Appendix 7.1 – Stage 2 Consultation Materials

What is carbon capture and storage?

Carbon capture and storage (CCS) is a technology that can capture at least 90% of the carbon dioxide emissions produced from the use of fossil fuels in electricity generation and industrial processes, preventing the carbon dioxide from entering the atmosphere. The CCS chain consists of three parts: capturing the carbon dioxide; transporting the carbon dioxide; and securely storing the carbon dioxide emissions underground, in depleted oil and gas fields or deep saline aquifer formations.

Carbon capture and storage has been talked about for the Peterhead site before but hasn't happened, what is different this time?

SSE Thermal operates the existing Peterhead Power Station in Aberdeenshire. The power station became operational in 1982 and has an output of up to 1,180MW. In 2011, the UK Government selected Peterhead Power Station as a potential candidate for a pilot project of carbon capture and storage in the UK. The project, developed by SSE and project partners Shell, would have been the first world-scale carbon capture and storage (CCS) fully integrated solution to run commercially. However, in 2015 the Government announced that the £1bn grant for developing new CCS technology was no longer available.

Since this time, many factors have changed and advanced. The UK has legislated to cut national greenhouse gas emissions to net zero by 2050, and Scotland has committed to being net zero by 2045. This will require a major transition in the way we generate and use energy, with carbon capture and storage being one of the crucial technologies able to support a renewables-led power system and as a necessity for reaching the net zero ambitions. The Climate Change Committee (CCC) has stated the need to invest in low carbon technologies and that the roll out of carbon capture and storage is a key action in achieving Net Zero.

How much contribution will the project make to the local economy?

Peterhead Low Carbon CCGT would require an investment of hundreds of millions of pounds to build. As a comparison, SSE's most recent CCGT project, Keadby 2 in North Lincolnshire, has seen a construction spend of £330m and is expected to directly and indirectly contribute over £500m to the regional economy over its lifetime, with more than £350m of this spent in the immediate local areas.

How many new jobs is this likely to create? Are you going to be employing local people?

It is anticipated that well over 1,000 jobs will be created during the construction phase of the project and a number of long-term skilled jobs will be required to operate the plant. The local economy will also benefit from additional business in the area, such as the use of local hotels, restaurants, and other service providers. SSE Thermal and Equinor are committed to supporting local economic supply chains, ensuring that real economic and social benefits flow to local businesses and communities as a result of our investment in this new energy infrastructure.

How will you minimise the impact to the local area?

As responsible developers, SSE Thermal and Equinor will aim to make a positive difference for the local community and wider region through the delivery and operation of the Peterhead Low Carbon CCGT Power Station Project, while minimising disruption. As with all projects of this type, it will need to go through the planning process, during which we will undertake assessments covering areas including traffic, transport and ecology.

Has the coronavirus situation impacted on your ability to consult robustly for this project?

Due to the ongoing Covid-19 situation, we are constantly assessing options in relation to consultation. We are committed to carrying out a clear, informative and robust consultation process and will always agree our approach with the planning authority before proceeding. In May 2021, the initial stage of consultation was held wholly virtually, however due to coronavirus restrictions being eased since the spring, we feel that a combination of both virtual and in person Covid safe public exhibition events is a suitable way of reaching as many people as possible in a safe way at this time. The circumstances surrounding Covid-19 and Government guidance will be continually assessed and if we think it is necessary, we may need to cancel the face to face events at short notice. If this is the case, we will do our best to inform members of the community as far in advance and as widely as possible.

What has changed since the stage 1 consultation in May 2021?

An EIA Scoping Report was submitted to the ECU in May 2021, identifying likely significant environmental and social impacts of the Project, and the proposed scope and methodologies for the Environmental Impact Assessment (EIA). Feedback has been received from a number of consultees which will be addressed throughout the EIA process. In addition, we have been engaging directly with a range of consultees such as the Scottish Environment Protection Agency (SEPA) and NatureScot on specific technical aspects of the EIA. The Project design has also been progressing iteratively alongside the EIA and we are now able to provide initial visualisations of the Project.

How can I provide feedback on the proposals?

There are a number of different methods that can be used:

- The Feedback Form – The Feedback Form is available as part of this virtual exhibition and is also available on the Project Website at www.ssethermal.com/peterheadccs
- By post to Freepost – Peterhead Low Carbon CCGT Project
- By email to thermalenquiries@sse.com
- Leave a message on 0800 211 8270 – if you would like us to call you back, please include your name and number as part of your message.

PRIVACY **NOTICE**

This is the privacy notice for the Peterhead Low Carbon CCGT Power Station Project

What personal data will we collect?

You may provide us with the following categories of personal data:

- Name
- Email address
- Postal address
- Telephone number

How we will use your personal data?

We will use your personal data for the following purposes:

- to record accurately and analyse any questions you raise or feedback you have provided;
- to report on our consultation and notification, detailing what issues have been raised and how we have responded to that feedback;
- to personalise communications with individuals we are required to contact as part of future consultation or communications; and
- to deliver documents you have requested from us.

Our General Privacy Notice

This Privacy Notice is subject to the full terms of SSE Thermal's General Privacy Notice – a copy of which is available here:

https://www.sse.com/privacy-notice/

COMMENTS **FORM**

Thank you for reading this newsletter. We would like to encourage you to provide your feedback. Please complete the form below, detach the page from the rest of the newsletter and put it in the post using the enclosed envelope to arrive with us by 5pm on **Friday 1st October 2021** (no stamp required) or use the other methods described in the newsletter.

1. Where did you find this comments form (please tick or circle):

- ○ Newsletter
- ○ Project Website
- ○ Public Exhibition
- ○ Virtual Exhibition
- ○ Other

2. Which of our consultation methods have you used? Please tick any that apply.

- ○ Newsletter
- ○ Project Website
- ○ Virtual Exhibition
- ○ Attended a Webinar
- ○ Attended a Public Exhibition in person
- ○ Used the Freephone telephone line
- ○ Used the Project email address
- ○ Used the Freepost address

continued overleaf

3. Are you satisfied with the consultation methods that have been used and were you able to find the information you wanted? Please tick one of the following and leave any comments you have in the box below.

- ○ Yes
- ○ No

4. What do you think are the three most important issues relating to the Project? Please tick any three of the following and leave any comments you have as to why they are the most important issues to you in the box below.

- ○ Benefits for the local community (e.g. local employment and training)
- ○ Reducing carbon dioxide emissions and achieving 'Net Zero'
- ○ Design and visual appearance
- ○ Ecology and biodiversity
- ○ Air quality
- ○ Noise
- ○ Traffic
- ○ Safety
- ○ Other – please provide details below

5. Do you have any views on how the new Power Station should look? Please tick one of the following and leave any comments you have in the box below.

- ○ Yes
- ○ No

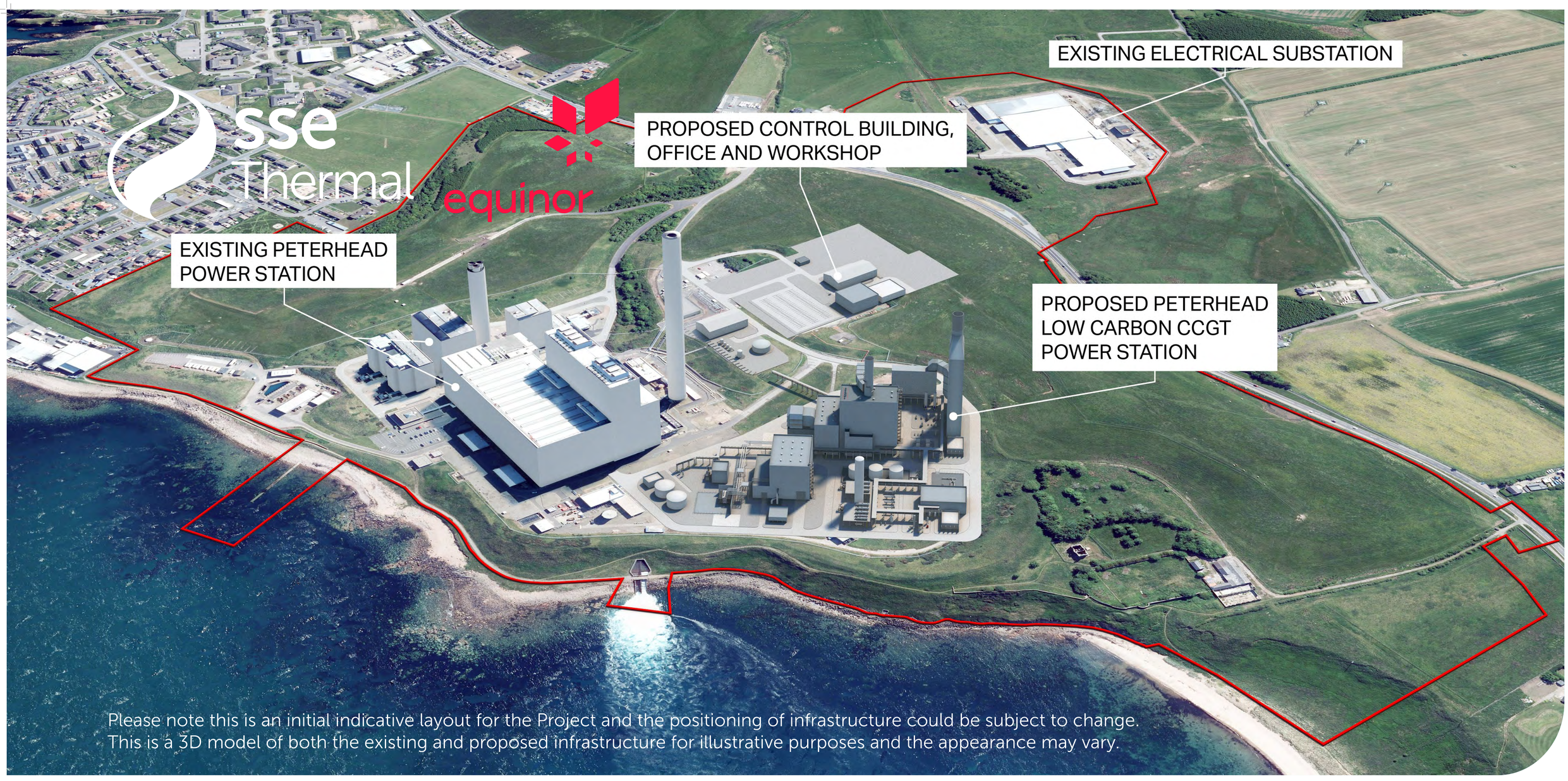
6. Has the information provided as part of this consultation addressed any questions you have around the use of Carbon Capture and Storage technology? Please tick one of the following and leave any comments you have in the box below.

- ○ Yes
- ○ No

7. Please provide any other comments you have on the Project and this consultation below.

8. If you would like us to provide you with updates on the Project, please tick your preferred method and provide the relevant contact details in the box below.

