Wednesday, 24th April 2024 from 6:30pm to 8pm.**
- **Tuesday, 14th May 2024 from 6.30pm to 8pm.**

RWE

RWE

Copies of the consultation materials will be available for viewing during the consultation period at the following locations:

- **Grimsby Central Library, Town Hall Square, Grimsby DN31 1HG, open Tuesday to Friday, 8.30am - 5.30pm, Saturday 9am - 1pm.**
- **Immingham Library, Pelham Rd, Immingham DN40 1QF, open Monday to Friday, 9am – 5pm, Saturday 9am – 1pm.**

Feedback on the proposals will be accepted until 11:59pm on Monday 20th May 2024.

Jon Pearce, Project Development Manager RWE Generation UK, commented on the proposals and consultation: "Our plans for Stallingborough Generating Plant with Carbon Capture are at an early stage and we strongly encourage the community to actively participate in the consultation process."

"The project will support the decarbonisation of the power sector, support the security of supply and create quality skilled jobs, playing a key role in helping RWE achieve its global ambition to be carbon neutral by 2040: while supporting the UK's long-term energy security and move to net zero."

The proposal is classed as a Nationally Significant Infrastructure Project (NSIP) and will proceed through the Development Consent Order (DCO) planning process. A formal statutory consultation is planned to take place in early 2025. The final decision on whether to grant consent for the project will be made by the Secretary of State for the Department of Energy Security and Net Zero.

Detailed information about the proposals and the methods for providing feedback can be found at the project website: **rwe.com/stallingborough** or by contacting the project team via email at info@stallingboroughccs.com or phone **01469 818004**. Upon request, all documents can be made available in alternative accessible formats.

RWE is developing Stallingborough alongside three other CCS projects at its existing stations Staythorpe, Pembroke in Wales and Great Yarmouth. When combined, the four CCS projects would be capable of providing 5.1 gigawatts (GW) of secure, flexible, low carbon electricity – enough to power around approx. 8.1 million homes.

For information about RWE's decarbonisation projects see here.

Appendix six – Media coverage

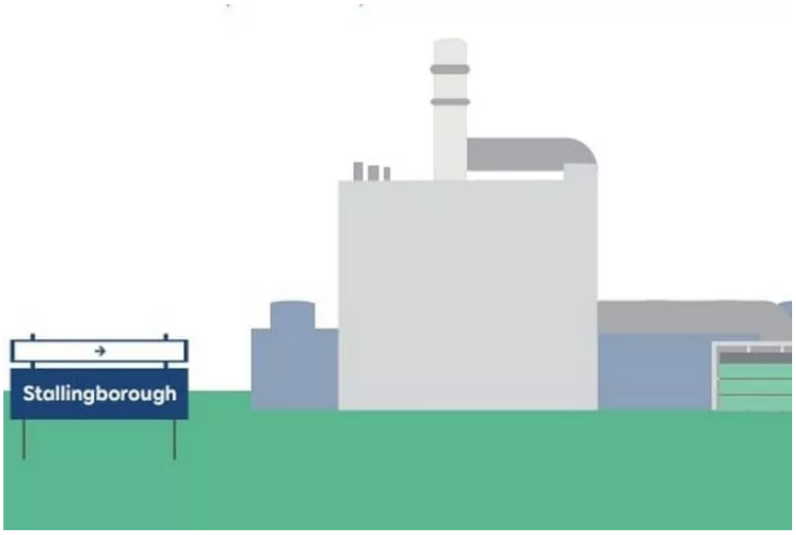
https://www.grimsbytelegraph.co.uk/news/grimsby-news/your-say-stallingborough-carbon-capture-9221558

Have your say on Stallingborough carbon capture project that could create 50 full-time jobs

It could power approximately one million homes

NEWS By Ivan Morris Poxton Local Democracy Reporter
05:00, 13 APR 2024

Bookmark



A visual on an RWE poster advertising the current consultation (Image: RWE)

The public can now have their say on plans to develop a gas turbine and carbon capture power station at Stallingborough.

RWE, the largest power producer in the UK, has launched an initial consultation on the plans. It will last until 11.59pm on May 20.

As previously reported by Grimsby Live, the project is big enough that it could power approximately one million homes. Around 50 full time jobs would be created if it comes to fruition.

Because of its scale, planning permission will be decided at Secretary of State level, via a development consent order. A legally required consultation is expected in 2025.

In a frequently asked questions section on its website to explain the project, RWE says: "The feedback we receive at this stage, coupled with the ongoing environmental and technical surveys, will play a crucial role in shaping the design of our proposals that we will present at a further 'statutory' consultation in 2025."

The proposed development is expected to consist of one combined cycle gas turbine plant, and to produce up to 900MW. In such a power station, gas is combusted to drive a gas turbine. This connected to a generator producing electricity. Remaining usable heat in the turbine exhaust is passed into a heat recovery steam generator (HSRG) to make steam to generate additional electricity.

The carbon capture element involves holding the carbon emissions produced. These are compressed and then transported via a pipeline to 3km beneath the sea bed.

As part of its consent order application, RWE will have to submit a construction environment management plan. This will outline how construction activities will be managed.

Main access to the site will be via Hobson Way. To minimise disruption during the construction phase, RWE has stated it is exploring the delivery of larger components via Immingham's port.

A consultation event was held on Friday in **Immingham**. Events to come comprise:

- Saturday, April 20, 10am-4pm - Projekt Renewable, **Grimsby**, DN31 1UZ.
- Wednesday, April 24, 6.30-8pm - **online webinar**.
- Thursday, May 9, 1-7pm - CATCH, Redwood Park Estate, Stallingborough, Grimsby, DN41 8TH.
- Tuesday, May 14, 6.30-8pm - **online webinar**.

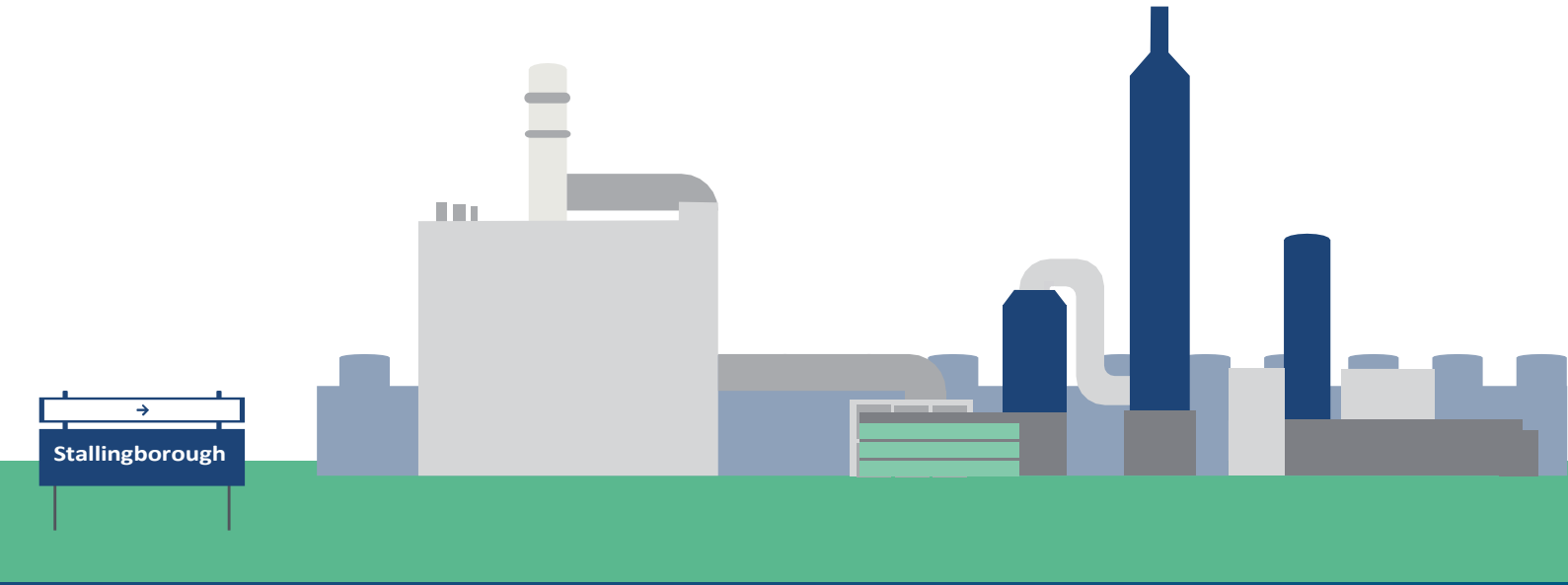
To view the proposals and participate in the ongoing consultation, **click here**.

Appendix seven – Consultation Brochure

RWE

Stallingborough Combined Cycle Gas Turbine Generating Plant with Carbon Capture

Public consultation



Have your say

Monday 8th April – Monday 20th May 2024

Scan the QR code to visit our website

The site is currently an agricultural field

Introduction

RWE Generation UK (RWE) is delighted to introduce its preliminary proposals for Stallingborough Combined Cycle Gas Turbine (CCGT) Generating Plant with Carbon Capture, a new power station, close to the Humber Estuary near Stallingborough, North East Lincolnshire.

The generating plant will have a gross output of up to 900 megawatts (MWe) of decarbonised, secure, flexible energy – enough to power around 1 million homes[1] and will capture up to 2 million tonnes per year of CO_2, preventing it from being released to the atmosphere. The project will make a significant contribution to the UK's energy security and support the move towards net zero. The project will contribute to RWE's growing presence in the region, bringing investment, new long-term jobs and supply chain opportunities to the local economy.

Seeking your views

Our proposals for Stallingborough CCGT Generating Plant with Carbon Capture are at a preliminary design stage. As such, this is a perfect opportunity for us to engage early and gain valuable feedback from local people to allow us to shape our plans in a manner that has consideration of the feedback from the local communities.

The early-stage consultation will run from **Monday 8th April, lasting for six weeks, until 11:59pm on Monday 20th May 2024**.

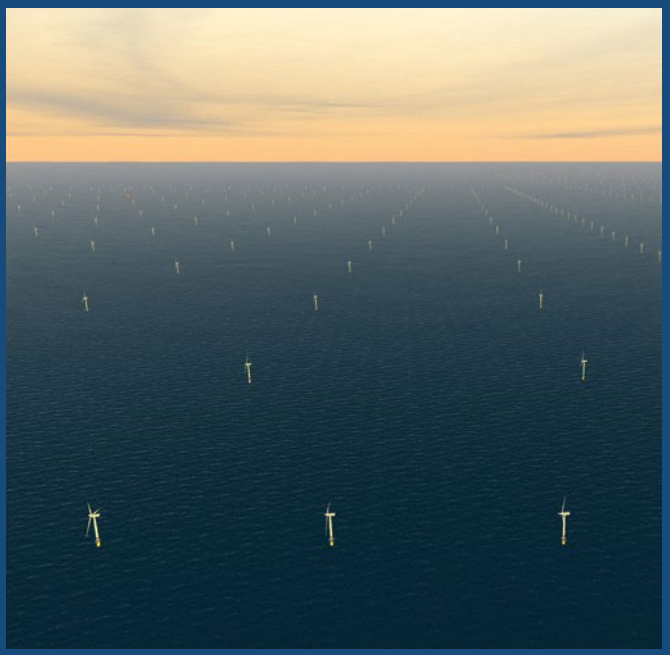
Following this consultation period, we will consider the feedback received, ahead of another round of statutory consultation on our more detailed plans, scheduled for 2025. Your input is important to us and we look forward to your active participation in providing your feedback on our proposals. Details on how to take part in the consultation are on the back page of this brochure.

Who are RWE and RWE Generation UK?

RWE is the UK's largest power company, with a clear strategy to become carbon neutral by 2040. RWE Generation UK is part of RWE AG and operates approximately 7GWe of conventional, efficient gas-fired capacity in the UK, which supports the transition to renewables by providing a firm and flexible source of power around the clock. RWE Generation UK is the developer proposing the Stallingborough CCGT Generating Plant with Carbon Capture.

RWE includes an operational portfolio of hydro, biomass and onshore and offshore wind, with a total installed capacity of 4.6GWe, plus a large pipeline of projects in development.