- ○ E-mail address
- ○ Post (full name and address)



PETERHEAD LOW CARBON CCGT **POWER STATION PROJECT**

Welcome

Stage 2 Consultation

SSE Thermal and Equinor are seeking to develop and operate a new low carbon combined cycle gas turbine (CCGT) power station with a carbon capture plant (CCP) at Peterhead. This project, which will be known as Peterhead Low Carbon CCGT Power Station Project or 'Peterhead Carbon Capture Power Station' (hereafter referred to as 'the Project'), will be located on land at the existing Peterhead Power Station in Aberdeenshire. The Project will have a generating capacity of up to 910 megawatts (MW) and will utilise existing connections at the Peterhead Power Station such as cooling water, gas supply and grid connections.

In line with both companies' vision and commitment to a net-zero future, the Project will use natural gas as its fuel and will be fitted with a carbon capture plant to remove the carbon dioxide (CO_2) from its emissions. The CO_2 will be transported by a pipeline to be safely stored in an offshore storage site typically comprising depleted oil and gas fields. The CO_2 pipeline from the Power Station will be subject to separate consent applications and undertaken as part of a separate project known as the Acorn Project.

In order to develop the Project, we will need to obtain consent under Section 36 of the Electricity Act 1989. We are therefore preparing a Section 36 application for submission to the Scottish Government Energy Consents Unit (ECU). Successful development of the Project will also be subject to support for the shared CO_2 infrastructure from the UK Government through its industrial clusters process[1].

What has changed since Stage 1 Consultation?

The Stage 1 Consultation ran from 10 May to 7 June 2021 and was intended to introduce the Project to the local community and provide an opportunity to comment on the early proposals. As part of the consultation, newsletters (which included a Freepost Feedback Form and details of a Virtual Exhibition Event) were posted to every residential and business address within a 5km radius of Peterhead Power Station. The feedback received at Stage 1 was mostly positive, with all comments recorded and taken into account when preparing this latest stage of consultation. Full details of the consultation methods employed to engage with the local community and a summary of the feedback received from participants at Stage 1 can be accessed in the Virtual Consultation Portal.

An Environmental Impact Assessment (EIA) Scoping Report was submitted to the ECU in May 2021, identifying likely significant environmental and social impacts of the Project, and the proposed scope and methodologies for the EIA. Feedback has been received from a number of consultees which will be addressed throughout the EIA process. In addition, we have been engaging directly with a range of consultees such as Scottish Environment Protection Agency (SEPA) and NatureScot on specific technical aspects of the EIA. The Project design has also been progressing iteratively alongside the EIA and we are now able to provide initial visualisations of the Project.

[1] https://www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-deployment-phase-1-expressions-of-interest

About the Peterhead Carbon Capture Power Station

The Project will consist of one combined cycle gas turbine (CCGT) unit with a total electrical output of up to 910MW. The CCGT will comprise one high efficiency gas turbine and associated Heat Recovery Steam Generator (HRSG, a type of boiler) and steam turbine. The CCGT will combust natural gas to drive a gas turbine, which is connected to a generator producing electricity. A by-product of this process is usable heat which remains in the gas; this is passed into an HRSG which makes steam to generate additional electricity via a steam turbine.

Approximate heights for the main buildings are as follows:

- HRSG building 56m
- HRSG stack 85m
- Steam turbine 35m
- Gas turbine 32m.

The Project will also include a post combustion Carbon Capture Plant (CCP), allowing for the capture and compression of the carbon dioxide (CO_2) from the Power Station's emissions; this will be connected to a CO_2 transport pipeline that forms part of the Acorn Project Carbon Capture and Storage (CCS), under development by other parties. The destination for the CO_2 transport and storage system is subject to a separate study and consent application.

Approximate heights for the core CCP buildings are as follows:

- Exhaust gas cooling and conditioning plant (approximately 36m)
- Absorber column (approximately 100-130m)
- Solvent reclaimer tower (approximately 53m)

For reference, the existing Peterhead Power station has two stacks at 170m and 90m in height.

An illustrative site layout is provided in the image below depicting potential locations of core Project components. This is an initial indicative layout and will be subject to refinement throughout the Environmental Impact Assessment (EIA) process and as engagement with technology suppliers progresses.

sub text for image if required.

The Project will be constructed alongside the existing Peterhead Power Station, but with the long-term vision for the Peterhead site to only deliver low-carbon power generation.

The existing power station continues to provide essential flexible and efficient generation to keep the lights on while supporting the continued growth of renewables on the system. It currently has a contract to provide capacity to the grid until September 2022 and will have opportunities to secure further agreements in future auctions. As part of our Environmental Impact Assessment work for the Project, we will make appropriate assumptions regarding the likely future running hours of the existing station.

The Project and its low carbon operation will be prioritised over the running of the existing Power Station and while ultimately Peterhead Carbon Capture Power Station is designed to replace unabated generation (i.e. without carbon capture) at the site, the Project is in the early stages of development and no decisions have yet been made about when the existing station will close.

About the Acorn Project

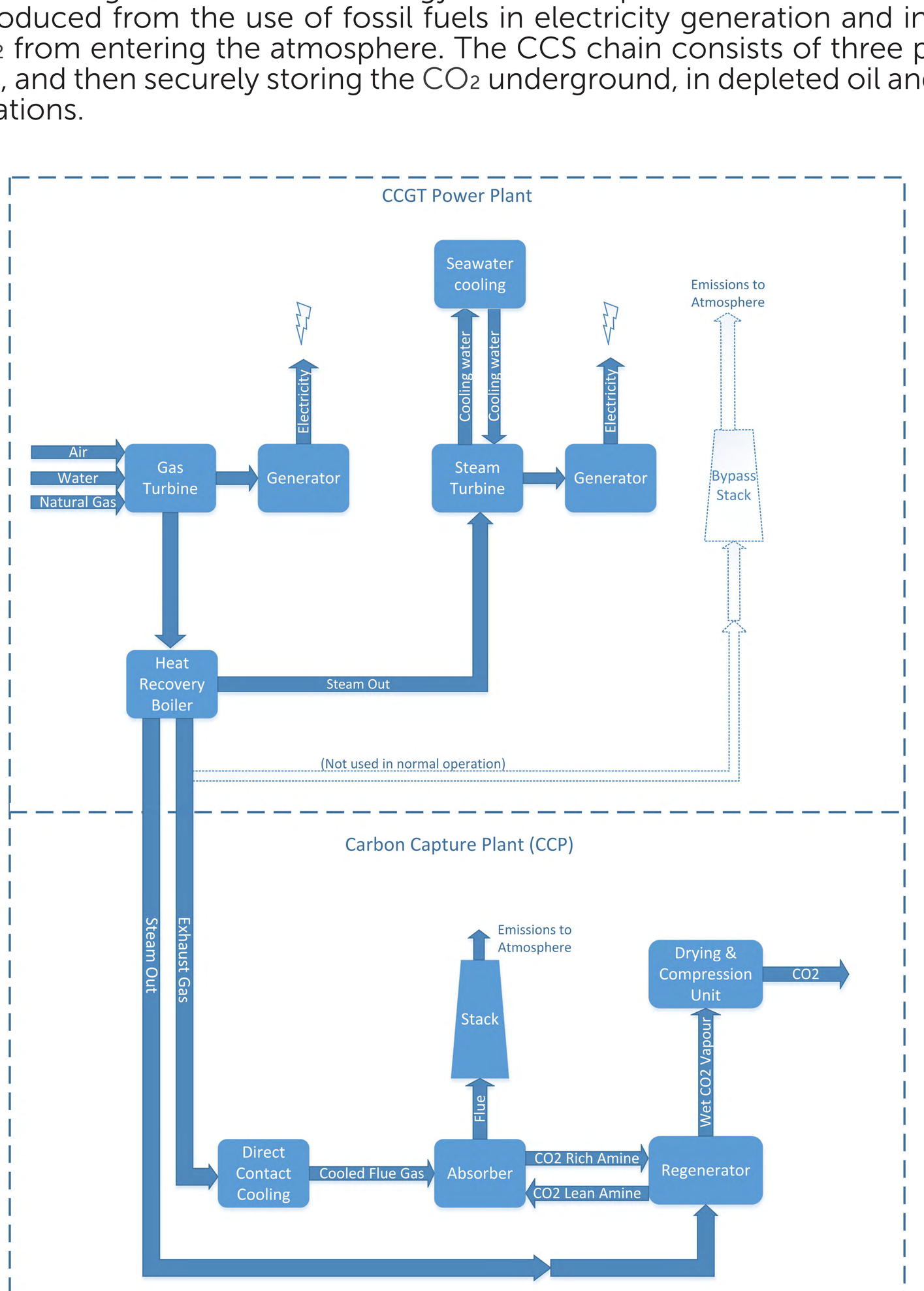
It is proposed that the Project will be a key customer to the Acorn Project Carbon Capture and Storage (CCS). This project is led by Storegga with their partners Harbour Energy and Shell, with funding support from the UK and Scottish Governments, and the European Union. Based at the St. Fergus gas terminal in North East Scotland, the Acorn Project will make use of existing gas pipelines and infrastructure to transport CO_2 directly to the Acorn CO_2 storage site below the Central North Sea for safe storage. The Acorn Project is subject to a separate planning consent application and will be undertaken by the Acorn Project partners.

For more information on this project, please visit **https://theacornproject.uk/**

What is Carbon Capture and Storage?

A diagram to demonstrate a CO_2 storage system

Carbon Capture and Storage (CCS) is a technology that can capture at least 90% of the carbon dioxide (CO_2) emissions produced from the use of fossil fuels in electricity generation and industrial processes, preventing the CO_2 from entering the atmosphere. The CCS chain consists of three parts; capturing the CO_2, transporting it, and then securely storing the CO_2 underground, in depleted oil and gas fields or deep saline aquifer formations.



Schematic of CCGT Power Plant and Carbon Capture Plant

Energy generation at Peterhead

SSE Thermal operates the existing Peterhead Power Station in Aberdeenshire. The Power Station became operational in 1982 and has an output of up to 1,180MW. In the 2000s, the plant underwent a major repowering project to convert it into an efficient CCGT power station. At the present time, Peterhead Power Station is the largest power station of its kind in Scotland and SSE's only Thermal plant in Scotland, playing a crucial role in supporting the system and providing reliable and flexible generation.

Carbon Capture at Peterhead

In 2011, the UK Government selected Peterhead Power Station as a potential candidate for a pilot project of carbon capture and storage (CCS) in the UK. The project, developed by SSE and project partners Shell, would have been a world-first fully integrated commercially operating CCS solution. However, in 2015 the Government announced that the £1bn grant for developing new CCS technology was no longer available.

Since this time, many factors have changed and advanced. The UK has legislated to cut national greenhouse gas emissions to net zero by 2050, and Scotland has committed to being net zero by 2045. This will require a major transition in the way we generate and use energy, with carbon capture and storage being one of the crucial technologies able to support a renewables-led power system and as a necessity for reaching the net zero ambitions.

There has been significant progress and momentum from UK Government in developing policy and routes to market which will enable investment in carbon capture technology and we have engaged with the Scottish Government, where there is also support for these technologies. This, combined with the legislative imperative to reach net zero emissions by 2050 or before, provides confidence that the UK will see investment in power stations with carbon capture this decade.

We believe efficient gas-fired generation is essential to delivering net zero emissions by 2050, providing the flexibility needed to back up a system based on renewables. The Project will only be built with a clear route to decarbonisation, by equipping it with post-combustion Carbon Capture Plant (CCP) technology.

Environmental Impact Assessment (EIA)

EIA is the process of identifying, evaluating and mitigating the likely significant effects of a Project. A team of environmental specialists are conducting a range of studies to assess the potential effects that the Peterhead Carbon Capture Power Station Project could have. The scope of these studies is agreed by the Energy Consents Unit (ECU) in consultation with the appropriate regulating bodies such as SEPA and the local planning authority. The results of these studies will inform the design of the Project and protect the environment by minimising potential effects on receptors such as the local community, wildlife, water quality, landscape, recreation and tourism.

The studies will be presented in an EIA Report which will also contain a non-technical summary. The results of the EIA will ensure that the potential effects of the Project are known to decision makers such as the Scottish Ministers and the planning authority to inform their decision-making on the application.

The following topics will be included in the EIA:

Air Quality

Air quality impacts could arise due to construction activities, construction vehicle movements and from stack emissions during operation. An air quality assessment is being carried out utilising available baseline monitoring data and dispersion modelling techniques.

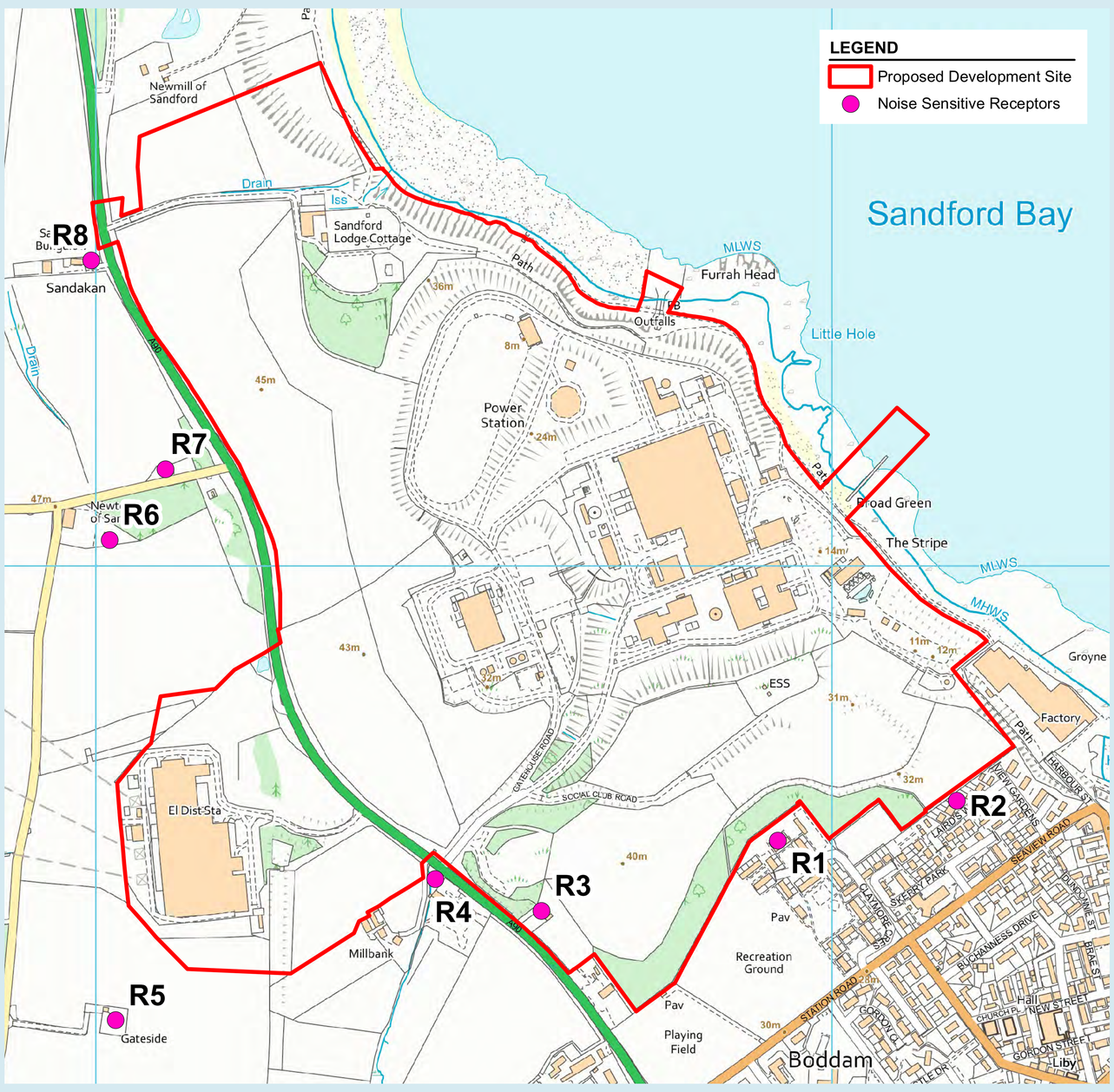
Emissions will be assessed as part of the EIA and mitigation controls will be included in the Construction Environmental Management Plan. Operational emissions will also be assessed in the EIA and compared to assessment criteria established for the protection of human health and ecological protection. Emissions from the existing Power Station are controlled by a permit under the Pollution Prevention and Control (PPC) (Scotland) Regulations 2012. The PPC permit would be subject to variation to ensure operational emissions from the Project are managed. The Project will be designed to comply with the relevant regulatory framework in line with SEPA guidance and best available techniques (BAT) guidance prepared by the Environment Agency.

Landscape and Visual Impact Assessment

The Project Site is located within a landscape characterised by both natural coastal features and man-made features such as the village of Boddam, the existing Power Station, and an operational quarry. Parts of the coastline to the north of Peterhead, and to the east and south of Boddam are within the North East Aberdeenshire Coast Special Landscape Area (SLA). The SLA is locally designated by Aberdeenshire Council. The landscape and visual assessment aims to provide an objective way of understanding and assessing the likely change that the Project will have on the character and appearance of the surrounding landscape and on views experienced by people. The assessment will be based on a series of representative viewpoint locations that will be agreed with Aberdeenshire Council and statutory consultees. The viewpoints will be used to help understand the likely change that could be experienced and help influence the design of the Project in order to limit the effects on views and the landscape. For example, through ensuring effective use of vegetation for screening and careful construction material selection to integrate the Project as effectively as possible into the surrounding landscape.

Noise

The noise assessment will be informed by baseline noise monitoring and modelling. Monitoring locations will be agreed in consultation with Aberdeenshire Councils Environmental Health Officer. Noise monitoring will determine the existing noise levels and allows future noise limits to be set for the construction and operational phases. During construction there is the potential for temporary noise and vibration impacts upon the closest receptors, however with the use of suitable mitigation significant residual construction noise and vibration effects are not anticipated. Noise impacts will be minimised with careful consideration of the location and design of any noise producing equipment and with the incorporation of suitable mitigation measures, no significant residual operational noise and vibration effects are anticipated.



Socioeconomics, Tourism and Recreation

The EIA Report will assess the potential effect the Project could have on employment, local businesses, recreation and tourism. The Project is anticipated to create temporary employment during construction which is expected to last approximately 4 years. This in turn could result in increased spend on local services and accommodation during the period. Construction activities may also have a temporary adverse effect on local receptors such as walkers and users of recreational routes. A desk-based study is currently being undertaken to determine the capacity of accommodation within the surrounding area to meet with increased demand from construction workers travelling to the area.

The operation and maintenance of the Project will create employment which could have a beneficial socio-economic effect over its anticipated 25-year life span.

Climate

The EIA Report will identify and assess the potential for effects to and from climate change as a result of the Project. A Greenhouse Gas (GHG) Impact Assessment will use a lifecycle approach to consider effects on the climate of GHG emissions arising from the Project over its lifetime. A Climate Change Risk (CCR) review will be carried out to assess the resilience of the Project to future climate change impacts. Best practice methods and guidance will be used in these assessments and results will be presented within the EIA Report. Once operational it is anticipated that there will be a net decrease in GHG emissions in comparison to the current emissions due to the use of carbon capture and storage technology. During construction GHG emissions will likely increase from the embodied carbon of the products and materials used in the construction of the Project.

Ecology and Ornithology

Desk-based research identified a number of internationally and nationally important sites for nature conservation within 15km of the Project Site. A suite of ecological surveys looking at the habitats and wildlife around the Project Site are currently underway to establish current biodiversity conditions. Relevant surveys for the area have been selected based on what the local habitat can support, and agreed with NatureScot. The surveys cover habitats, vegetation, aquatic ecology, waterbird, breeding birds, badgers, otter and water vole, red squirrel and bats. The surveys are conducted by suitably qualified specialists in line with statutory requirements and methodologies provided in national guidelines. Survey results will factor into the design of the Project and will also influence the construction programme to ensure effects on ecology are minimised.

Potential impacts on ecological features will be assessed and appropriate mitigation will be put in place to avoid and reduce these impacts. Ecological enhancement, for example through habitat creation, will also be incorporated into the Project where possible. The ecological assessment, including results of the surveys will be reported within the EIA Report.