Beyond this proposal, other RWE projects in the Lincolnshire and Humber region include the 1.4GWe £3bn Sofia offshore wind project, currently in development in the North Sea, a solar proposal at Tween Bridge, North Lincolnshire and the state-of-the-art operations and maintenance centre, Grimsby Hub, which is currently under construction. RWE is committed to creating long-term jobs and opportunities in the region and has invested in the CATCH facility in Stallingborough, which will support the training and development of low carbon jobs.



Sofia offshore wind farm

[1] Calculated based on 2022 generation, and assuming average (mean) annual household consumption of 3,509kWh, based on 2021 statistics from The Department of Energy Security and Net Zero.

Our proposals at a glance

The site for the proposed Stallingborough CCGT Generating Plant with Carbon Capture is located on Hobson Way, approximately 3.5km to the east of Stallingborough village. The state-of-the-art generating plant will help to deliver reliable, flexible, low carbon supply of electricity to the grid during periods where renewable energy generation is low.

The project will comprise of a number of component parts including:

- A combined cycle gas turbine plant and associated infrastructure
- Water cooling infrastructure (likely to be abstracted from the Humber Estuary) required as part of the operational processes for the generating plant
- Carbon capture infrastructure to capture and condition the carbon dioxide (CO2) in the flue gas emitted after the combustion of natural gas
- Supporting infrastructure such as:
  - Gas pipeline to supply fuel to the generating plant
  - Electricity connection to a National Grid Substation

As the Stallingborough CCGT Generating Plant with Carbon Capture would generate over 50MWe, it is classed as a Nationally Significant Infrastructure Project (NSIP) and will proceed through the Development Consent Order (DCO) planning process. The final decision on whether to grant consent for the project will be made by the Secretary of State for the Department for Energy Security and Net Zero. More information about the DCO process can be found on page 14.

As part of the development process, we are undertaking an Environmental Impact Assessment (EIA) to assess the potential likely significant effects (both positive and negative) the project could have on the environment. We will produce an Environmental Statement which will outline where likely significant environmental effects are identified and include proposed measures to avoid, mitigate or compensate for these effects to reduce the project's impact on the environment. More information can be found on the EIA process on page 11.

Why here?

The proposed site located north east of Stallingborough along the industrial area of the South Humber bank is within an area that is allocated for industrial development. It benefits from a number of key attributess which strategically support energy development at this location:

- A region with a great history of industrial and energy generation with the local skills and expertise to support the site
- Lies within the Humber Industrial Cluster Plan area (see www.humberindustrialclusterplan.org)
- Close to natural gas and electricity connections
- Close proximity to a water supply for cooling purposes
- 4km from the Port of Immingham to assist with deliveries of plant and equipment during construction to minimise disruption
- Close to a proposed carbon transportation pipeline

The Community

As a responsible energy company, we take pride in our role as a good neighbour, cultivating positive relationships, and fostering shared value.

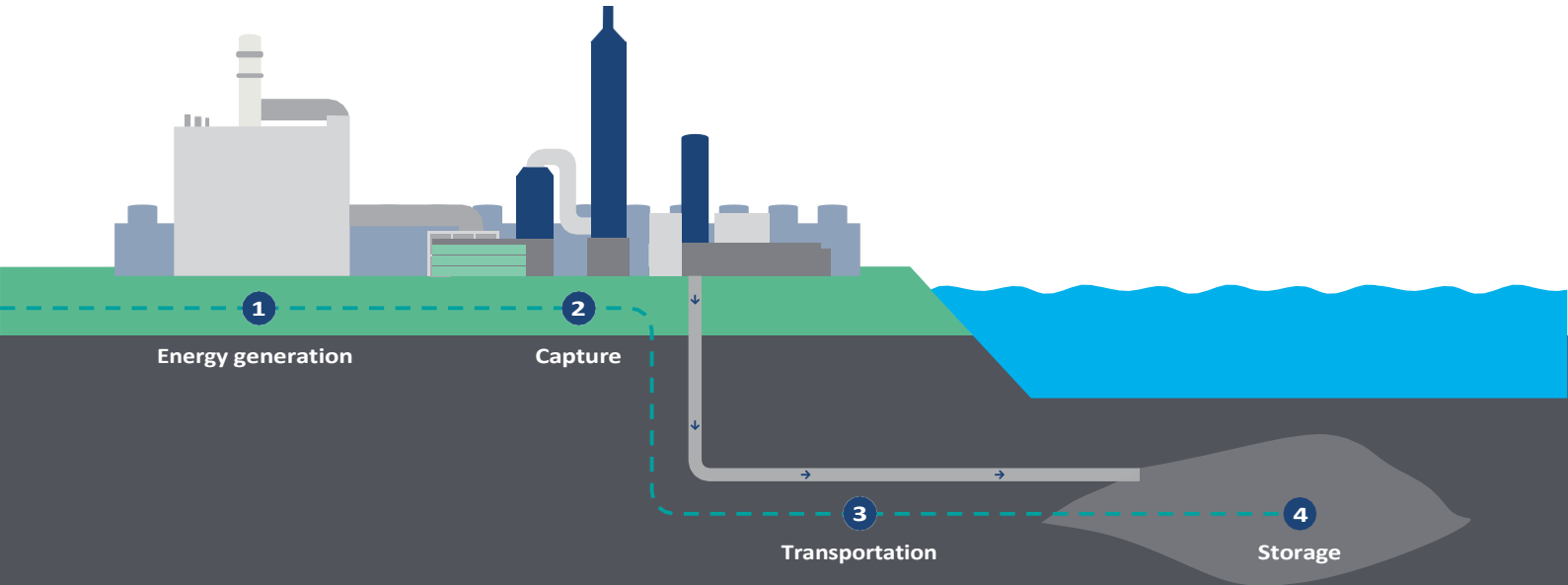
Our vision for Stallingborough is to deliver a project that not only contributes to the UK's energy security, but that we become part of the North East Lincolnshire community, providing jobs and opportunities for local residents and businesses.

What is Carbon Capture and Storage?

Carbon capture is a proven technology which will help support the transition to net zero, by allowing the decarbonisation of reliable and flexible electricity generation sources that can support and work alongside renewable generation.

There are currently 30 large scale carbon capture and storage (CCS) and carbon capture, usage and storage (CCUS) projects in operation around the world and over 150 in development. Globally CCS and CCUS deployment has tripled over the last decade. The image below explains the carbon capture and storage process.

1. **Energy generation:** Carbon dioxide (CO_2) emissions are produced during the combustion of natural gas for the generation of electricity by a Combined-Cycle Gas Turbine (CCGT) power station.
2. **Capture:** CO_2 is captured from the flue gas with a proven and already applied process.
3. **Transportation:** The captured CO_2 will be compressed and transported via a pipeline.
4. **Storage:** The CO_2 is stored underground permanently, safely and securely beneath the seabed in suitable geological formations. Typically, these are depleted oil and gas fields or saline aquifers. The proposed storage of CO_2 for Stallingborough is a gas reservoir located around 3km beneath the seabed and 140km from the coast.



The need for carbon capture and storage

Generating plants with carbon capture technology are essential in the UK's transition to a decarbonised energy system, providing low-carbon, reliable and flexible energy at times when energy from renewable sources is insufficient to meet demand.

The role gas has played in the UK's power system has evolved over time and continues to do so. As coal and oil power stations have shut down, gas has played an increasingly central role, providing around 40% of the UK's power in 2022 and up to 50% at certain times, as well as representing a cleaner alternative to coal and oil.

In their recent report2, the Climate Change Committee note that in 2035 the British electricity system will require carbon capture and storage (CCS), whether in post-combustion power plants or "blue"3 hydrogen production to fuel hydrogen turbines. Within their central scenario, there is a requirement for 17GWe of dispatchable low-carbon capacity, with a range of 12-20 GW across the scenarios.

In the future, carbon capture generating plants will operate alongside renewables to ensure security of supply, including during periods of low renewable generation and periods of peak demand.

As an operator of around 7GWe of efficient gas-fired capacity in the UK, RWE Generation UK recognises the central role we play in helping to drive forward this decarbonisation through responsible, proactive stewardship of the UK's largest gas fleet.

Benefits of our proposals include:

900MWe

A gross output capacity of up to 900 megawatts (MWe) of decarbonised, secure, flexible energy – enough to power around 1 million homes

2 Mt/year

Up to 2 million tonnes/ year of CO_2 captured, the equivalent of removing 400,000 petrol cars from the roads

50+ jobs

Create approximately 50 high-quality, long-term operational jobs

1000s

Support thousands of jobs during construction and in the supply chain

[2] This report is available at https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Electricity-generation.pdf

[3] Blue hydrogen is produced mainly from natural gas, using a process called steam reforming, which brings together natural gas and heated water in the form of steam. The output is hydrogen, but carbon dioxide is also produced as a by-product, unless this is captured as part of the process.

The Generating Plant

Stallingborough Generating Plant is anticipated to consist of a single unit CCGT with a total output of up to 900MWe. The electrical efficiency of a modern combined cycle gas turbine generating plant is considerably higher than that of conventional coal, biomass or oil-fired generating plants and many of the existing UK fleet of gas fired power stations.

As part of the process, gas is combusted to drive a gas turbine, which is connected to a generator producing electricity. Some of the usable heat remains in the gas turbine exhaust, which is passed into a Heat Recovery Steam Generator (HRSG) to make steam to generate additional electricity via a steam turbine.

The exhaust steam from the steam turbine is condensed back into water which is returned to the HRSG to continue the process. This cooling would likely be achieved through the use of either a once-through cooling system or hybrid wet/dry cooling tower(s), both options are likely to use water from the Humber Estuary. The decision on which method will be used will be made in due course following surveys and assessments.

The carbon capture machinery will be fitted to the plant to enable the extraction of carbon dioxide (CO_2) produced through the combustion of natural gas. The burning of gas produces something called flue gases, which include CO_2, water vapour, nitrogen and sulphur dioxide. The CO_2 is separated from the flue gases using a chemical solvent. It is cooled, compressed and then transported for storage.

The remaining exhaust gases are then released into the atmosphere. These emissions have stringent limits to minimise the potential for adverse impacts on the environment or human health. These limits would be controlled through the environmental permit and regulated by the Environment Agency.

As part of the Environmental Statement that accompanies the DCO application, we will assess the expected design life of the generating plant.

At the end of its operating life, the generating plant would be shut down and all above ground structures are currently anticipated to be removed from site. The site would then be suitably remediated for any future use.

Connecting the project

The Stallingborough CCGT Generating Plant with Carbon Capture will be fuelled by natural gas and therefore will require a new natural gas pipeline to be brought into the site from the main gas transmission network (around 12km away) that runs from Easington to Hatton (Lincolnshire). As part of the route lies within North Lincolnshire and West Lindsey, we will be consulting with North Lincolnshire and West Lindsey Councils as the host authorities as part of the proposals.

The Stallingborough CCGT Generating Plant with Carbon Capture will connect into a carbon transportation pipeline, via a new spur line, which is expected to transfer the captured carbon to offshore storage facilities beneath the North Sea. RWE is a member of Viking CCS Cluster.

Viking CCS comprises:

- A new onshore pipeline from Immingham to Theddlethorpe
- Repurposing of the existing Lincolnshire Offshore Gas Gathering System (LOGGS) pipeline
- Offshore storage beneath the North Sea

A DCO for the Immingham to Theddlethorpe pipeline has been accepted for examination by the Planning Inspectorate. The planning process for the spur line will follow on from this. More information about Viking CCS can be found here - **www.vikingccs.co.uk**.

The generating plant will require an electrical connection, to the National Grid Grimsby West Substation (around 4km away or potentially another substation that may be planned as part of the Grimsby to Walpole upgrade), where it will transfer the electricity to the national network. We are exploring options for the connection to the substation, including if it will be via underground cables or overhead lines or a combination of both.

The possible electrical connection and pipeline routes are in the preliminary design phase, undergoing careful planning and assessment. We are looking at a number of options, therefore our plan shows a large area where these potentially may go. We are in the process of contacting landowners within our routing corridors and are undertaking studies to ensure the most appropriate routes are selected.

It is important to note that no electrical apparatus/cables or pipelines will be installed under residential properties or within residential gardens.