**These images were not taken at the Project Site.*

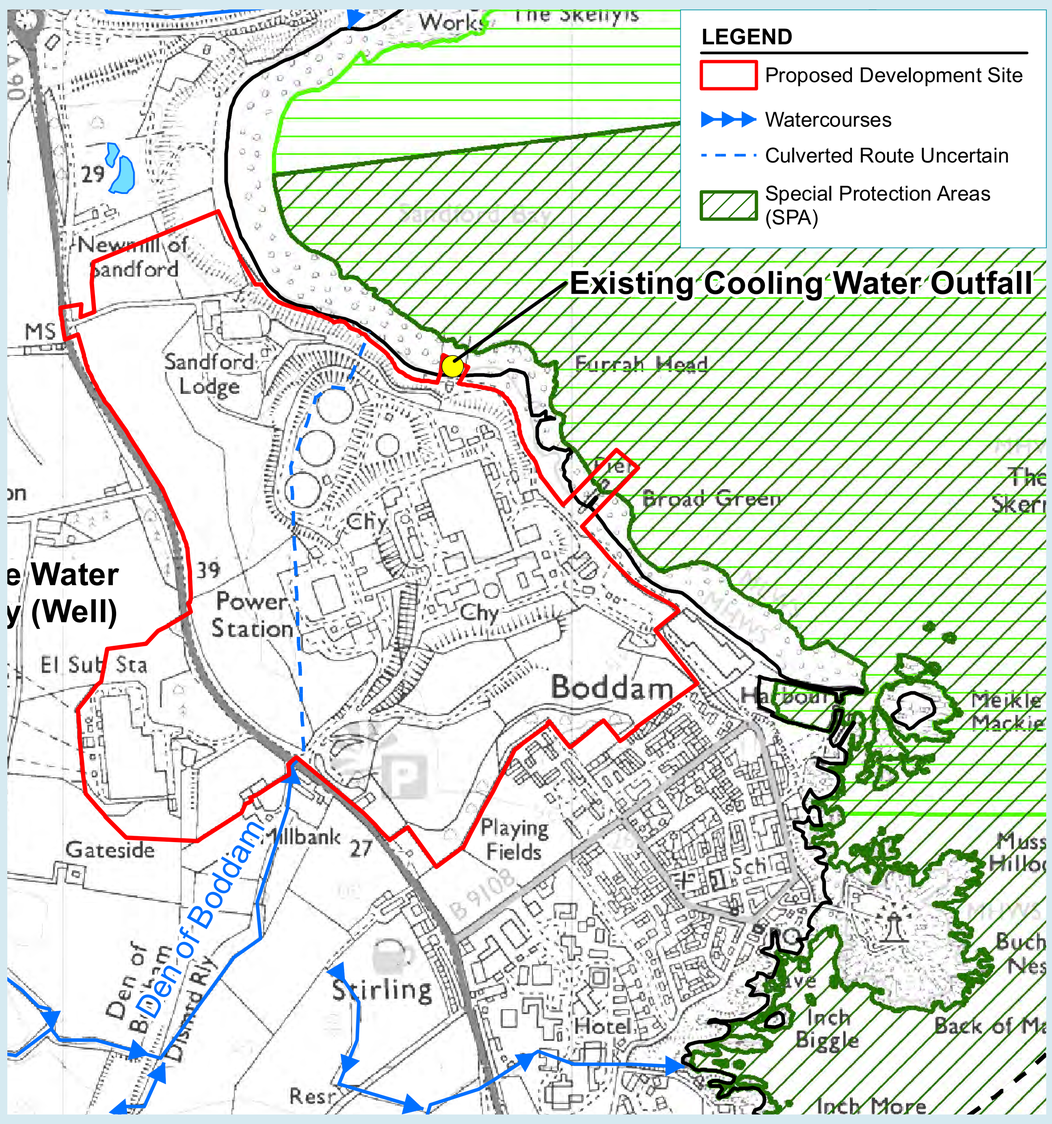
Traffic and Transport

The Traffic and Transport study will assess and quantify the traffic likely to be generated by the project during the construction phase and will determine the most appropriate routes(s) to the Project Site. Access to the Project Site during construction for HGVs is expected to be from the A90 either using the existing Gatehouse Road, existing Sandford Lodge access track, and/or a purpose-built new road with an access road between Gatehouse and Sandford Lodge. Traffic surveys will be undertaken to provide information on the current volume and type of traffic and will allow traffic patterns to be established. An assessment will be undertaken to determine potential impacts during construction and operation of the Project. During operation, impacts are likely to be associated with accessibility of the site from the junction and will also require suitable space for servicing vehicles and staff parking. A Construction Traffic Management Plan will be developed and will seek to manage and minimise traffic and transport impacts.

Water Environment and Flood Risk

The EIA Report will assess impacts of the Project with regard to: water resources (the effects on surface and ground waters); water quality (the chemical composition and ecological status of the water resources and potential effects); and water supply (drinking/ private water supplies). Flood risk will also be assessed, wherein modelling will be undertaken to determine the peak flows in the Den of Boddam and the potential flood risk at key receptors.

These assessments will feed into the design, construction, and operation of the Project and will seek to prevent or manage any adverse effects such as water resource contamination or increased surface water flooding. Water discharge from the existing Power Station is currently controlled by a PPC permit, an application to SEPA will be submitted to vary the current permit and ensure discharges associated with the operation of the Project fall within acceptable limits.



Ground Conditions

A geological and ground conditions assessment will be undertaken to consider soils, geology, hydrogeology, and land contamination and potential effects on receptors such as nearby residences and the North Sea. The design of the Project will be informed by ground investigation which the requirement for remediation and will inform siting of Project elements.

A desk-based study has identified the main potential source of contamination as the former Heavy Fuel Oil (HFO) Tank Farm within the Project Site, remediation has been undertaken in the past however potential residual contamination may require further assessment. With the use of mitigation, for example through remediation and the development of environmental management plans, no significant effects to or from ground conditions are anticipated. It is possible that the Project will result in beneficial effects by implementing remediation measures.

Heritage

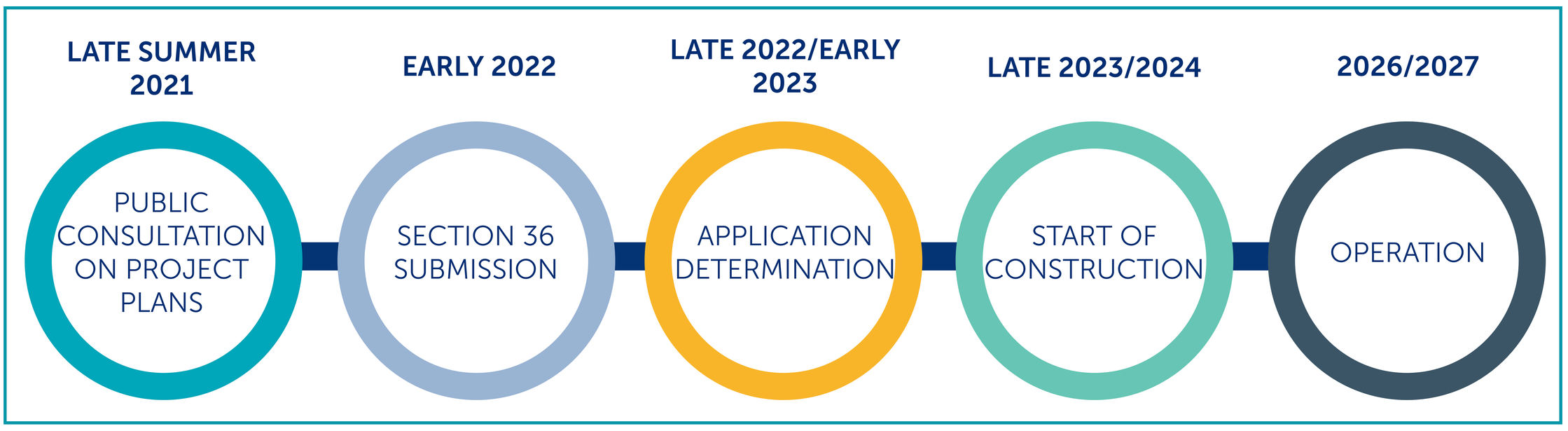
A desk-based study and site survey has been undertaken to establish the heritage baseline conditions. From this, a number of statutory and non-statutory heritage assets have been identified. The Category B listed Sandford Lodge and associated Category C listed Walled Garden are located within the Project Site and will be retained as part of the Project. Within 1km of the Project Site there are a number of designated features including: Boddam Conservation Area and listed buildings; Boddam Castle scheduled monument; the Category B listed Windmill Tower at Glenugie Distillery; and the Category A listed Buchan Ness Lighthouse.


Sandford Lodge

The Project has the potential to impact the setting of these assets which will be assessed within the EIA however appropriate mitigation will be considered and identified where required. The assessment will be informed by national and local heritage records and the findings of site surveys will be included within the EIA Report.

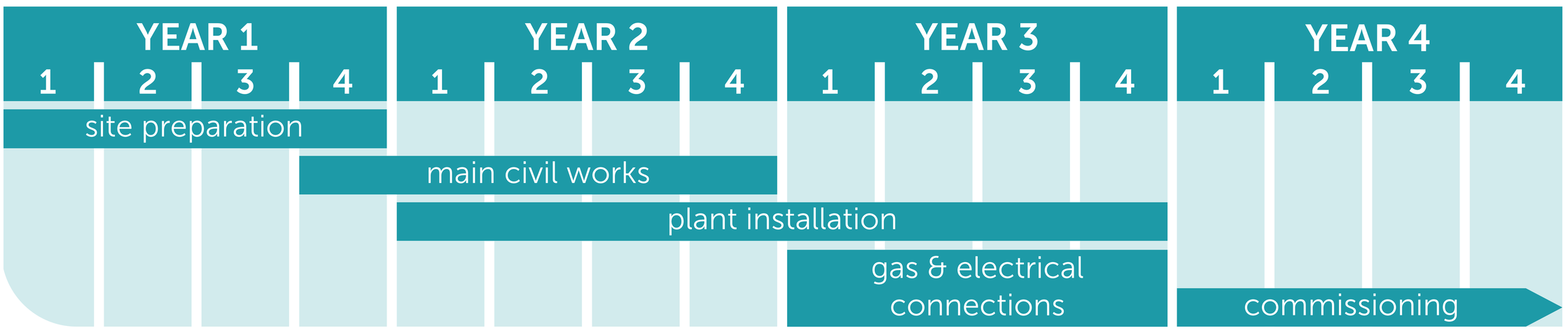
Indicative Programme

It takes several years to plan and develop this type of project and there are several factors which need to be clarified and confirmed before we would be in a position to take a Final Investment Decision (FID), including consenting. The process would take at least two years, and a FID would be some months after that. Construction would take a further three years approximately. The diagram below sets out an indicative programme.



Construction

Construction of the Project could potentially start as early as Quarter 4 2023, with construction activities to be completed within three years followed by a commissioning phase. The figure below shows an indicative programme.



Haul Routes and Laydown Areas

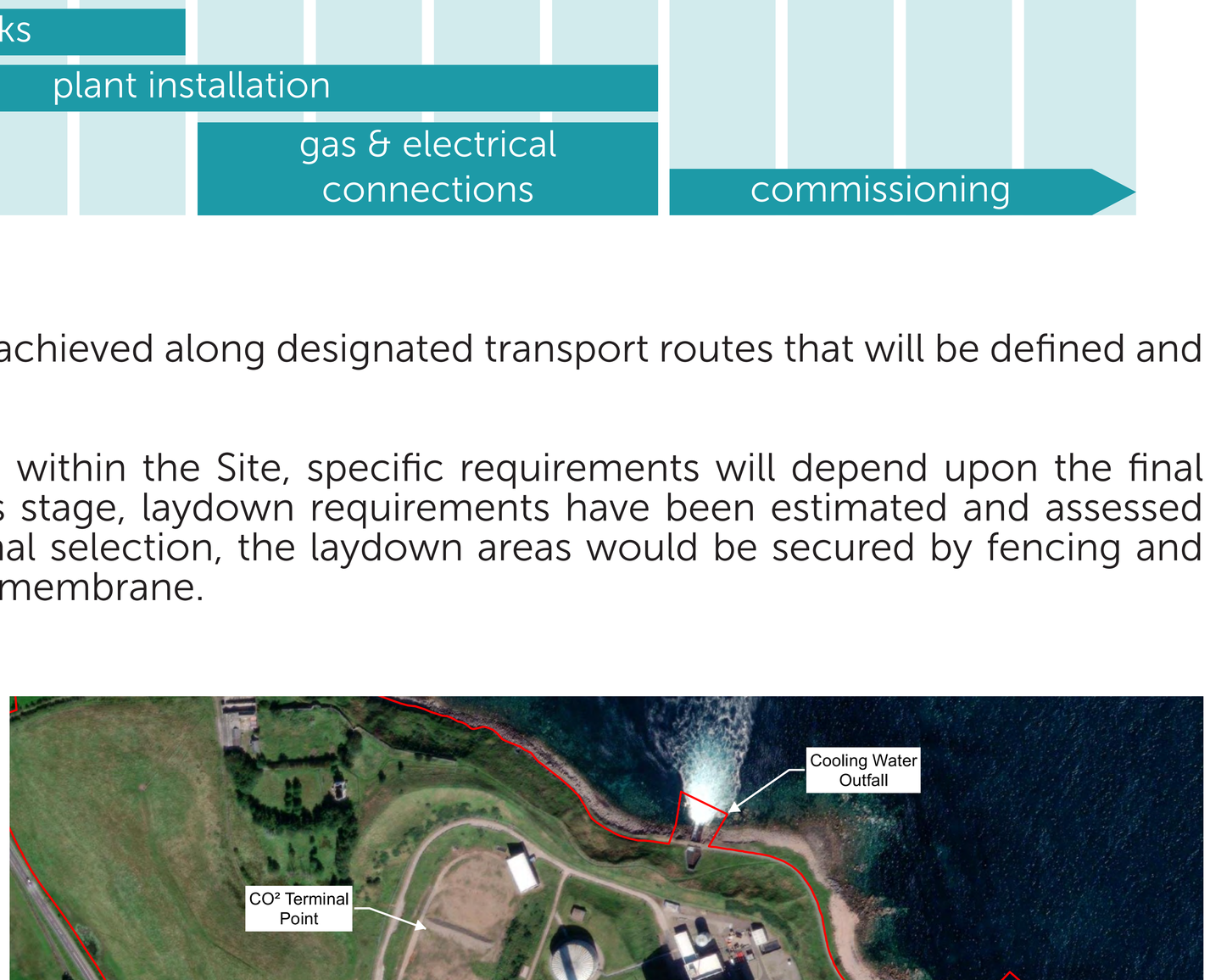
Construction traffic and road haulage will be achieved along designated transport routes that will be defined and assessed as the design progresses.