Project area

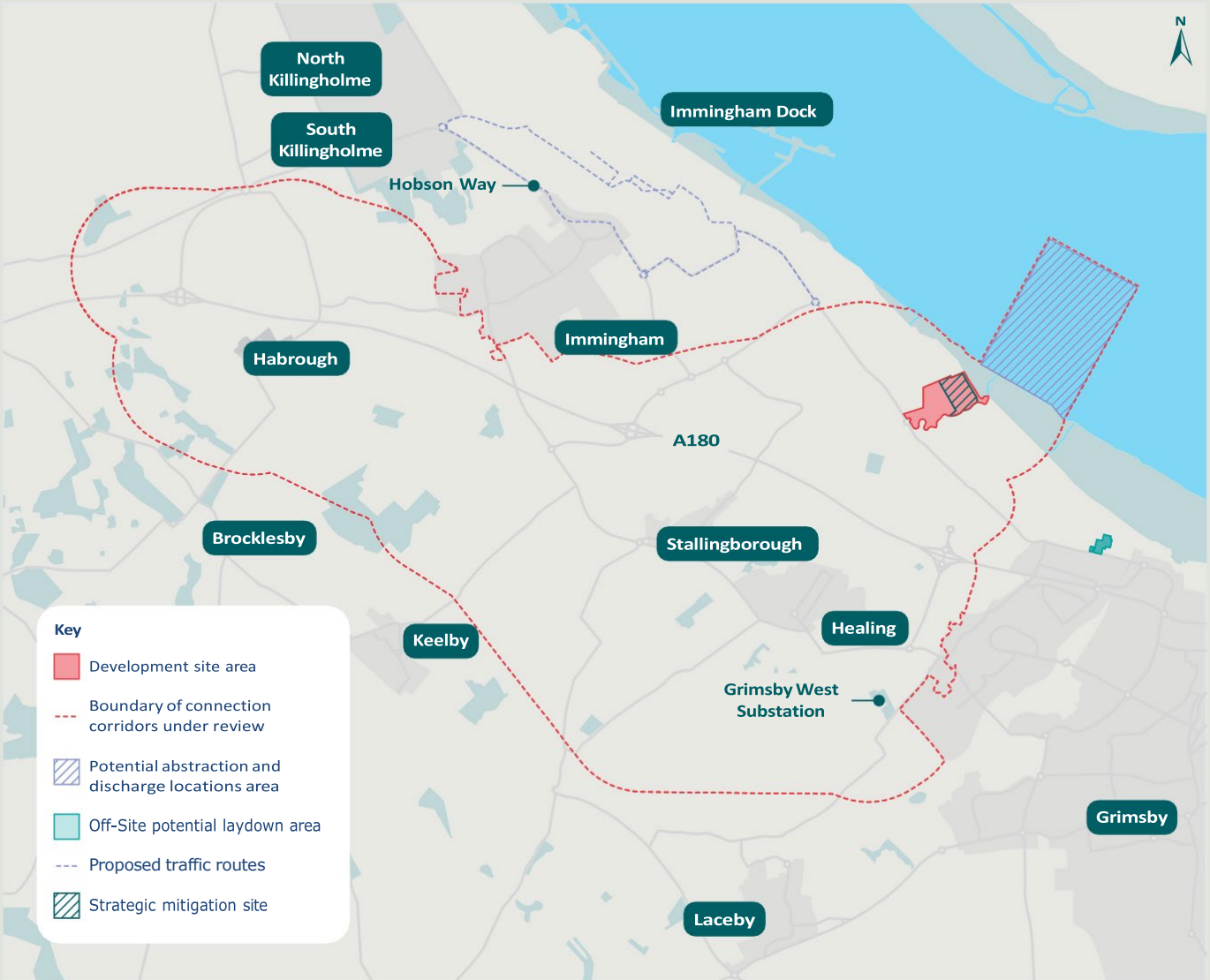
The below map shows the current project boundary, including the corridors for the gas pipeline and electricity connection.

Access to the main site during construction and operations will be from Hobson Way. During construction, some larger items of plant may be transported to the site by sea and unloaded at Immingham Port. These items would then be transported by road the short distance to the site. The proposed project boundary includes this road network as we may be required to undertake roadworks to modify the existing infrastructure to accommodate some of the larger abnormal loads required for the construction of this project.

The map also shows a small area identified as an off-site laydown area. This is on the location of the Grimsby Combined Heat and Power (CHP) plant, which is a nearby site owned by RWE. It is no longer operating and is due to be demolished in 2024. This area could potentially be used as an additional laydown area during construction of the generation plant.

The area shown in the Humber Estuary is for cooling water structures. The generating plant and carbon capture facilities will require water for cooling. This cooling water is likely to be abstracted from the Humber Estuary using offshore water intake and outfall structures located within the Estuary.

The project boundary shown at this consultation will be refined as we continue to progress our design and technical work.



Assessing Environmental Impacts

As part of the DCO process we are undertaking an Environmental Impact Assessment (EIA) to assess impacts and identify any likely potential significant effects (both positive and negative) the project could have on the environment.

Where likely significant environmental effects are identified, the EIA will propose measures to avoid, mitigate or compensate for these effects to reduce the project's impact on the environment.

These assessments will help us to ensure the plant and associated infrastructure is designed to minimise impacts. It will also look to ensure that biodiversity net gain (BNG) is incorporated to provide no net loss and an overall enhancement to habitats.

The EIA process is a critical step in progressing the design, allowing us to better understand the local environment of the development. EIAs make sure that we think about the likely effects on the environment at the earliest possible time and aim to avoid, reduce or offset those effects. This ensures that proposals are understood properly before decisions are made.

The EIA process

EIA Scoping

The EIA Scoping phase is a crucial element within the EIA process. It identifies the key environmental, social, and health impacts that could arise due to the construction, operation, and decommissioning phases of the project. Additionally, it sets out the proposed approach to assessing these effects. The EIA scoping report was submitted to the Planning Inspectorate to seek their opinion on the proposed scope of the EIA.

The Secretary of State, via the Planning Inspectorate has consulted a wide range of stakeholders and provided their scoping opinion in March 2024.

Preliminary Environmental Information Report (PEIR)

The Preliminary Environmental Information Report (PEIR) provides a preliminary account of the likely significant environmental effects of the project to inform the consultation process. The purpose of the PEIR is to enable interested parties (including members of the public, local planning authorities , non-statutory and statutory bodies), to develop an informed view of the likely environmental effects of the project and to help inform their consultation responses during the proposed statutory consultation in 2025.

Environment Statement (ES)

Building on the PEIR, the ES will accompany the DCO application and will report the process and final outcomes of the EIA and explain the likely significant effects of the project on the environment once mitigation measures have been taken into account.

Environmental Permit

The project will need an Environmental Permit from the Environment Agency, under the Industrial Emissions Directive. The permit sets out legally binding conditions for operation of the generating plant covering air emissions, noise, fuel storage, water treatment and discharge. The permit would provide RWE a licence to operate its proposed project, subject to complying with the relevant national and European directives that set the requirements for environmental protection. The permit also includes monitoring and reporting requirements.

Environmental Impact Assessment

Environmental assessments will assess a wide range of topics such as landscape and visual impact, biodiversity, cultural heritage, flood risk, traffic, noise and other considerations.

As part of the planning process, we will assess the combined impacts of this project both during construction and operation, ensuring that the impacts of the project are considered alongside that of other nearby existing and proposed projects.

Further detail on how we will approach the assessments of some of the topics is provided in the following sections.

Biodiversity

As part of the EIA work, we are undertaking surveys to establish the habitats and species present on both the generating plant site, and the potential gas pipeline and electrical connection routes. This will provide valuable information on the location of any protected and/or priority habitats or species, and the potential impact of the project on species, habitats as well as surrounding sites of ecological importance. This includes marine life, mammals and birds associated with the Humber Estuary.

Mitigation measures will be devised including avoidance, compensation and mitigation to reduce any identified likely potential significant effects from the construction, operation or decommissioning of the project on ecological features.

Once any likely significant effects have been mitigated, opportunities for ecological enhancement will be identified to achieve 'biodiversity net gain'. Biodiversity net gain (BNG) is the term used to describe the process of increasing the overall biodiversity value of a given site. The provision of BNG is not currently a legal requirement for NSIP projects, but it is expected to be from 2025.

Landscape and Visual Impact

We will consider the landscape character of the site and its relationship with nearby communities, roads, the coast and Public Rights of Way, to identify the potential effects on the local landscape and visual amenity. As part of the assessments on landscape and visual impact, we will make appropriate recommendations for how land can be best utilised to mitigate any resulting impacts on the landscape and reduce the visual impact of the project. These assessments will help to support a core goal of RWE, which is to design a development that works alongside the surrounding landscape, with minimal visual disruption and preserving the amenity of the area.

Heritage

The Cultural Heritage and Archaeology assessment will identify the likely significant effects the project may have on the local historic environment, including identified and potential archaeology and cultural heritage features such as listed buildings, scheduled monuments and conservation areas.

This will be achieved through desk-based research, site visits and consultation with key stakeholders, such as Historic England. We will be undertaking a geophysical (magnetometer) survey across the main site that uses a variety of instruments to measure very small magnetic fields associated with buried archaeological remains. The results of this survey will inform design and the future archaeological strategy, if required. Similar surveys will be undertaken at key locations for the pipeline and cable routes once routing studies have been completed.

Traffic & Access

We will undertake a transport assessment which will assess the potential impacts of the project on the local and strategic road network in the surrounding area. This will also set out the proposed sustainable transport measures that can be implemented during the construction and operational phases of the project to minimise disruptions to local roads and communities. As part of our assessment, a detailed access review is being undertaken to develop suitable access points and routes for the site. This will be consulted on with North East Lincolnshire Council and any other local planning authorities, National Highways and other stakeholders as relevant.

Water Environment and Flood Risk

A water supply will be required for cooling purposes at the generating plant. An assessment will set out the cooling water intakes and outfall structures and the piping of other services required both during construction and operation.

A Flood Risk Assessment and Drainage Strategy are being prepared to accompany the DCO application. These will consider the watercourses, such as the Humber Estuary, surface water flows and any potential flooding issues for the project site.

Noise

We will undertake an assessment of the potential noise and vibration effects arising from both the construction and operation of the project. Baseline noise survey information from existing background levels will be utilised to understand the existing noise climate within the surrounding area. Noise sensitive receptor locations will be identified and agreed with North East Lincolnshire Council and any other local planning authorities or stakeholders as relevant, as part of the EIA process.

Good design and high-quality infrastructure will serve to reduce noise from the project at source and also sound attenuation measures may be incorporated into the design of the project if required, so that noise levels remain under acceptable limits.

Prior to construction, a Construction and Environmental Management Plan (CEMP) will be prepared to control noise and vibration to remain within acceptable levels during the construction period.

Air Quality

An air quality impact assessment will be undertaken as part of the EIA that will look at existing air quality. Where required, the assessment will identify the mitigation of any potential impacts anticipated during construction and operation of the generating plant and the carbon capture process. This will also form part of the Environmental Permit (separate to the DCO process) that the project will require from the Environment Agency.

DCO Process Explained

As the project will generate more than 50MWe of power, it is classed as a Nationally Significant Infrastructure Project (NSIP) and will proceed through the Development Consent Order (DCO) planning process.

The DCO process provides a dedicated framework specifically designed to address the complexities associated with large, complex energy projects (as well as other project types).

Applications for DCOs are examined independently by the Planning Inspectorate. Following ankExamination of the project, the Planning Inspectorate will make a recommendation to the Secretary of State for the Department for Energy Security and Net Zero, who will decide on the outcome of the application.

As the host authority for the generating plant, North East Lincolnshire Council will be a statutory consultee for the application and will play an important role in shaping aspects of the project. RWE is committed to working closely with the Council, along with local parish councils, other relevant local planning authorities and statutory consultees such as the Environment Agency, Natural England and Historic England. As part of this commitment, we will exhibit a proactive approach to taking onboard feedback and incorporating comments.

North Lincolnshire and West Lindsey Councils will be consulted as the host authorities for the potential connection to the gas pipeline.