Construction laydown areas will be required within the Site, specific requirements will depend upon the final choice of technology and contractor. At this stage, laydown requirements have been estimated and assessed using worst-case assumptions. Subject to final selection, the laydown areas would be secured by fencing and gates, levelled and underlain by a permeable membrane.

Earthworks and Connections

Some earthworks may be required to reprofile the site. As far as practicable, excess spoil will be reused as part of the construction works although some movement of materials to and from the site may be necessary. Soils will be stored away from watercourses and areas of higher flood risk.

The existing cooling water abstraction intake and outfall used for Peterhead Power Station will also be utilised for this Project and new connections and pipework will be installed to facilitate the use of these. The water abstraction point is located in Boddam Harbour to the south-east and a water outfall discharging into Sandford Bay to the north-east. The existing gas pressure reduction station located within the existing Power Station site will be used and new gas pipework will be installed. Electricity transmission infrastructure will be required to connect the Project to the National Grid electricity transmission system through the existing SHETL 275kV substation.



Construction Phase Mitigation

We would require our contractor to produce and maintain a Construction Environmental Management Plan to control construction activities to minimise, as far as reasonably practicable, impacts on the environment and amenity. This would include industry best practice measures as well as specific measures set out in our EIA Report. A Framework Construction Environmental Management Plan will be produced in support of our Section 36 application and will set out a range of measures such core construction working hours, key management and monitoring activities to be carried out by the contractor. It is also expected that a range of mitigation measures will be secured through conditions attached to the S36 consent.

Find out more and provide comments

Webinar Sessions

We are holding online webinar sessions where members of the Project Team will provide an overview of the Project followed by an opportunity for you to raise any questions you may have. The dates and times for the webinar sessions are provided below along with the joining details.

To attend on of these:

- Click on the 'add to calendar' link below for your preferred date to add the joining instructions as an appointment in your desktop/table/smartphone calendar.
- Then a few minutes before the start time on your chosen date, click the link (or dial the telephone number) in the joining instructions. The link will open in a browser window, or in Microsoft Teams if it is installed on your device.
- Each webinar will be around one hour in length and will include a presentation followed by a question and answer session. Those joining the session online will be able to use the 'Chat' function to submit questions which will be logged and covered during the question and answer section. Those joining via telephone will be given the opportunity to ask questions at the end of the session.
- The webinar sessions will be public events so please be aware that your name/username will be visible to all other attendees.

Date and time	Joining link	Join by phone (audio only)
Tuesday 31 August, 3pm	Click here to join the meeting	+44 20 3880 2798 UK, London 0800 048 9030 UK, freephone Phone Conference ID: 851 303 626#
Thursday 2 September, 7pm	Click here to join the meeting	+44 20 3880 2798 UK, London 0800 048 9030 UK, freephone Phone Conference ID: 350 722 970#
Wednesday 15 September, 1pm	Click here to join the meeting	+44 20 3880 2798 UK, London 0800 048 9030 UK, freephone Phone Conference ID: 610 922 336#

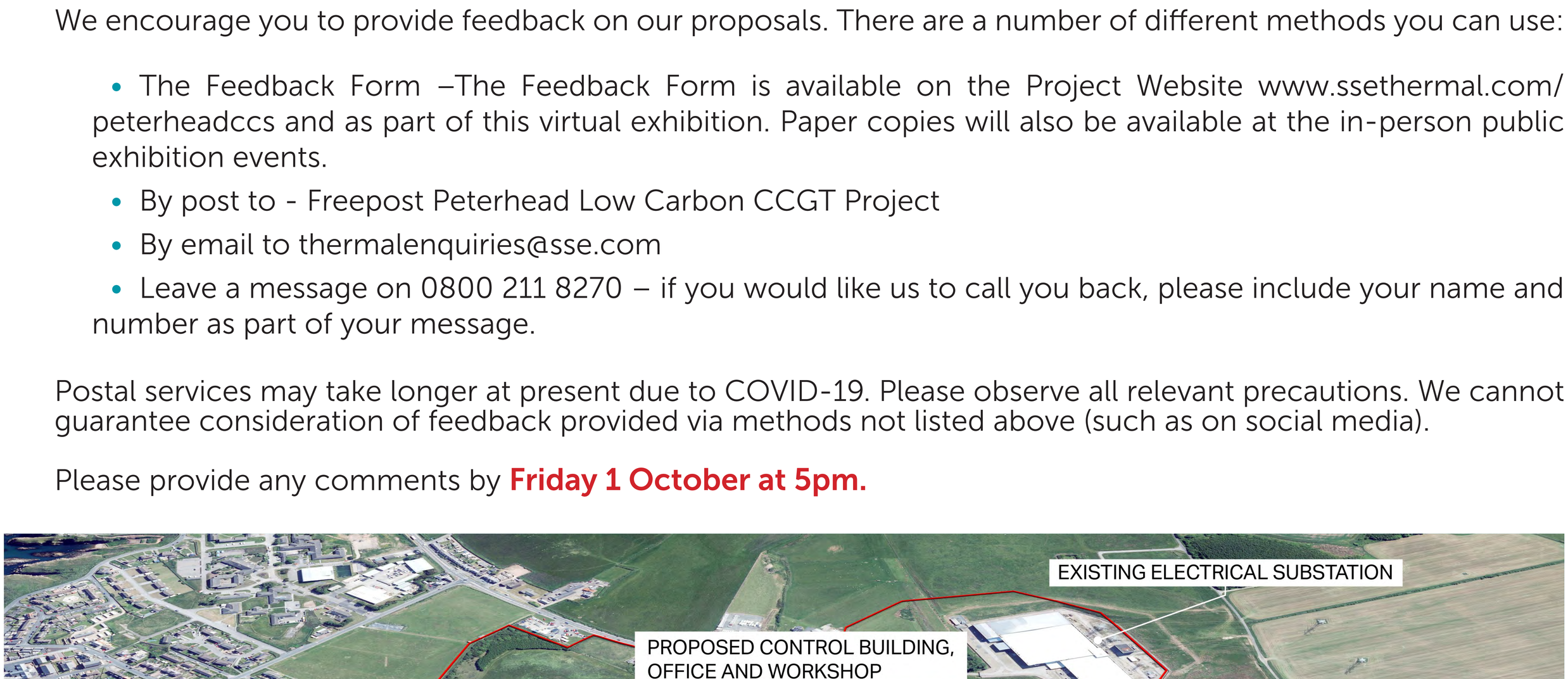
Provide Comments

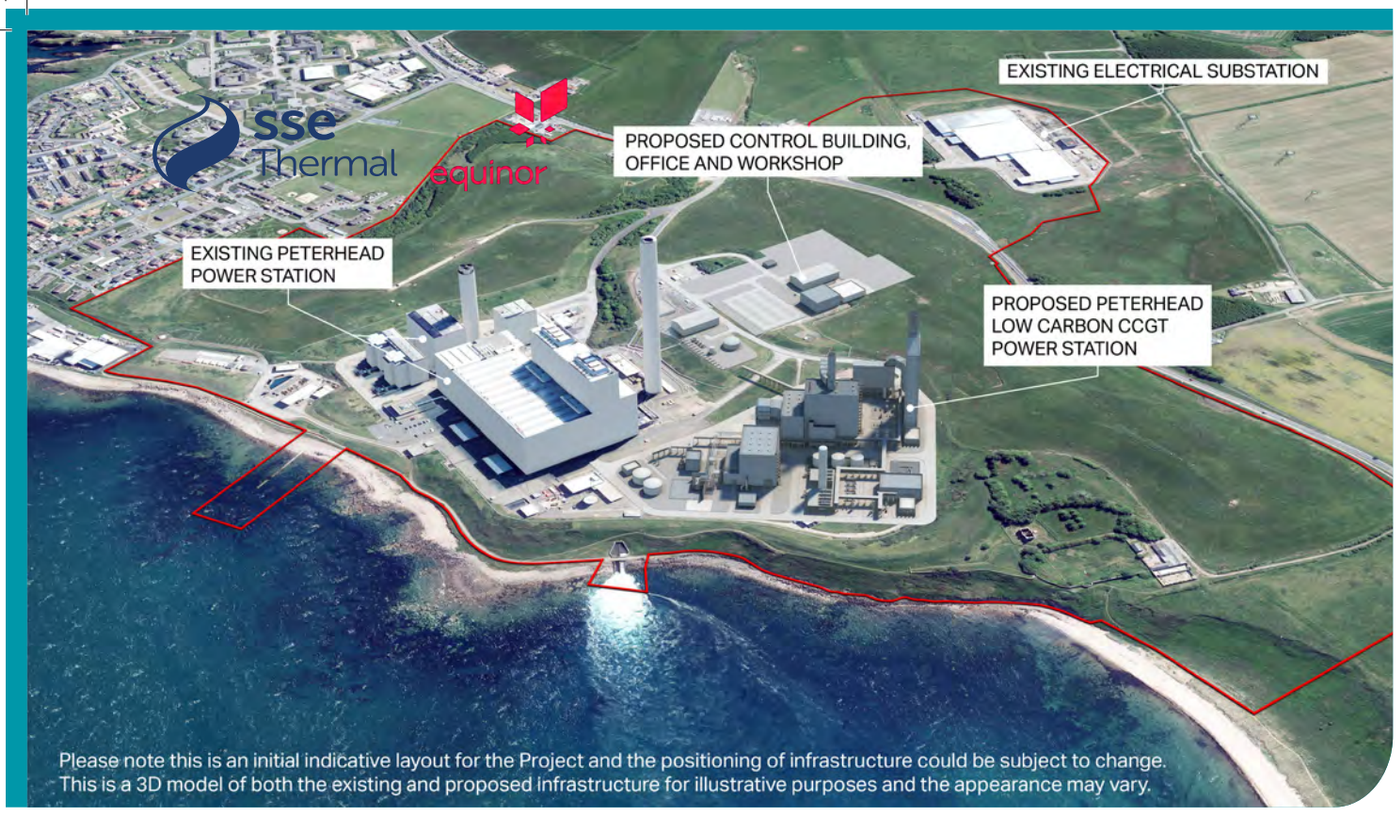
We encourage you to provide feedback on our proposals. There are a number of different methods you can use:

- The Feedback Form –The Feedback Form is available on the Project Website www.ssethermal.com/peterheadccs and as part of this virtual exhibition. Paper copies will also be available at the in-person public exhibition events.
- By post to - Freepost Peterhead Low Carbon CCGT Project
- By email to thermalenquiries@sse.com
- Leave a message on 0800 211 8270 – if you would like us to call you back, please include your name and number as part of your message.