Indicative timeline

2023
Commence initial environmental surveys and design (continued throughout 2024 and into 2025)

April/ May 2024
Early stage (non-statutory) consultation

Spring/ Summer 2024
Review all community feedback and refine design

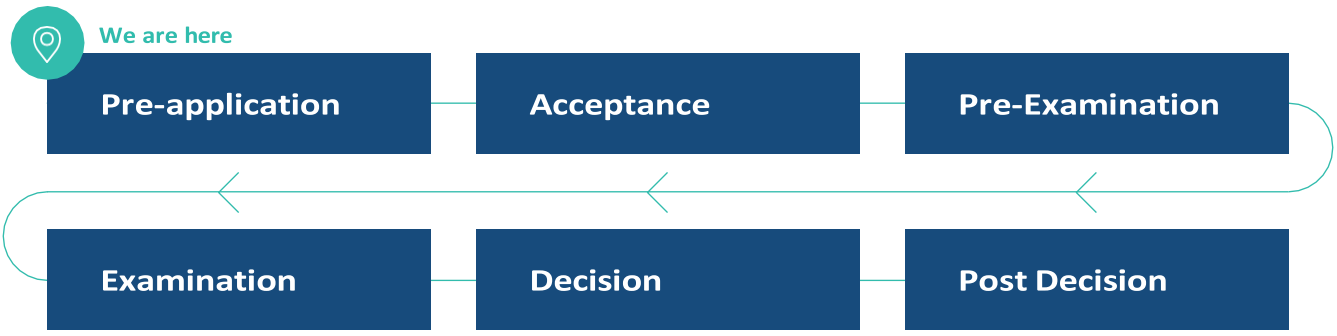
Early 2025
Statutory public consultation on more progressed plans and preliminary environmental information

Autumn/ Winter 2025
Development Consent Order application submitted

2026
Examination process by the Planning Inspectorate

2027
Determination by the Secretary of State for Energy Security and Net Zero

DCO Process



Pre-application

This initial stage involves engaging with the local community, relevant parish councils, North East Lincolnshire Council (plus other relevant local planning authorities) and regulatory bodies, such as the Environment Agency. It is an essential step in gathering feedback and incorporating valuable insights into the project's design and planning and includes a statutory consultation period which is expected to take place in early 2025.

Once the project's design is refined, the formal DCO application is submitted, accompanied by a comprehensive Environmental Statement (ES) and detailed documentation outlining the project's scope, benefits, adverse effects, and mitigation measures.

Acceptance

After an application is submitted, the Planning Inspectorate has 28 days to decide whether it meets the standards required to be accepted for Examination.

Pre-Examination

During this stage, consultees may register as an Interested Party by making a 'Relevant Representation', which is a written summary of their views on the proposed project. Independent inspectors from the Planning Inspectorate are selected, who then hold a preliminary meeting to set out the timetable for Examination.

Examination

The application undergoes a rigorous six-month period of examination conducted by the independent inspector(s). This stage is mostly a written process and those who have registered as Interested Parties will be invited to provide further information in writing. There may also be a small number of hearings, including an open floor hearing, which members of the public can register to attend and speak.

Decision

Following receipt of a report by the independent inspector(s), the Secretary of State for Energy Security and Net Zero will make the final decision on whether to grant development consent for the project.

Post Decision

Once a decision has been made and the standard legal challenge period has passed without challenge, the project is expected to progress towards implementation, subject to any conditions or requirements specified in the approval.

You can read more about the DCO Process here:

RWE's pathway to decarbonisation

RWE Generation UK is currently considering four potential carbon capture projects across the UK.

As the largest operator of gas-fired power stations in the UK, we are looking at carbon capture technology as a viable way to decarbonise our gas plants which are located within the vicinity of proposed CO_2 networks or shipping facilities, where the CO_2 could be transferred to safe storage solutions. This would extend the lifespan of the power stations in a way that enables cleaner, future energy generation.

RWE is currently progressing early development work and preparing information that will allow for existing plants at Staythorpe and Pembroke, alongside this proposed site near Stallingborough, to be submitted into the next stage of the Government's Track-2 of the Cluster Sequencing for Carbon Capture Usage and Storage Deployment process. Additionally, RWE has recently announced plans to progress a carbon capture feasibility study at its Great Yarmouth Power Station.

[4] Calculated based on 2022 generation, and assuming average (mean) annual household consumption of 3,509 kWh, based on 2021 statistics from the Department for Energy Security and Net Zero

[5] These figures do not include Great Yarmouth CCS project.

Together, these sites cover more than 60% of RWE's total UK gas generating capacity, representing the initial stage of our gas decarbonisation journey.

Environmental studies and surveys needed to support the consenting process are already progressing.

Together, these projects would enable[5]:

4.5GWe

Approximately 4.5GWe of secure, flexible, low carbon energy – enough to power around 8.1 million homes[4]

11 Mt/year

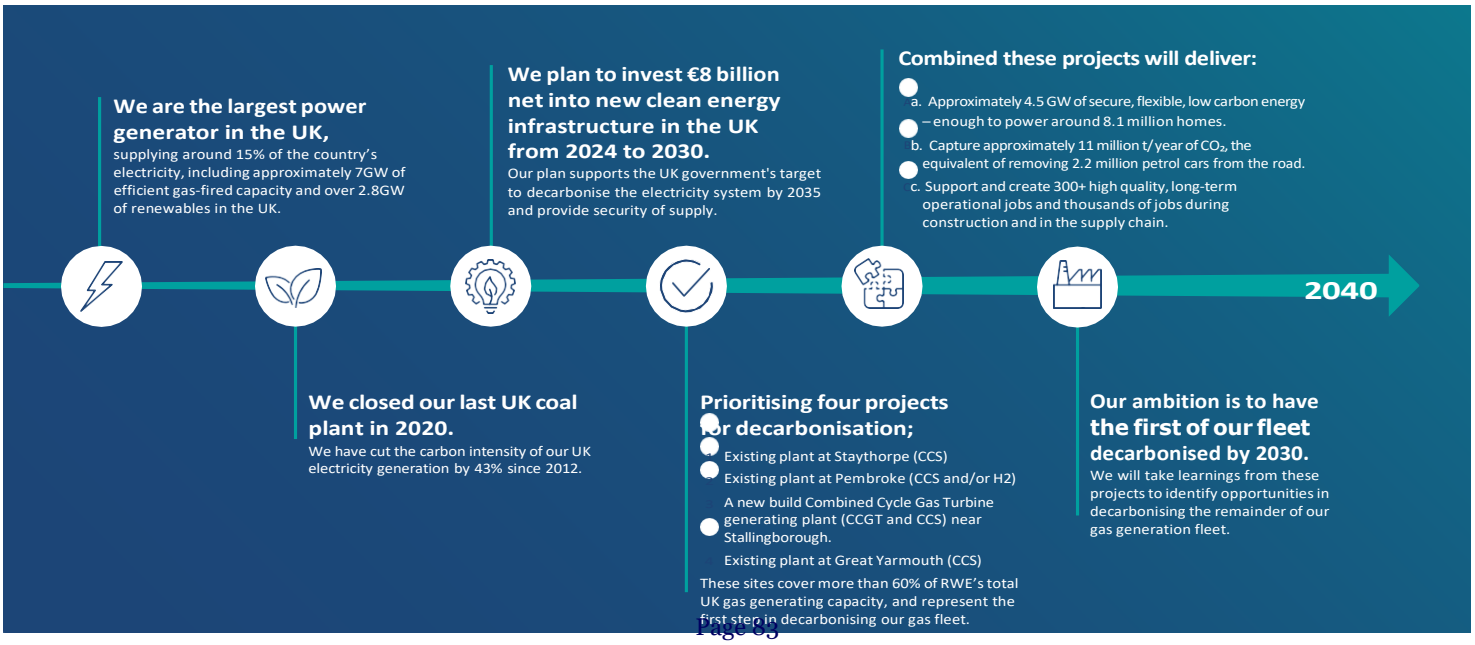
11 million tonnes/year of CO_2 captured, the equivalent of removing 2.2 million petrol cars from the road

300+ jobs

Support and create 300+ high-quality, long-term operational jobs and thousands of jobs during construction and in the supply chain

Our UK decarbonisation journey

RWE is working towards a global target of carbon neutrality by 2040

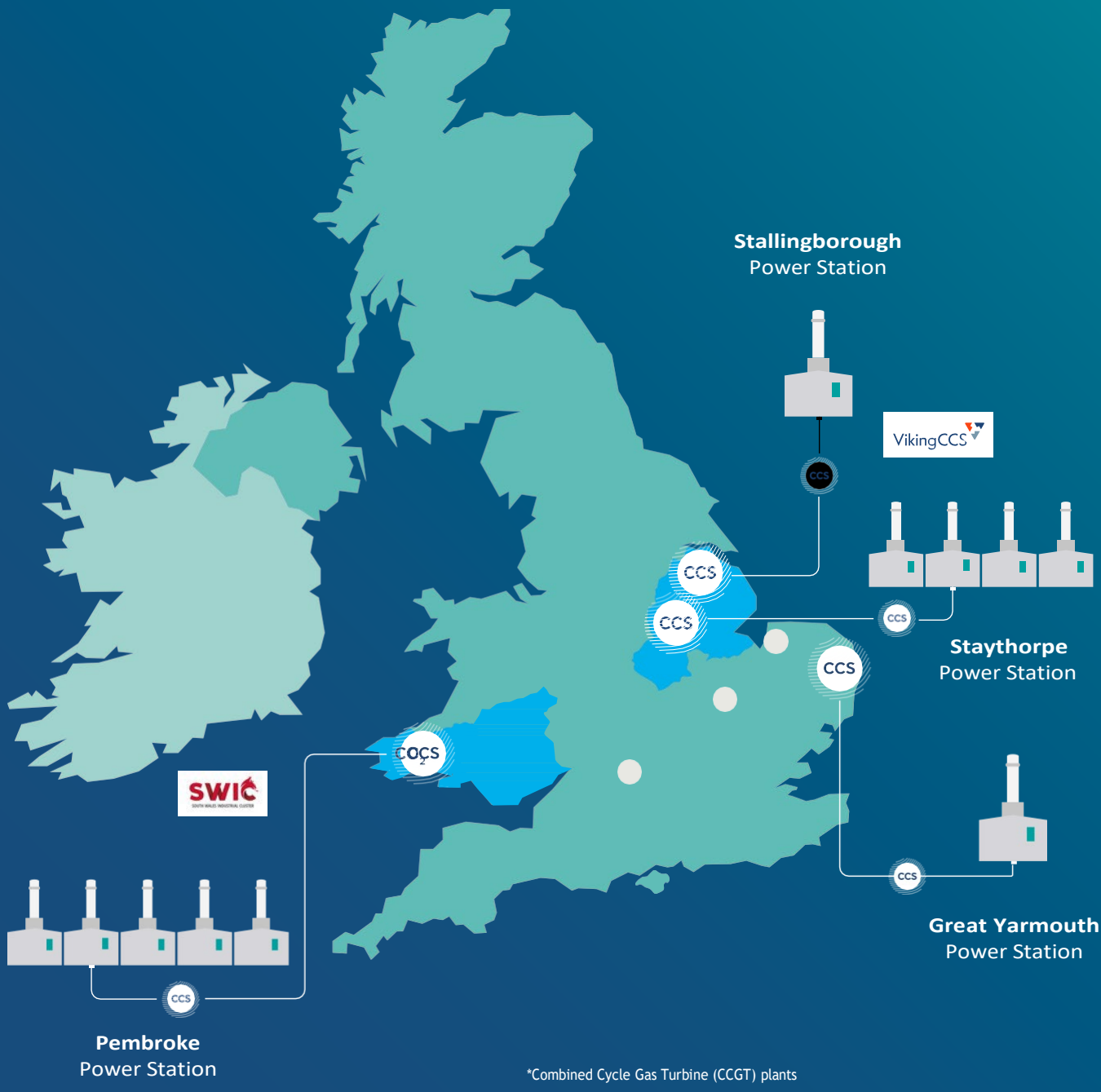


Key

RWE's carbon capture projects

Other RWE gas plants *

Industrial clusters where RWE is a partner organisation



*Combined Cycle Gas Turbine (CCGT) plants

** Calculated based on 2022 generation, and assuming average (mean) annual household consumption of 3,509kWh, based on 2021 statistics from the Department for Energy Security & Net Zero.

*Combined Cycle Gas Turbine (CCGT) plants

Consultation information

Your involvement in this consultation is invaluable at this early stage.

The early-stage consultation will run from **Monday 8th April to Monday 20th May 2024.** To ensure we can gain feedback from the local community, we have a wide range of mechanisms through which you can learn more about our project and provide feedback.

Information about the project is available via:

Online

Explore our website **(rwe.com/stallingborough)** where you can find detailed information about the proposals and also access the online survey.

In-person events

Get to know our team and project first-hand by attending our in-person events. These events offer an excellent opportunity to interact with our experts, ask questions, and provide feedback in a friendly and engaging environment.

Date	Time	Location
Friday 12th April 2024	**1pm - 7pm**	**Immingham Town Hall**, Civic Centre, Pelham Road, Immingham, DN40 1QF
Saturday 20th April 2024	**10am - 4pm**	**Projekt Renewable**, Grimsby, DN31 1UZ
Thursday 9th May 2024	**1pm - 7pm**	**CATCH**, Redwood Park Estate, Stallinborough, Grimsby, DN41 8TH

Webinars

Our project team will be hosting two online webinars during this initial consultation. These will be free for anyone to join online, as an alternative for those who may not be able to attend the in-person events. These will be held on the following dates, with recordings available on our website after:

Date	Time	Location
Wednesday 24th April 2024	**6.30pm - 8pm**	**Online webinar** - Register at rwe.com/stallingborough
Tuesday 14th May 2024	**6.30pm - 8pm**	**Online webinar** - Register at rwe.com/stallingborough

Please register for the webinars via the project website **(rwe.com/stallingborough)** or by emailing **info@stallingboroughccs.com.**

Deposit point locations

Copies of the consultation material can be viewed at the below locations:

Grimsby Central Library
Town Hall Square, Grimsby, DN31 1HG
Tuesday to Friday 8.30am - 5.30pm
Saturday 9am - 1pm

Immingham Library
Pelham Rd, Immingham, DN40 1QF
Monday to Friday 9am – 5pm
Saturday 9am – 1pm

Unable to get online?

If you are unable to access the internet, have any accessibility requirements or would prefer a hardcopy of our material please contact us on our dedicated phoneline: **01469 818004**.

A member of our team would be happy to arrange for copies of the consultation information to be sent in the post (free of charge), in the format required, or to record your feedback over the phone.

Materials in alternative formats are available upon request, all documents can be made available in alternative accessible formats, such as braille, speaking text and alternative languages. All requests should be made to the communications team by email **info@stallingboroughccs.com** or by calling us on **01469 818004**.

How to provide comments

There are several different ways you can respond to the consultation:

- By returning a feedback form at our in-person events or via the Freepost address
- By completing the feedback form on our website
- By getting in touch via email

The deadline for the non-statutory consultation is 11:59pm on Monday 20th May 2024. We encourage you to provide your feedback within this period to ensure that your comments are considered as we further refine the proposals for our project.

Thank you for participating in our initial consultation on our proposals.

rwe.com/stallingborough

info@stallingboroughccs.com

01469 818004

FREEPOST RWE Decarbonisation

Appendix eight – FAQs Carbon Capture and Storage

RWE

Carbon Capture and Storage (CCS)

Frequently Asked Questions

Introduction

RWE is the UK's largest power company, with a clear strategy to become carbon neutral by 2040. RWE Generation UK is part of RWE AG and operates approximately 7GWe of conventional, efficient gas-fired generation in the UK, which supports the transition to renewables by providing a firm and flexible source of power around the clock.

Carbon capture is a technology we can use to decarbonise our Combined Cycle Gas Turbine (CCGT) fleet, whilst still providing reliable, flexible power, when renewable generation is low.

RWE is currently progressing early carbon capture development work for its existing gas-fired power plants at Staythorpe in Nottinghamshire and Pembroke in South Wales. RWE is also proposing a new CCGT generating plant with carbon capture near Stallingborough in North East Lincolnshire. Together, these sites cover more than 60% of RWE's total UK gas generating capacity. Additionally, RWE has recently announced plans to progress a carbon capture feasibility study at its Great Yarmouth Power Station.

This document is intended to help explain the carbon capture process and answer many of the Frequently Asked Questions (FAQ's) that we receive.

Together, these projects would enable1:

4.5GWe

Approximately 4.5GWe of secure, flexible, low carbon energy – enough to power around 8.1 million homes[2]

11 Mt/year

11 million tonnes/year of CO2 capture, the equivalent of removing 2.2 million petrol cars from the road

300+ jobs

Support and create 300+ high-quality, long-term operational jobs and thousands of jobs during construction and in the supply chain

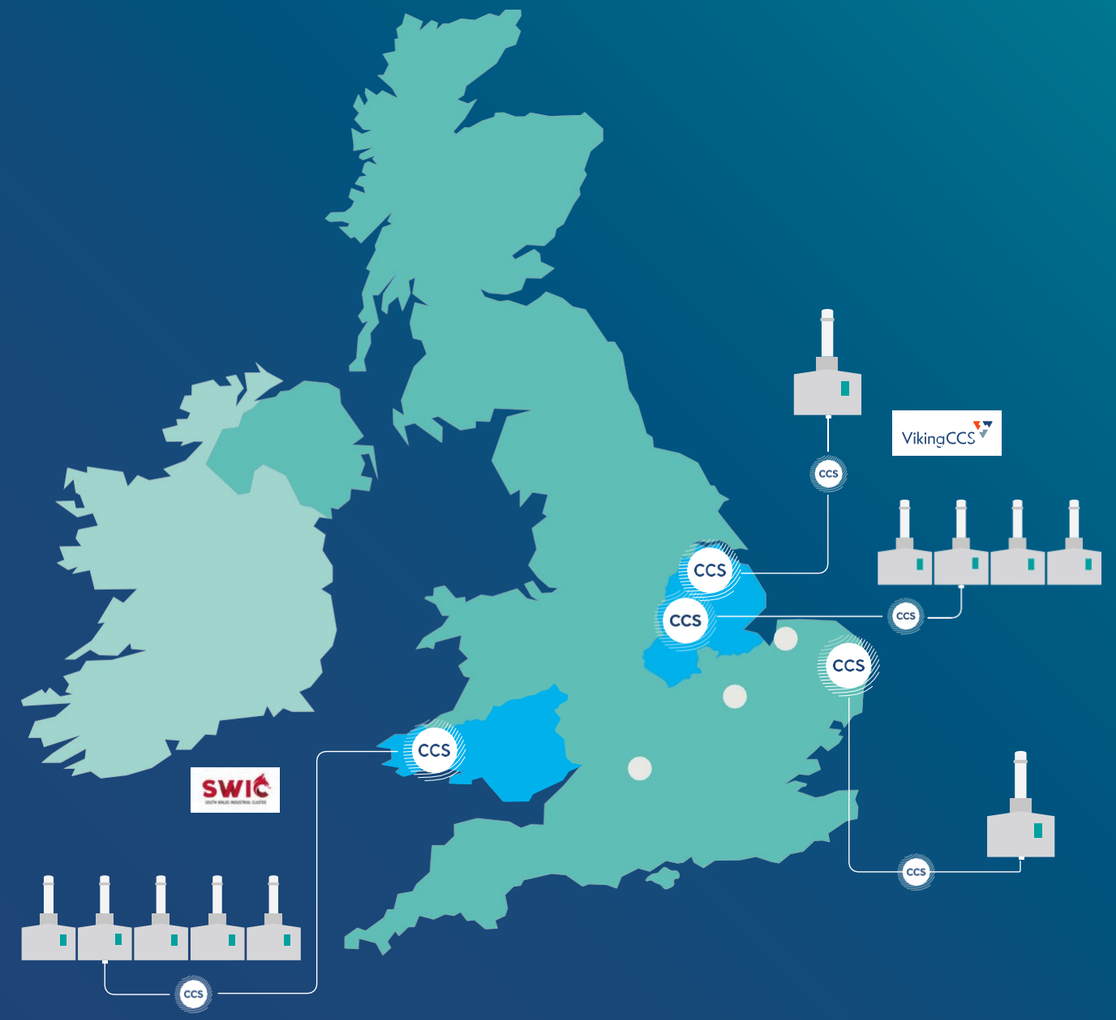
[1] These figures do not include Great Yarmouth CCS project.
[2] Calculated based on 2022 generation, and assuming average (mean) annual household consumption of 3,509 kWh, based on 2021 statistics from the Department of Energy Security and Net Zero.

Key

CCS RWE's carbon capture projects

Other RWE gas plants *

Industrial clusters where RWE is a partner organisation



What is a gas-fired power station?

Gas-fired power stations or Combined Cycle Gas Turbine (CCGT) Generating Plants use natural gas as a fuel to efficiently create electricity. Natural gas is combusted (burnt) to drive a turbine, which is connected to a generator producing electricity.

The burning of gas produces something called flue gases, which include CO_2, water vapour, nitrogen and sulphur dioxide. The CO_2 is separated from the flue gases using a chemical solvent. It is cooled, compressed and then transported for storage. The remaining exhaust gases are then released into the atmosphere. These residual emissions have stringent limits to minimise the potential for adverse impacts on the environment or human health. These limits would be controlled through the environmental permit and regulated by the Environment Agency.

What is carbon dioxide?

Carbon dioxide (CO_2) is a greenhouse gas which contributes to global warming. It is produced by many processes, including the combustion of gas in CCGT power stations. CO_2 has no colour or smell and cannot be seen by the naked eye.

What is carbon capture and storage?

Carbon capture and storage (CCS) is a way of reducing carbon emissions released into the atmosphere, by capturing CO_2 from a range of industrial processes and storing it safely underground.

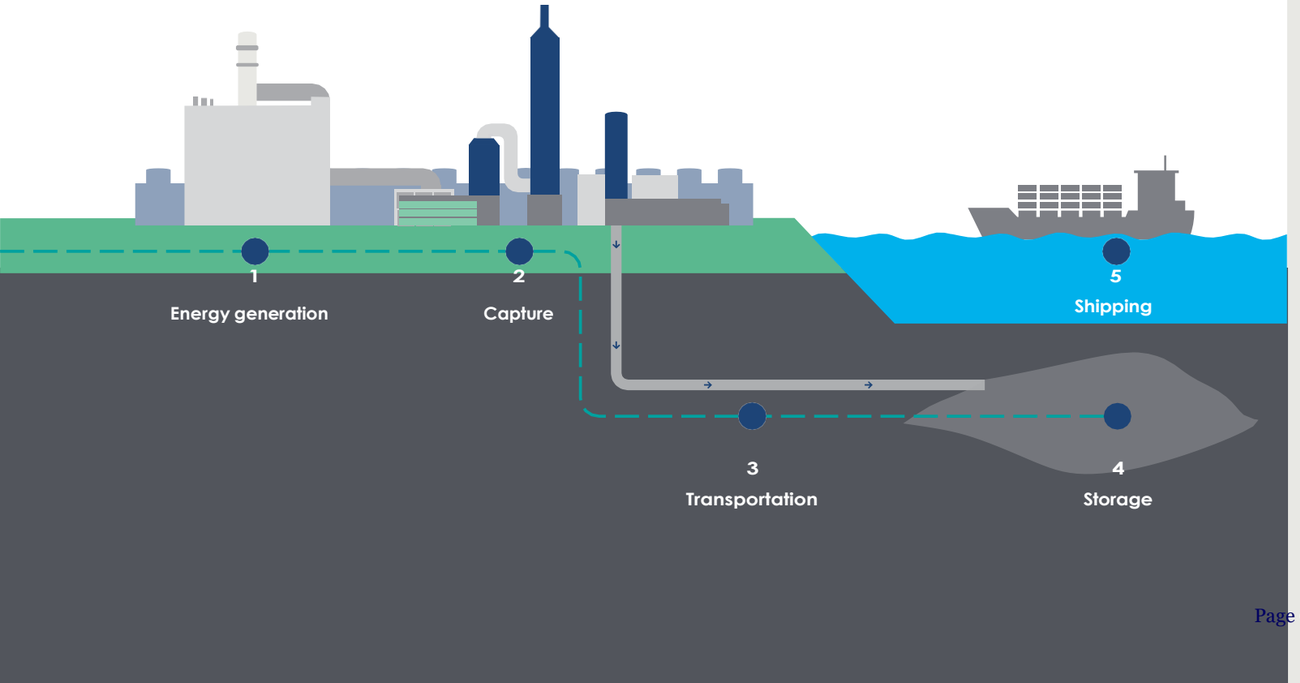
Carbon capture technology has been used in a wide range of industries since 1972, when several natural-gas processing plants in Texas started using carbon capture technology for Enhanced Oil Recovery (EOR) operations. Since then, over 200 million tonnes of CO_2 have been captured and injected underground.