Postal services may take longer at present due to COVID-19. Please observe all relevant precautions. We cannot guarantee consideration of feedback provided via methods not listed above (such as on social media).

Please provide any comments by **Friday 1 October at 5pm.**





PETERHEAD LOW CARBON CCGT **POWER STATION PROJECT**

Stage 2 Consultation – 23 August to 1 October 2021

SSE Thermal and Equinor are seeking to develop and operate a new low carbon combined cycle gas turbine (CCGT) power station at Peterhead. This project, which will be known as Peterhead Low Carbon CCGT Power Station Project or 'Peterhead Carbon Capture Power Station' (hereafter referred to as 'the Project'), will be located on land at the existing Peterhead Power Station in Aberdeenshire. The Project will have a generating capacity of up to 910 megawatts (MW) and will utilise existing connections at the Peterhead Power Station such as cooling water, gas supply and grid connections.

In line with both companies' vision and commitment to a net-zero future, the Project will use natural gas as its fuel and will be fitted with a Carbon Capture Plant to remove the carbon dioxide (CO_2) from its emissions. The CO_2 will be transported by a pipeline to be safely stored in an offshore storage site typically comprising depleted oil and gas fields. The CO_2 pipeline from the Power Station will be subject to separate consent applications and undertaken as part of a separate project known as the Acorn Project.

In order to develop the Project, we will need to obtain consent under Section 36 of the Electricity Act 1989. We are therefore preparing a Section 36 application for submission to the Scottish Government Energy Consents Unit (ECU). Successful development of the Project will also be subject to support for the shared CO_2 infrastructure from the UK Government through its industrial clusters process[1].

Find out more and provide comments

In May 2021 we announced the Project and carried out our Stage 1 Consultation. We have now developed the plans for the Project further and are able to provide more detailed information as part of this Stage 2 Consultation. We would once again welcome your feedback. There are three ways to learn more about the Project: Visiting our virtual exhibition, joining one of our online webinars, and/or attending our in-person public exhibition events. Each of these is described below.

Virtual Exhibition

We would like to invite members of the local community to visit our virtual exhibition space which will be available from **Monday 23rd August** until **Friday 1st October 2021**. Please view our virtual public exhibition space available at **https://peterheadlowcarbon.consultation.ai/**

[1] www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-deployment-phase-1-expressions-of-interest

Webinar Sessions

We are also holding online webinar sessions where members of the Project Team will provide an overview of the Project followed by an opportunity for you to raise any questions you may have. The dates and times for the webinar sessions are provided below:

- **Tuesday 31 August at 3pm**
- **Thursday 2 September at 7pm**
- **Wednesday 15 September at 1pm**

The webinars will start at the times shown and can be accessed via the virtual exhibition space. Further instructions are provided on page 8.

In-Person Public Exhibitions

In addition, you are also invited to visit our in person public exhibition events, which provide the opportunity to meet the Project Team, find out more information about the Project, ask questions and provide feedback on the proposals. Details of the events are provided below:

Date	Time	Venue
Monday 6 September	4pm to 7pm	Buchan Braes Hotel, Boddam, AB42 3AR
Tuesday 7 September	10am to 12.30pm & 2pm to 4:30pm	Peterhead Football Club, AB42 1EQ
Wednesday 8 September	10am to 1pm	Buchan Braes Hotel, Boddam, AB42 3AR

If Government guidance relating to Covid 19 changes we may need to cancel these events at short notice. If this is the case we will do our best to inform members of the community as far in advance as possible.

The events will be held with social distancing measures in place to make them as safe as possible for visitors and staff. We'd therefore encourage you to pre-register for your chosen timeslot at Eventbrite via the following links to guarantee entry at your preferred time:

Monday 6 September: http://tiny.cc/6Sep

Tuesday 7 September: http://tiny.cc/7Sep

Wednesday 8 September: http://tiny.cc/8Sep

Registering will help us control numbers and ensure social distancing can be maintained, however you can still attend without pre-registering but may experience a short wait before being allowed entry. Before setting off to an event, please check the Project Website for the latest information on how the events will be run.

Provide Comments

We encourage you to provide feedback on our proposals. There are a number of different methods you can use:

- The Feedback Form – this is attached to this newsletter and can be returned via Freepost. The Feedback Form is also available on the Project Website **www.ssethermal.com/peterheadccs** and as part of our virtual exhibition at **https://peterheadlowcarbon.consultation.ai/**
  Paper copies will also be available at the public exhibition events.
- By post to Freepost – **Peterhead Low Carbon CCGT Project**
- By email to **thermalenquiries@sse.com**
- Leave a message on 0800 211 8270 – if you would like us to call you back, please include your name and number as part of your message.

Postal services may take longer at present due to COVID-19. Please observe all relevant precautions. We cannot guarantee consideration of feedback provided via methods not listed above (such as on social media).

Please provide any comments by **Friday 1 October at 5pm.**

About the Peterhead Carbon Capture Power Station

The Project will consist of one combined cycle gas turbine (CCGT) unit with a total electrical output of up to 910MW. The CCGT will comprise of one high efficiency gas turbine and associated Heat Recovery Steam Generator (HRSG, a type of boiler) and steam turbine. The CCGT will combust natural gas to drive a gas turbine, which is connected to a generator producing electricity. A by-product of this process is usable heat which remains in the gas; this is passed into an HRSG which makes steam to generate additional electricity via a steam turbine.

Approximate heights for the main buildings are as follows:

- HRSG building 56m
- HRSG stack 85m
- Steam turbine 35m
- Gas turbine 32m.

The Project will also include a post combustion Carbon Capture Plant (CCP), allowing for the capture and compression of the carbon dioxide (CO_2) from the Power Stations emissions; this will be connected to a CO_2 transport pipeline that forms part of the Acorn Project Carbon Capture and Storage (CCS), under development by other parties. The destination for the CO_2 transport and storage system is subject to a separate study and consent application.

Approximate heights for the core CCP buildings are as follows:

- Exhaust gas cooling and conditioning plant (approximately 36m)
- Absorber column (approximately 100-130m)
- Solvent reclaimer tower (approximately 53m)

An illustrative site layout is provided in the image below depicting potential locations of core Project components. This is an initial indicative layout and will be subject to refinement throughout the Environmental Impact Assessment (EIA) process and as engagement with technology suppliers progresses.

SSE Thermal operates the existing Peterhead Power Station in Aberdeenshire. The Power Station became operational in 1982 and has an output of up to 1,180MW. The Project will be constructed alongside the existing Peterhead Power Station, but with the long-term vision for the Peterhead site to only deliver low-carbon power generation.

The existing Power Station continues to provide essential flexible and efficient generation to keep the lights on while supporting the continued growth of renewables on the system. It currently has a contract to provide capacity to the grid until September 2022 and will have opportunities to secure further agreements in future auctions. As part of our Environmental Impact Assessment work for the Project, we will make appropriate assumptions regarding the likely future running hours of the existing Power Station.

The Project and its low carbon operation will be prioritised over the running of the existing Power Station and while ultimately, Peterhead Carbon Capture Power Station is designed to replace unabated generation (i.e. without carbon capture) at the Site, the Project is in the early stages of development and no decisions have yet been made about when the existing Power Station will close.

About the Acorn Project

It is proposed that the Project will be a key customer to the Acorn Project Carbon Capture and Storage (CCS). The Acorn Project is led by Storegga with their partners Harbour Energy and Shell, with funding support from the UK and Scottish Governments, and the European Union. Based at the St. Fergus Gas Terminal in North East Scotland, the Acorn Project will make use of existing gas pipelines and infrastructure to transport CO_2 directly to the Acorn CO_2 storage site below the Central North Sea for safe storage. The Acorn Project is subject to a separate consent application and will be undertaken by the Project Acorn partners.

For more information on the Acorn Project, please visit **https://theacornproject.uk/**

Carbon Capture at Peterhead

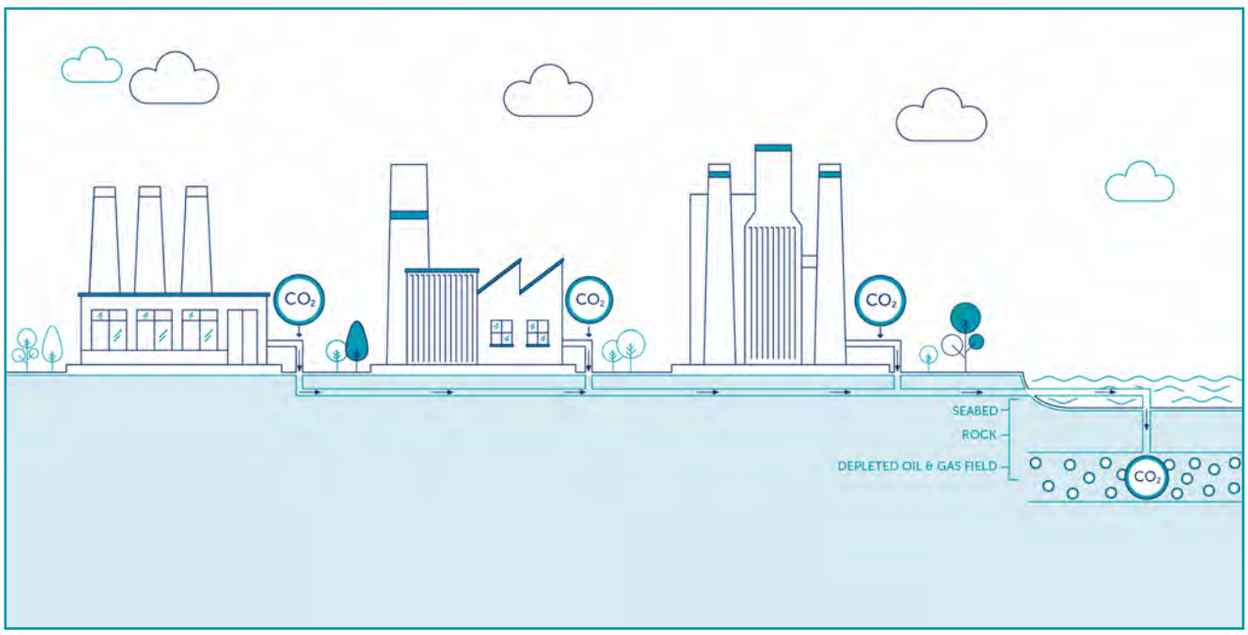
In 2011, the UK Government selected Peterhead Power Station as a potential candidate for a pilot project of carbon capture and storage in the UK. That project, developed by SSE and project partners Shell, would have been a world-first fully integrated commercially operating CCS solution. However, in 2015 the Government announced that the £1bn grant for developing new carbon capture and storage (CCS) technology was no longer available.