What does the capture and storage process look like?

Carbon capture and storage consists of three stages: capture, transport and storage of CO_2.

A typical carbon capture plant associated with a power station would be built as in the picture below.

- **Energy generation:** Carbon dioxide (CO_2) emissions are produced during the combustion of natural gas for the generation of electricity by a Combined-Cycle Gas Turbine (CCGT) power station.
- **Capture:** CO_2 is captured from the flue gas with a proven and already applied process.
- **Transportation:** The captured CO_2 will be compressed and transported via a pipeline.
- **Underground storage:** The CO_2 is stored underground permanently, safely and securely beneath the seabed, via a pipeline, in suitable geological formations. Typically, these are depleted oil and gas fields or saline aquifers.
- **Shipping:** Alternatively the captured carbon can be shipped to a storage location



How is the carbon dioxide (CO_2) separated from other gases?

Separating the CO_2 can be done before or after combustion of natural gas. At RWE we are looking at post-combustion technology which separates CO_2 from the flue gas after the fuel is burnt.

There are several different ways to capture CO_2, but the two main options currently used are:

- **Chemical absorption:** A liquid solvent reacts with the CO_2 in the gases, separating it from the mix. Heat is then used to recover the CO_2 from the solvent.
- **Physical absorption:** A liquid solvent selectively absorbs the CO_2, without a chemical reaction taking place, separating it from the rest of the gases. A change of pressure is then used to release the CO_2 from the solvent.

The captured CO_2 is then compressed into a liquid state so it can be transported via pipelines, road transport, rail, or ships to a site for storage.

Why don't you use hydrogen instead of carbon capture?

Hydrogen is a naturally occurring chemical element that can be found in almost unlimited quantities on Earth. It is 14 times lighter than air, can be combusted without producing any CO_2 emissions and is not self-igniting, corrosive or radioactive. In order to use its energy content, however, this colourless and odourless gas first has to be separated off from hydrogen-rich compounds such as natural gas, biomass or water.

If you use natural gas to make hydrogen, it is essentially pre combustion carbon capture, as the CO_2 is removed from the fuel and the hydrogen is burnt instead.

Deciding which process to use for each power station depends on a number of elements including availability of fuel, engineering of site and options for storage of the captured CO_2.

Where are carbon emissions stored in CCS?

The main option for storing CO_2 is geological storage, which allows the CO_2 to be stored in liquid form for tens of thousands of years, or longer, in rocks deep below the Earth's surface.

The best storage sites are those that have layers of rock that are highly permeable and highly porous, so that the CO_2 can move through the rock and fill the pore space within it.

Potential storage sites for captured carbon emissions include saline aquifers or depleted oil and gas fields. These storage sites are typically 1km or more under the ground.

Once injected into the storage site, CO_2 moves upward through the permeable rock until it reaches the cap rock and goes no further. Over time, the store becomes more secure. In the early stages, CO_2 is physically kept in place by being trapped within pore spaces of rock and sealed by layers of cap rock.

Eventually, the CO_2 dissolves in the water held within the rocks, becoming denser and less mobile until it forms new rock.

CO_2 storage sites are carefully chosen to ensure the highest confidence in permanent storage and there are rigorous procedures in place to ensure the CO_2 stays stored. These assessments and procedures are required before a project is allowed to proceed.

How long is the captured carbon stored for?

When the carbon is captured, we look to store it in secure locations underground for extended periods of time to help slow global warming. The CO_2 must remain buried for at least 10,000 years to avoid the impacts on the climate.

Is there an alternative to storing the CO ?

2

CCS (Carbon Capture and Storage) focuses on capturing and storing CO_2 emissions to prevent their release.

CCUS (Carbon Capture, Utilisation and Storage) adds the option of using captured CO_2 for various purposes, like enhanced oil recovery or in the food and drinks industries.

The uses of CO_2 are a lot less than the volume produced, therefore RWE isn't currently exploring CCUS on its projects.

Will CCS help us tackle climate change?

CCS can play an important role in global decarbonisation efforts in a number of ways. The Climate Change Committee's Sixth Carbon Budget concludes that "CCUS (carbon capture, utilization and storage) is essential to achieving net zero, at lowest cost, in the UK".

CCS also represents one of the main routes for producing low-carbon hydrogen, which can be used to decarbonise domestic and industrial heating, as well as transport.

The UN International Panel on Climate Change (IPCC) also recently reaffirmed the vital role of carbon capture and storage technologies in achieving global climate goals.

Why is CCS needed when renewables don't produce carbon dioxide?

Generating plants with carbon capture technology are essential in the UK's transition to a decarbonised energy system, through the provision of firm, flexible power, especially on days where sun and wind resources are lower or when there is a peak demand for electricity.

Is CCS safe?

Safety is the number one priority of all our work. The risks of a CO_2 leak from a pipeline are extremely small and the UK Code of Practice for pipelines to transport CO_2 is recognised as being the most cautious in the world, with the design and operation receiving detailed scrutiny from the Health and Safety Executive, which is Britain's national regulator for workplace health and safety.

Carbon dioxide is already regularly transported worldwide. CO_2 transport systems are monitored electronically and manually with rigorous monitoring standards, so that if there was a drop in CO_2 pressure the transport mechanism would be safely shut down.

"CCUS (carbon capture, utilization and storage) is essential to achieving net zero, at lowest cost, in the UK"

Climate Change Committee's Sixth Carbon Budget

About RWE

RWE is a member of the Carbon Capture and Storage Association (CCSA), the trade association promoting the commercial deployment of CCUS.

RWE includes an operational portfolio of hydro, biomass and onshore and offshore wind, with a total installed capacity of 4.6GWe, plus a large pipeline of projects in development.

RWE is committed to creating long-term jobs and opportunities in the low carbon industry and has invested in the CATCH facility in the Humber which will support the training and development of low carbon jobs. For more information visit **catchuk.org**.

RWE has been involved in the research and development of CCUS since 2008. A pilot facility at our Niederaussem Innovation Centre in Germany currently captures about 300kg of carbon dioxide per hour – equating to a carbon capture rate of 90% based on the volume of flue gas processed.

Our proposed UK CCS projects will build on this work and deliver up to 4.5GWe of generation and capture 11 million tonnes of CO_2 per year.

For more information on RWE's carbon capture plans visit **rwe.com/carbon-capture/**

Appendix nine – Consultation Exhibition Boards

Welcome to our virtual exhibition

Thank you for visiting our virtual exhibition on our early-stage proposals for the Stallingborough Combined Cycle Gas Turbine (CCGT) Generating Plant with Carbon Capture.

This consultation aims to introduce you to our preliminary proposals and seek your feedback and insight that will inform and, where appropriate, influence the design of the project as we develop it. Please let us know your views by completing our online feedback form. Additional information is available in our Document Library.

Our early-stage consultation will run from **Monday 8 April lasting for six weeks, until 11:59pm on Monday 20 May**.

The feedback we receive at this stage, coupled with the ongoing environmental and technical surveys, will play a crucial role in shaping the design of project that we will present at a further 'statutory' consultation in 2025.

The proposed site is currently an agricultural field

Who is RWE?

RWE is the UK's largest power company, with a clear strategy to become carbon neutral by 2040. RWE Generation UK is part of RWE AG and operates approximately 7GWe of conventional, efficient gas-fired capacity in the UK, which supports the transition to renewables by providing a reliable and flexible source of power around the clock.

RWE includes an operational portfolio of hydro, biomass and onshore and offshore wind, with a total installed capacity of 4.6GW, plus a large pipeline of projects in development.

Beyond this proposal, other RWE projects in the Lincolnshire and Humber region include the 1.4GWe £3bn Sofia offshore wind project, currently in development in the North Sea, a solar proposal at Tween Bridge, North Lincolnshire and the state-of-the-art operations and maintenance centre, Grimsby Hub, which is currently under construction.

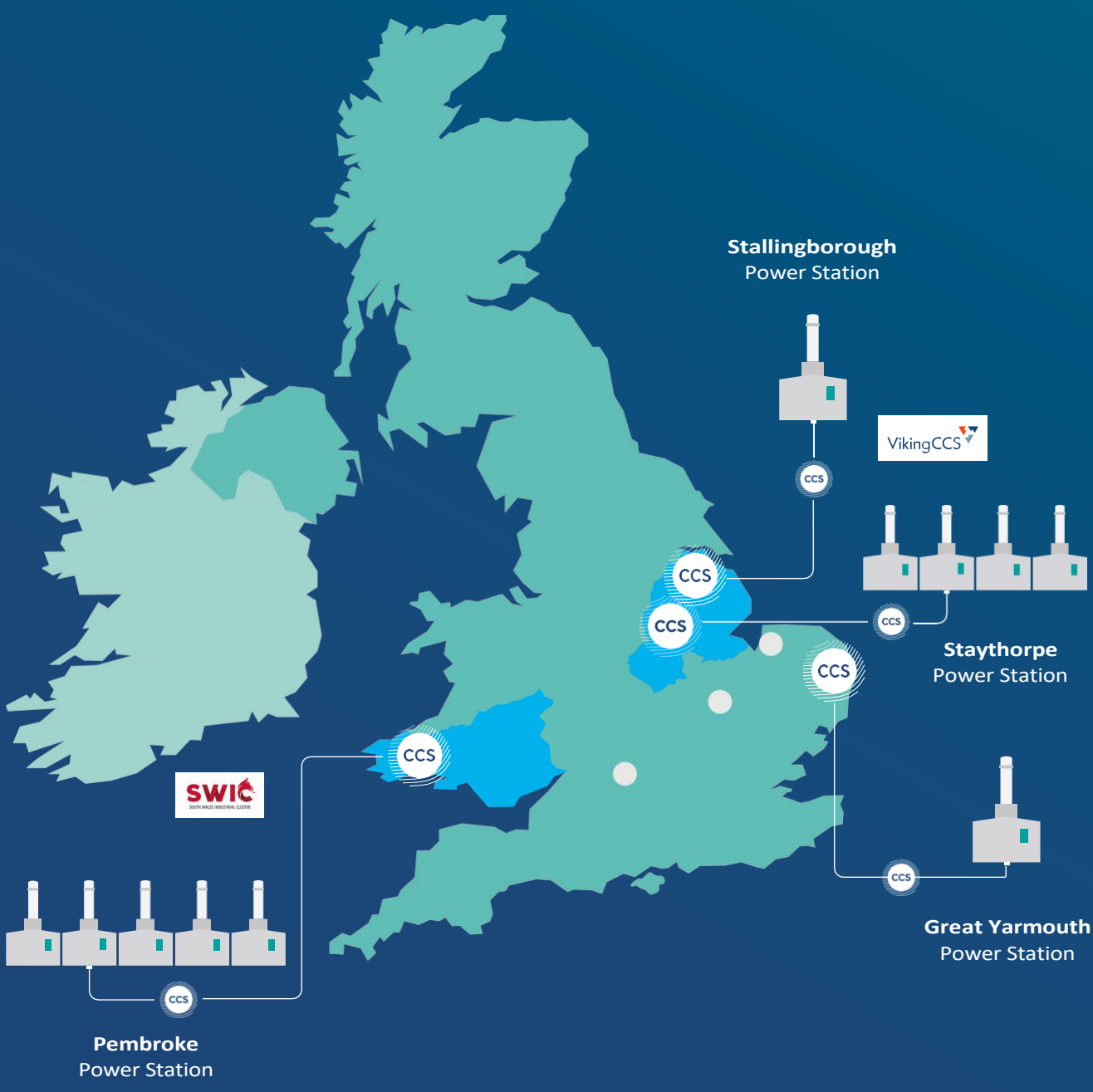
RWE is committed to creating long-term jobs and opportunities in the region and has invested in the CATCH facility in Stallingborough, which will support the training and development of low carbon jobs.

Key

CCS RWE's carbon capture projects

Other RWE gas plants *

Industrial clusters where RWE is a partner organisation



*Combined Cycle Gas Turbine (CCGT) plants

The need for carbon capture and storage

Generating plants with carbon capture technology are essential in the UK's transition to a decarbonised energy system, through the provision of reliable, flexible power, especially on days where sun and wind resources are lower.

The role gas has played in the UK's power system has evolved over time and continues to do so. As coal and oil power stations have shut down, gas has played an increasingly central role, providing around 40% of the UK's power in 2022 and up to 50% at certain times, as well as representing a cleaner alternative to coal and oil.

In the future, carbon capture generating plants will operate alongside renewables to ensure security of supply, including during periods of low renewable generation and periods of peak demand.

RWE recognises the central role we play in helping to drive forward this decarbonisation through responsible, proactive stewardship of the UK's largest gas fleet.

Our UK decarbonisation journey

RWE is working towards a global target of carbon neutrality by 2040.

We are the largest power generator in the UK,
supplying around 15% of the country's electricity, including approximately 7GW of efficient gas-fired capacity and over 2.8GW of renewables in the UK.

We closed our last UK coal plant in 2020.
We have cut the carbon intensity of our UK electricity generation by 43% since 2012.

We plan to invest €8 billion net into new clean energy infrastructure in the UK from 2024 to 2030.
Our plan supports the UK government's target to decarbonise the electricity system by 2035 and provide security of supply.

Prioritising four projects for decarbonisation;

1. Existing plant at Staythorpe (CCS)
2. Existing plant at Pembroke (CCS and/or H2)
3. A new build Combined Cycle Gas Turbine generating plant (CCGT and CCS) near Stallingborough.
4. Existing plant at Great Yarmouth (CCS)

These sites cover more than 60% of RWE's total UK gas generating capacity, and represent the first step in decarbonising our gas fleet.

Combined these projects will deliver:

A. Approximately 4.5 GW of secure, flexible, low carbon energy – enough to power around 8.1 million homes.

B. Capture approximately 11 million t/year of CO_2, the equivalent of removing 2.2 million petrol cars from the road.

C. Support and create 300+ high quality, long-term operational jobs and thousands of jobs during construction and in the supply chain.

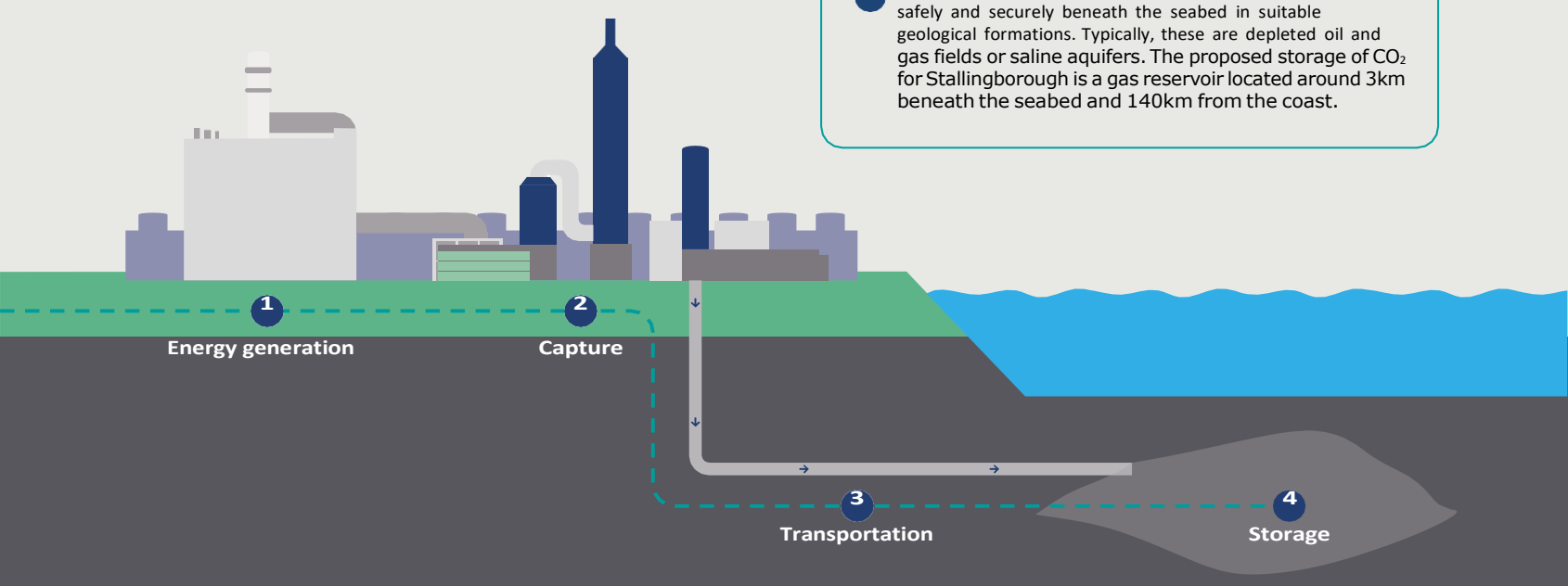
Our ambition is to have the first of our fleet decarbonised by 2030.
We will take learnings from these projects to identify opportunities in decarbonising the remainder of our gas generation fleet.

2040

Carbon Capture and Storage

Carbon capture is a proven and safe technology which will help support the transition to net zero by supporting the delivery of reliable and flexible electricity that works alongside renewables generation.

1. **Energy generation:** Carbon dioxide (CO_2) emissions are produced during the combustion of natural gas for the generation of electricity by a Combined-Cycle Gas Turbine (CCGT) power station.
2. **Capture:** CO_2 is captured from the flue gas with a proven and already applied process.
3. **Transportation:** The captured CO_2 will be compressed and transported via a pipeline.
4. **Storage:** The CO_2 is stored underground permanently, safely and securely beneath the seabed in suitable geological formations. Typically, these are depleted oil and gas fields or saline aquifers. The proposed storage of CO_2 for Stallingborough is a gas reservoir located around 3km beneath the seabed and 140km from the coast.



The Stallingborough CCGT Generating Plant with Carbon Capture will connect into a carbon transportation pipeline, via a new spur line, which is expected to transfer the captured carbon to offshore storage facilities beneath the North Sea. RWE is a member of the Viking CCS Cluster.

Viking CCS comprises:

- A new onshore pipeline from Immingham to Theddlethorpe
- Repurposing of the existing Lincolnshire Offshore Gas Gathering System (LOGGS) pipeline
- Offshore storage beneath the North Sea

A DCO for the Immingham to Theddlethorpe pipeline has been accepted for examination by the Planning Inspectorate. More information about Viking CCS can be found on their website - **www.vikingccs.co.uk**.

Our proposals

The site for the proposed Stallingborough CCGT Generating Plant with Carbon Capture is located on Hobson Way, approximately 3.5km to the east of Stallingborough village. It offers an ideal location for energy development. Located within an established industrial area of the South Humber Bank and within an area that is allocated for industrial development. The area also has a great history of industrial and energy generation with the local skills and expertise to support the site.

The Project

The state-of-the-art generating plant will help to deliver a reliable, low carbon supply of electricity to the grid during periods where renewable energy generation is low.

The project will be made of a number of component parts including:

- A combined cycle gas turbine generating plant and associated infrastructure
- Water cooling infrastructure (likely to be abstracted from the Humber Estuary) required as part of the operational processes for the generating plant
- Carbon capture infrastructure to capture the carbon dioxide (CO2) in the flue gas emitted during the combustion of natural gas
- Supporting infrastructure such as:
  - Gas pipeline to supply the fuel to the generating plant
  - Electricity connection to a National Grid Substation

If consented the project could deliver a number of benefits including:

900MWe

a gross output capacity of up to 900 megawatts (MWe) of decarbonised, secure, flexible energy – enough to power around 1 million homes.

2 Mt/year

Up to 2 million t/year of CO_2 captured, the equivalent of removing 400,000 petrol cars from the roads

50+ jobs

Support approximately 50 high-quality, long term operational jobs

1000s

Support thousands of jobs during construction and in the supply chain

The project area

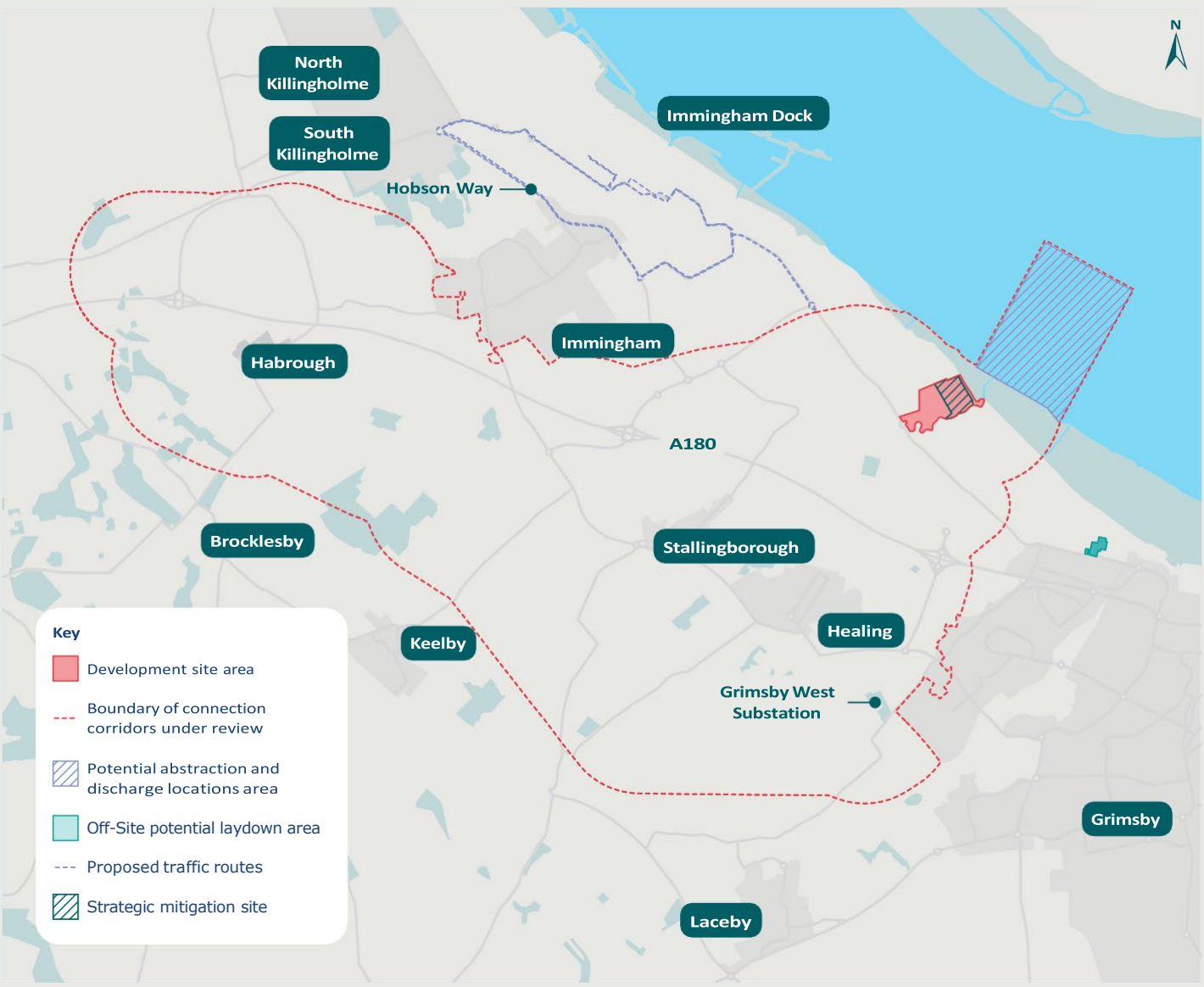
The below map shows the current project boundary, including the corridors for the gas pipeline and electricity connection.