Since this time, many factors have changed and advanced. The UK has legislated to cut national greenhouse gas emissions to net zero by 2050, and Scotland has committed to being net zero by 2045. This will require a major transition in the way we generate and use energy, with CCS being one of the crucial technologies able to support a renewables-led power system and as a necessity for reaching the net zero ambitions. The Climate Change Committee (CCC) has stated the need to invest in low carbon technologies and that the roll out of CCS is a key action in achieving net zero.

There has been significant progress and momentum from UK Government in developing policy and routes to market which will enable investment in carbon capture technology and we have engaged with the Scottish Government, where there is also support for these technologies. This, combined with the legislative imperative to reach net zero emissions by 2050 or before, provides confidence that the UK will see investment in power stations with carbon capture this decade.

We believe efficient gas-fired generation is essential to delivering net zero emissions by 2050, providing the flexibility needed to back up a system based on renewables. The Project will only be built with a clear route to decarbonisation, by equipping it with post-combustion Carbon Capture Plant (CCP) technology.

What is CCS?



A diagram to demonstrate a CO_2 storage system

Carbon Capture and Storage (CCS) is a technology that can capture at least 90% of the carbon dioxide (CO_2) emissions produced from the use of fossil fuels in electricity generation and industrial processes, preventing the CO_2 from entering the atmosphere. The CCS chain consists of three parts; capturing the CO_2, transporting it, and then securely storing the CO_2 underground, in depleted oil and gas fields or deep saline aquifer formations.

Further information on CCS can be found at our virtual exhibition space and at our public exhibition events.

What has changed since Stage 1 Consultation?

The Stage 1 Consultation ran from 10 May to 7 June 2021 and was intended to introduce the Project to the local community and provide an opportunity to comment on the early proposals. As part of the consultation, newsletters (which included a Freepost Feedback Form and details of a Virtual Exhibition Event) were posted to every residential and business address within a 5km radius of Peterhead Power Station. The feedback received at Stage 1 was mostly positive, with all comments recorded and taken into account when preparing for this latest stage of consultation. Full details of the consultation methods employed to engage with the local community and a summary of the feedback received from participants at Stage 1 can be accessed in the Virtual Consultation Portal, in addition to the wider Stage 2 Consultation materials.

An Environmental Impact Assessment (EIA) Scoping Report was submitted to the ECU in May 2021, identifying likely significant environmental and social impacts of the Project, and the proposed scope and methodologies for the EIA. Feedback has been received from a number of consultees which will be addressed throughout the EIA process. In addition, we have been engaging directly with a range of consultees such as the Scottish Environment Protection Agency (SEPA) and NatureScot on specific technical aspects of the EIA. The Project design has also been progressing iteratively alongside the EIA and we are now able to provide initial visualisations of the Project.

Environmental Impact Assessment (EIA)

EIA is the process of identifying, evaluating and mitigating the likely significant effects of a project. A team of environmental specialists are conducting a range of studies to assess the potential effects that that the Peterhead Carbon Capture Power Station Project could have. The scope of these studies is agreed by the Energy Consents Unit (ECU) in consultation with the appropriate regulating bodies such as SEPA and the local planning authority. The results of these studies will inform the design of the Project and protect the environment by minimising potential effects on receptors such as the local community, wildlife, water quality, landscape, recreation and tourism.

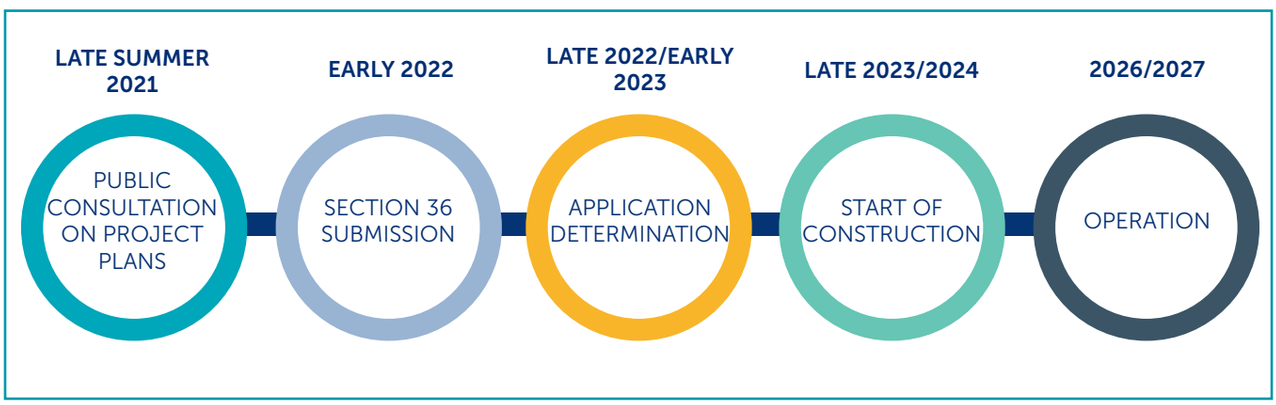
The studies will be presented in an EIA Report which will also contain a non-technical summary. The results of the EIA will ensure that the potential effects of the Project are known to decision makers such as the Scottish Ministers and the planning authority to inform their their decision-making on the application.

The following topics will be included in the EIA, with further information on each available at both the virtual exhibition space and the in person public exhibition events:

- Air Quality
- Noise
- Heritage
- Ecology and Ornithology
- Landscape and Visual Impact Assessment
- Ground Conditions
- Traffic and Transport
- Water Environment and Flood Risk
- Climate
- Socioeconomics, Tourism and Recreation

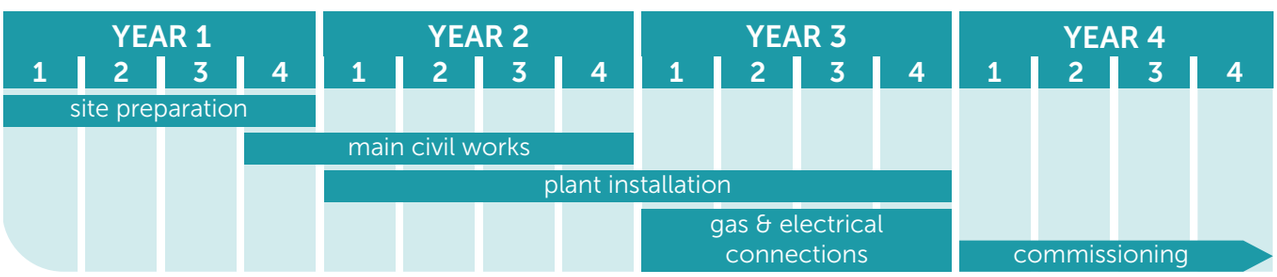
Indicative Programme

It takes several years to plan and develop this type of project and there are several factors which need to be clarified and confirmed before we would be in a position to take a Final Investment Decision (FID), including consenting. The process would take at least two years, and a FID would be some months after that. Construction would take a further three years approximately. The diagram below sets out an indicative programme.



Construction

Construction of the Project could potentially start as early as Quarter 4 2023, with construction activities to be completed within three years followed by a commissioning phase. The figure below shows an indicative programme.



Haul Routes and Laydown Areas

Construction traffic and road haulage will be achieved along designated transport routes that will be defined and assessed as the EIA and design progresses.

Construction laydown areas will be required within the Site, specific requirements will depend upon the final choice of technology and contractor. At this stage, laydown requirements have been estimated and assessed using worst-case assumptions. Subject to final selection, the laydown areas would be secured by fencing and gates, levelled and underlain by a permeable membrane.

Earthworks and Connections

Some earthworks may be required to reprofile the site. As far as practicable, excess spoil will be reused as part of the construction works although some movement of materials to and from the site may be necessary. Soils will be stored away from watercourses and areas of higher flood risk.

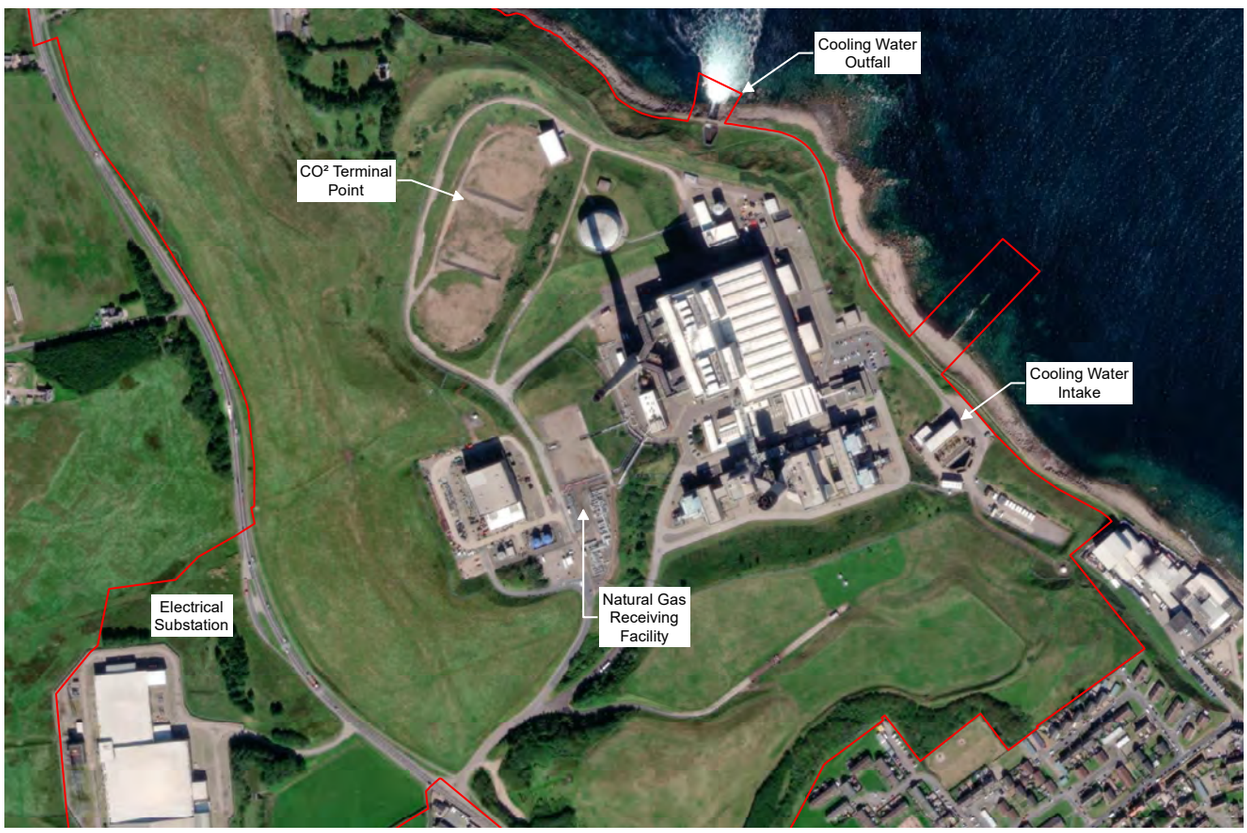
The existing cooling water abstraction intake and outfall used for Peterhead Power Station will also be utilised for this Project and new connections and pipework will be installed to facilitate the use of these.