Access to the main site during construction and operations will be from Hobson Way. During construction, some larger items of plant may be transported to the site by sea and unloaded at Immingham Port. These items would then be transported by road the short distance to the site. The proposed project boundary includes this road network as we may be required to undertake roadworks to modify the existing infrastructure to accommodate some of the largest abnormal loads required for the construction of this project.

The map also shows a small area identified as an off-site laydown area. This is on the Grimsby Combined Heat and Power (CHP) plant, which is a nearby site owned by RWE. It is no longer operating and is due to be demolished in 2024. This area could potentially be used as an additional laydown area during construction of the generating plant.

The area shown in the Humber Estuary is for cooling water structures. The generating plant and carbon capture facilities will require water for cooling. This cooling water is likely to be abstracted from the Humber Estuary using offshore water intake and outfall structures located within the Estuary. We are aware of the Humber Estuary's importance for nature conservation and industry and will be undertaking surveys and assessments to understand any effects as part of our Environmental Impact Assessment.

The project boundary shown at this consultation will be refined as we continue to progress our design and technical work.



Connecting the project

The Stallingborough CCGT Generating Plant with Carbon Capture Project will be fuelled by natural gas and therefore will require a new gas pipeline from the main gas transmission network (around 12km away) that runs from Easington to Hatton (Lincolnshire).

As part of the route lies within North Lincolnshire, we will be consulting with North Lincolnshire Council as the host authority as part of the proposals.

The generating plant will require an electrical connection, to the National Grid Grimsby West Substation (around 4km away or potentially another substation that may be planned as part of the Grimsby to Walpole upgrade), where it will transfer the electricity to the national network.

We're exploring options for the connection to the substation, including if it will be via underground cables or overhead lines or a combination of both.

Our current map reflects this ongoing assessment and covers a wider area than the final electrical and gas connection routes. We are in the process of undertaking studies to ensure the most appropriate routes are selected. **It is important to note that no electrical apparatus/cables or pipelines will be installed under residential properties or within residential gardens.**

DCO Process Explained

As the project would generate over 50MWe, it is classified as a Nationally Significant Infrastructure Project (NSIP) and a such we will be submitting a Development Consent Order (DCO) to the Planning Inspectorate (PINS). The final decision on whether the project is consented will be made by the Secretary of State for Energy Security and Net Zero.

The DCO process involves several stages:

1. **Pre-application stage:**

   The developer engages in public consultation and prepares a detailed application, including an Environmental Impact Assessment (EIA) and other supporting documents.

2. **Submission:**

   The developer submits the application to the Planning Inspectorate, which examines it for completeness.

3. **Examination:**

   Planning Inspectorate conducts an examination process, including public hearings, to assess the application's merits, environmental impact, and public opinion.

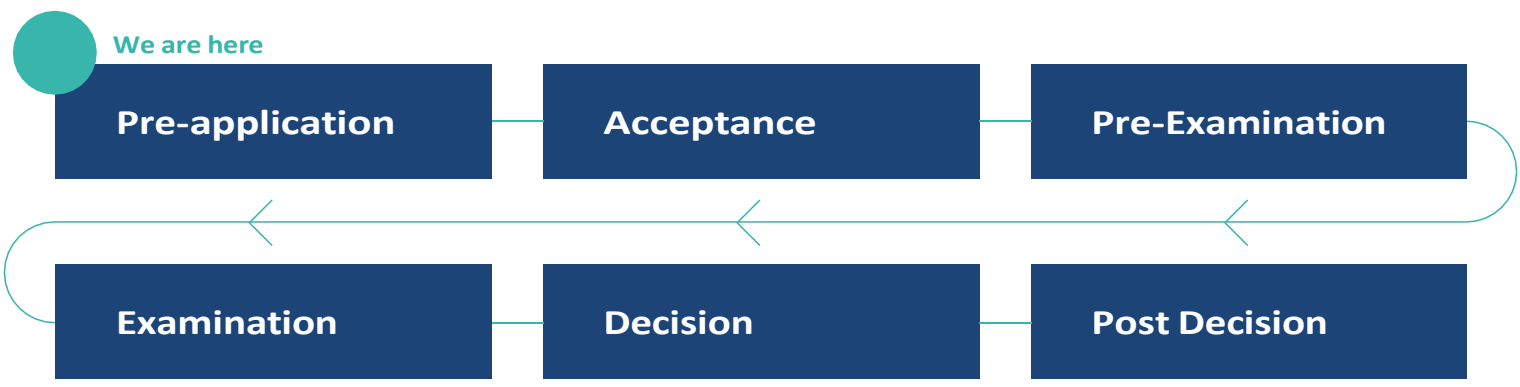
4. **Decision:**

   The Secretary of State reviews the examination report and makes a decision to grant or refuse the DCO. This decision is based on the project's national significance, environmental impact, and other relevant factors.

For our application to be accepted by PINS we must satisfy them that we have undertaken robust consultation for the project with statutory consultees (such as North East Lincolnshire Council) and with local communities.

RWE is committed to meaningful engagement and ongoing dialogue with the local community.

To achieve this, we want to ensure that there is ample opportunity for local input and are taking a two-stage programme of community engagement and consultation. This goes beyond the requirements of the DCO planning process.



The Environmental Impact Assessment (EIA)

We will be undertaking a number of surveys and assessments to understand the potential environmental impact of the proposals. The assessments will seek to minimise impacts on plant and infrastructure while ensuring biodiversity net gain (BNG). EIA is crucial for understanding the local environment and considering effects early to avoid, reduce, or offset them, ensuring informed decisions are made about the development of the project. The initial stage of the EIA process is the scoping phase. Our EIA scoping report has been submitted to the Planning Inspectorate and we received a scoping opinion in March 2024.

A summary of the impacts we will be assessing is below:

Landscape and Visual Impact: Assessments will consider effects on the local landscape and visual amenity, with recommendations for mitigation. The goal is to design the project to minimise visual impact.

Heritage: Cultural Heritage and Archaeology assessments will identify impacts on the local historic environment, with strategies to mitigate effects on features such as listed buildings and monuments.

Noise: Assessments will evaluate potential noise and vibration effects, with measures to reduce noise at the source and incorporate sound attenuation into the project's design.

Traffic and Access: A transport assessment will analyse impacts on the road network, with sustainable transport measures planned to minimise disruptions. Suitable access points and routes will be developed in consultation with local authorities.

Water Environment and Flood Risk: Assessments will address water supply for cooling purposes, flood risk, and drainage strategies, particularly concerning watercourses like the Humber Estuary.

Air Quality: An air quality impact assessment will be conducted to assess existing air quality and identify mitigation measures for construction and operation, as part of obtaining an Environmental Permit.

Environmental Permit: The project requires an Environmental Permit from the Environment Agency, covering various aspects such as air emissions, fuel storage, water treatment, and discharge, with monitoring and reporting requirements to ensure compliance with environmental regulations. This is separate from the EIA process.

Next Steps

Thank you for visiting our consultation event. Your involvement in this consultation is invaluable at this early stage. We want to gain feedback from the local community, so please complete the feedback form on our website.

Alternatively, you can provide your views by contacting us at:

info@stallingboroughccs.com

01469 818004

FREEPOST RWE Decarbonisation

The deadline for the non-statutory consultation is 11:59pm on Monday 20 May 2024.

We encourage you to provide your feedback within this period to ensure that your comments are considered as we further refine our proposals.

Indicative project timeline

2023 – Commence initial environmental surveys and design (continued throughout 2024 and into 2025)

April/May 2024 – Early stage (non-statutory) consultation

Spring/ Summer 2024 – Review all community feedback

Early 2025 – Statutory public consultation on more progressed plans and preliminary environmental information

Autumn/ Winter 2025 – Development Consent Order application submitted

2026 – Examination process by the Planning Inspectorate

2027 – Determination by the Secretary of State for Energy Security and Net Zero

Appendix ten – Consultation Feedback Form

Stallingborough Combined Cycle Gas Turbine Generating Plant with Carbon Capture

Feedback Form

Consultation closes 11:59pm on Monday 20th May 2024.

Your details

Title (Miss/Mrs/Ms/Mr/Other):	Address:
First Name or Initial:	
Surname:	
Telephone:	
Email:	Postcode:

Do you represent an organisation and if so which one?

Yes ☐ No ☐

Comments

Do you wish to be kept updated on the project?

Yes ☐ No ☐

Are you a landowner/tenant whose property is directly affected by the project or a person with an interest in land?

Yes ☐ No ☐

Introduction

Your comments are important. We understand that people living and working locally have a wealth of knowledge about the area. Our consultation is designed to gather your comments and suggestions on our project proposals. Please use this questionnaire to provide your comments on the details we have provided in the consultation

How to participate

We are holding a series of consultation events where you will be able to come and find out more details about our proposals and speak to members of the team. We are also holding two webinars for people who cannot attend the events in person. Copies of the consultation materials will be available to view at the events and also at community deposit points. All

Need and rationale

1 Do you believe that the UK needs a mix of energy generation to meet both future demand and our targets for net zero?

Yes ■ No ■ Not sure ■

Comments

Location

2 Do you have any comments about the location of the proposals for a generating plant with carbon capture near Stallingborough?

Comments

Cable route

3 The generating plant will need to connect to the Grimsby West Substation (or another substation that may be planned as part of the Grimsby to Walpole upgrade). We have shared our options for the connection corridors and a decision is yet to be made on whether this will be via underground cables or an overhead line or a combination of both. Do you have any comments on the grid connection corridor options presented on page 8 of the consultation brochure?

Comments

Gas pipeline route

4 The generating plant will need to connect to the main gas transmission network that runs from Easington to Hatton (Lincolnshire). Do you have any comments on the proposed pipeline routes presented on page 8 of the consultation brochure?

Comments

The project

5 What elements of the project are most important to you? (tick all that apply)

Traffic, access and construction	☐	Archaeology and heritage	☐
Air quality	☐	Creating jobs and apprenticeships	☐
Noise and amenity	☐	Safety	☐
Water and flood risk	☐	Decarbonising the electricity industry	☐
Landscape and visual	☐	Economic benefits	☐
Local ecology and biodiversity	☐	Other (please detail below)	☐
Humber Estuary	☐		

Comments

Consultation process

6 How did you find out about this consultation?

Word of mouth ☐ Media (newspaper, radio, TV) ☐ Through a local group/organisation ☐

Project newsletter ☐ Poster ☐ Social media ☐ Other ☐

Comments

7 Do you have any comments about the consultation process or the consultation material?

Comments

Other comments

8 Do you have any other comments about the proposals?

Comments

How to respond

This non-statutory consultation runs from the **Monday 8th April 2024** until **Monday 20th May 2024**. Please note that consultation responses must be received by **11:59pm** on **Monday 20th May 2024**.

Your comments may be included in the non-statutory consultation report which forms part of the DCO Application and will be published as part of the submission – your personal details will not be included.

Please return paper copy questionnaires to one of the team members or drop it in the box provided at an in-person event or send it to our Freepost address, FREEPOST RWE Decarbonisation (no stamp needed).

Electronic copies can be returned via email to **info@stallingboroughccs.com** or you can complete the questionnaire via the website **(rwe.com/stallingborough).**

If you would like to receive this questionnaire in larger print or in another format, please contact us on: **01469 818004**.

Thank you for taking part in our consultation.

Data Protection

Cavendish Consulting has been appointed by RWE Generation UK plc to carry out this consultation and to record the feedback. We process all Personal Data in accordance with the UK General Data Protection Regulation, the EU General Data Protection Regulation 2016/679 (together the "GDPR") and the Data Protection Act 2018. Your Personal Data will not be transferred outside the UK or European Economic Area (the EU member states plus Norway, Iceland and Liechtenstein). To see our full Privacy Notice and find out how to exercise your data subject rights, please visit cavendishconsulting.com/dp or by contact us by phone on 01962 893 893, or email at dataprotection@cavendishconsulting.com.

RWE Aktiengesellschaft
RWE Platz 1
45141 Essen, Germany
Germany
www.rwe.com