The water abstraction point is located in Boddam Harbour to the south-east and a water outfall discharging into Sandford Bay to the north-east.

The existing gas pressure reduction station located within the existing power station site will be used and new gas pipework will be installed. Electricity transmission infrastructure will be required to connect the Project to the National Grid electricity transmission system through the existing SHETL 275kV substation.

Construction Phase Mitigation

We would require our contractor to produce and maintain a Construction Environmental Management Plan to control construction activities to minimise, as far as reasonably practicable, impacts on the environment and amenity. This would include industry best practice measures as well as specific measures set out in our EIA Report. A Framework Construction Environmental Management Plan will be produced in support of our Section 36 application and will set out a range of measures such as core construction working hours, key management and monitoring activities to be carried out by the contractor. It is also expected that a range of mitigation measures will be secured through conditions attached to the Section 36 consent.



Accessing the virtual exhibition and webinars

We are holding a series of webinars (please see page 1 for the dates and times).

To attend one of these:

- Firstly visit **https://peterheadlowcarbon.consultation.ai/** and click on the link for your preferred date to add the joining instructions as an appointment in your desktop/tablet/smartphone calendar.
- Then a few minutes before the start time on your chosen date, click the link (or dial the telephone number) in the joining instructions. The link will open in a browser window, or in Microsoft Teams if it is installed on your device.
- Each webinar will be around one hour in length and will include a presentation followed by a question and answer session. Those joining the session online will be able to use the 'Chat' function to submit questions which will be logged and covered during the question and answer section. Those joining via telephone will be given the opportunity to ask questions at the end of the session.
- The webinar sessions will be public events so please be aware that your name/username will be visible to all other attendees.

Find out more

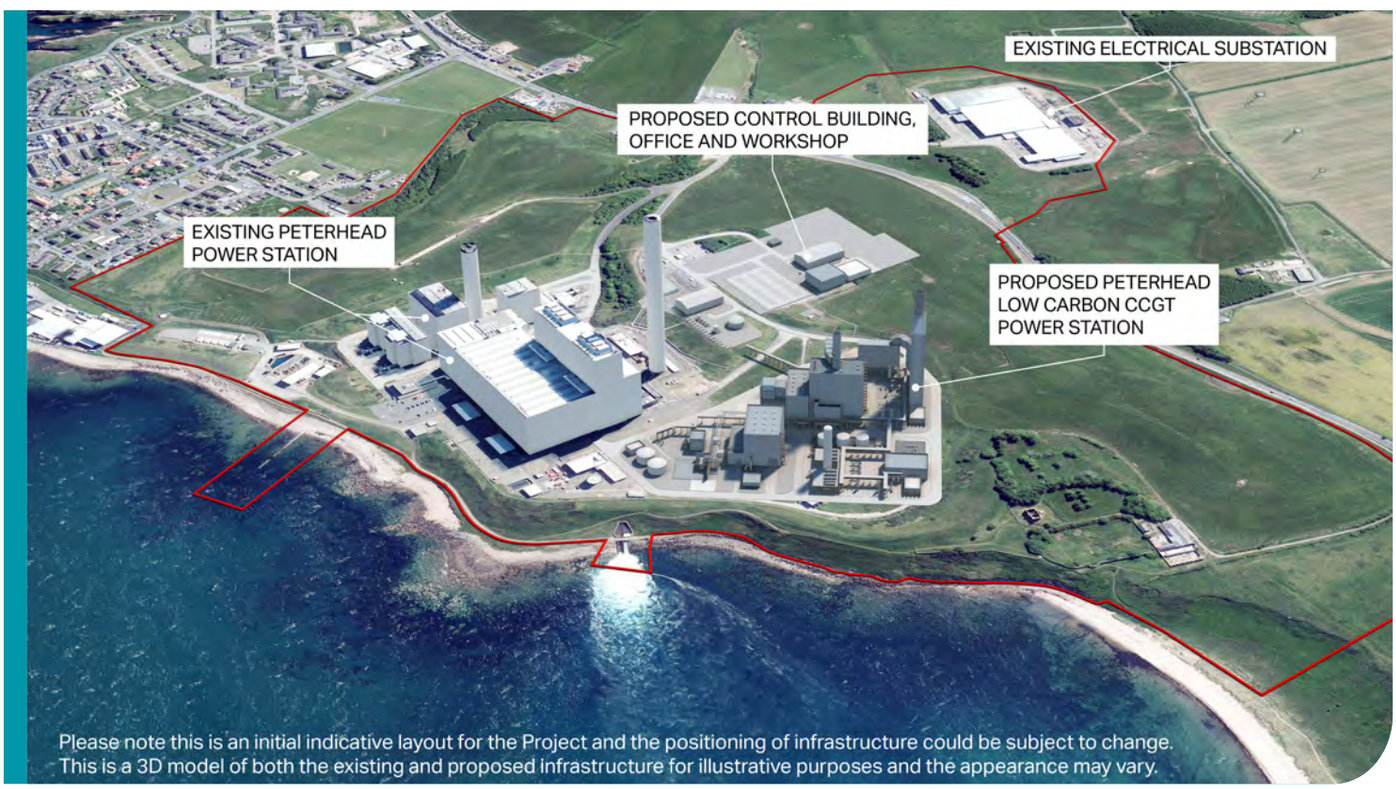
If you have specific questions or comments, please contact the Project Team using the details below:

FREEPHONE 0800 211 8270

Freepost – **Peterhead Low Carbon CCGT Project**

thermalenquiries@sse.com

www.ssethermal.com/peterheadccs



PETERHEAD LOW CARBON CCGT POWER STATION PROJECT

INVITATION TO STAGE 2 CONSULTATION INCLUDING VIRTUAL EVENT, LIVE WEBINARS AND PUBLIC EXHIBITIONS

SSE Thermal and Equinor are seeking to develop and operate a new low carbon combined cycle gas turbine (CCGT) power station with a carbon capture plant (CCP) at Peterhead in Aberdeenshire.

The project will be located on land at the existing Peterhead Power Station in Aberdeenshire and will have a generating capacity of up to 910 megawatts (MW). In line with both companies' vision and commitment to a net-zero future, the plant will use natural gas as its fuel and will be fitted with a carbon capture plant to remove the CO_2 from its emissions.

The virtual exhibition will open on 23 August and can be accessed online at https://peterheadlowcarbon.consultation.ai or via the project website www.ssethermal.com/peterheadccs

We are also holding online webinar sessions with members of the project team. These will be held on Tuesday 31 August at 3pm, Thursday 02 September at 7pm and Wednesday 15 September at 1pm.
A link to these can be found on the virtual exhibition website.

You are also invited to visit our in person public exhibition events, providing a chance to meet the project team and find out more information. Before setting off, please check the project website for the latest information on how the events will be run. Events will be held on Monday 06 September 4pm-7pm and Wednesday 08 September 10pm-1pm at the Buchan Braes Hotel in Boddam, and Tuesday 07 September 10am-12:30pm and 2pm-4:30pm at Peterhead Football Club. Events will be held with social distancing measures in place for visitor and staff safety. We'd encourage you to pre-register at either http://tiny.cc/6Sep, http://tiny.cc/7Sep, or http://tiny.cc/8Sep to guarantee entry at your preferred time.

Our consultation events will contain full details and the opportunity to provide comments. For more information on these events, please visit www.ssethermal.com/peterheadccs
All comments should be provided by Friday 1 October 2021 at 5pm

sse Thermal


Image of the existing Peterhead Power Station which has been operational since 1982.

equinor

Appendix 7.2 – Stage 2 Comments Form

PRIVACY **NOTICE**

This is the privacy notice for the Peterhead Low Carbon CCGT Power Station Project

What personal data will we collect?

You may provide us with the following categories of personal data:

- Name
- Email address
- Postal address
- Telephone number

How we will use your personal data?

We will use your personal data for the following purposes:

- to record accurately and analyse any questions you raise or feedback you have provided;
- to report on our consultation and notification, detailing what issues have been raised and how we have responded to that feedback;
- to personalise communications with individuals we are required to contact as part of future consultation or communications; and
- to deliver documents you have requested from us.

Our General Privacy Notice

This Privacy Notice is subject to the full terms of SSE Thermal's General Privacy Notice – a copy of which is available here:

https://www.sse.com/privacy-notice/

COMMENTS **FORM**

Thank you for reading this newsletter. We would like to encourage you to provide your feedback. Please complete the form below, detach the page from the rest of the newsletter and put it in the post using the enclosed envelope to arrive with us by 5pm on **Friday 1st October 2021** (no stamp required) or use the other methods described in the newsletter.

1. Where did you find this comments form (please tick or circle):

- ○ Newsletter
- ○ Project Website
- ○ Public Exhibition
- ○ Virtual Exhibition
- ○ Other

2. Which of our consultation methods have you used? Please tick any that apply.

- ○ Newsletter
- ○ Project Website
- ○ Virtual Exhibition
- ○ Attended a Webinar
- ○ Attended a Public Exhibition in person
- ○ Used the Freephone telephone line
- ○ Used the Project email address
- ○ Used the Freepost address

continued overleaf

3. Are you satisfied with the consultation methods that have been used and were you able to find the information you wanted? Please tick one of the following and leave any comments you have in the box below.

- ○ Yes
- ○ No

4. What do you think are the three most important issues relating to the Project? Please tick any three of the following and leave any comments you have as to why they are the most important issues to you in the box below.

- ○ Benefits for the local community (e.g. local employment and training)
- ○ Reducing carbon dioxide emissions and achieving 'Net Zero'
- ○ Design and visual appearance
- ○ Ecology and biodiversity
- ○ Air quality
- ○ Noise
- ○ Traffic
- ○ Safety
- ○ Other – please provide details below

5. Do you have any views on how the new Power Station should look? Please tick one of the following and leave any comments you have in the box below.

- ○ Yes
- ○ No

6. Has the information provided as part of this consultation addressed any questions you have around the use of Carbon Capture and Storage technology? Please tick one of the following and leave any comments you have in the box below.

- ○ Yes
- ○ No

7. Please provide any other comments you have on the Project and this consultation below.

8. If you would like us to provide you with updates on the Project, please tick your preferred method and provide the relevant contact details in the box below.

- ○ E-mail address
- ○ Post (full name and address)