

Killingholme Low Carbon Power project



Uniper is launching its consultation on a new carbon capture plant as part of the Killingholme Low Carbon Power (KLCP) project.

The proposed KLCP project would largely be built on land which already has a Development Consent Order (DCO) in place for the construction of a new gas-fired power station, next to Uniper's existing power station site at Killingholme.

Uniper is also developing proposals to reduce the CO₂ emissions produced during the electricity generation process at the power station, through the use of carbon capture technology, which could be added to the power station at the earliest opportunity. The development could connect into nearby CO₂ pipeline transport and storage infrastructure, enabling the captured CO₂ to then be safely transported to permanent offshore storage facilities. (which are being developed by third parties in repurposed depleted gas fields or large saline aquifers).

The planned combined cycle gas turbine (CCGT) power station and proposed carbon capture plant could be delivered from 2030, potentially contributing towards the UK Government's ambition to achieve a clean power system as well as contributing towards security of energy supply.

We're keen to hear your views

Uniper will shortly be submitting a planning application for the carbon capture plant (CCP) proposals for the KLCP project. This consultation gives you the opportunity to provide your comments on the CCP element and to find out more about the KLCP project.



Visit our public information events

South Killingholme Community Centre, Moat Lane, DN40 3EU
Wednesday 19 November - 3pm-7pm

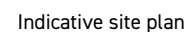
North Killingholme Village Hall, Hillgarth Farm, DN39 6TT
Thursday 20 November - 3pm-7pm

The location of the proposed new carbon capture plant at North Killingholme has been deliberately chosen in order to connect into emerging infrastructure which aims to support decarbonisation of industry and power generation in the Humber region.

In addition to the carbon capture plant, our proposals include two route options for a spur pipeline that could connect to CO₂ pipeline transport and storage infrastructure for the permanent offshore storage of the capture CO₂, which would be developed by a third party.

² CCC Sixth Carbon Budget electricity generation sector summary Sector-summary-Electricity-generation.pdf (theccc.org.uk)

³ Delivering a reliable decarbonised power system - Climate Change Committee (theccc.org.uk)



Uniper purchased the land and development rights in December 2024 for a new CCGT gas-fired power station (formerly the North Killingholme Power Project), from C.GEN Killingholme Ltd. The CCGT has an existing Development Consent Order issued by the Planning Inspectorate in 2014 (subsequently corrected in 2015 and amended in 2021).

These include optimising the layout of the supporting CCGT equipment within the site, updating some building heights and providing an alternative site to meet the carbon capture readiness requirements of the DCO. Uniper is also seeking to increase the consented generation capacity of the power station from 470MWe to 550MWe. This would enable the efficient use of gas turbine technology and align with the connection limit to export the power generated by the plant to the national grid.

Uniper is a European energy company with global reach and activities in more than 40 countries. With approximately 7,500 employees the company plays a key role in ensuring a secure energy supply in Europe, particularly in its core markets of Germany, the United Kingdom, Sweden, and the Netherlands. Uniper's 14 gigawatts of flexible power generating capacity make it a mainstay of reliable power production. Uniper is a leading gas trader and one of Northwestern Europe's most important LNG importers, and its broad procurement portfolio enhances supply security. Uniper's investments

In the UK, Uniper owns and operates a flexible generation portfolio, a fast-cycle gas storage facility and two high pressure gas pipelines, from Theddlethorpe to Killingholme and from Blyborough to Cottam. We also have significant long-term regasification capacity at the Grain LNG terminal in Kent, to convert LNG back to natural gas.

CCS is a key part of the process to reduce carbon emissions in the production of energy. It involves the removal and capture of carbon dioxide (CO₂) from industrial and power plant emissions, transporting it away to be securely stored underground, often in aquifers or depleted oil and gas fields.

CCS is a technology that has been in safe operation for a number of years, for example at the Sleipner CO₂ storage project in Norway established in 1996.

The diagram illustrates a pre-combustion carbon capture process. It begins with an **Emissions source** (represented by a power station icon) where waste gases are produced. These gases pass through **Flue gas conditioning** (represented by a cooling tower icon). The conditioned flue gas then enters the **CO₂ Absorber**, where it is selectively captured by a chemical solvent (amine solvent). The resulting **CO₂ rich solvent** moves to a **Heat Exchanger** (represented by a blue box with a zigzag line). The solvent is then heated in a **Reboiler** (represented by a blue box with a zigzag line) to release the captured **CO₂**. The **CO₂ lean solvent** is then cooled in the **Heat Exchanger** before returning to the **CO₂ Absorber**. The captured **CO₂** is then sent to **CO₂ Compression and Conditioning** (represented by a blue box with a zigzag line) for pipeline export to permanent storage. The diagram includes a key for the symbols: green dots for Flue Gases, grey dots for CO₂, and red dots for Amine Solvent.

- Emissions Source:** Waste gases from natural gas combustion at the power station contain carbon dioxide that would otherwise be released into the atmosphere.
- Flue Gas Conditioning:** Before carbon dioxide can be captured, flue gas from the power station is cleaned up of impurities and cooled down to a suitable temperature.
- Absorber:** Carbon dioxide in the flue gas is selectively captured by a chemical solvent, and the carbon dioxide-lean flue gas is released to the atmosphere.
- Heat Exchanger:** Heats the carbon dioxide-rich solvent to reduce energy needed for the next step.
- Reboiler:** The reboiler transfers the thermal energy needed for the release of the carbon dioxide captured by the solvent.
- Desorber:** Releases purified carbon dioxide, ready for further compression and transport.
- Compression and Conditioning:** Carbon dioxide is conditioned and pressurised for transport to permanent storage.

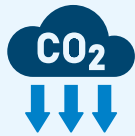
Key

- Flue Gases
- CO₂
- Amine Solvent



Illustrative computer generated images showing two proposed layouts of the CCP, alongside the consented CCGT (shaded in white)

Potential benefits of the KLCP project



At least 95% of CO₂ emissions from the power station captured



At least 470MW of electricity, enough to power around 1M homes



Around 2,700 jobs at peak of construction in 2029



Contribute to the UK's energy supply security and net zero targets



At least 10% biodiversity net gain (BNG)



Support around 230 operational jobs per annum in the regional area



Add around £229M into the regional economy during the 30 year operational lifetime



Add around £200M into the regional economy during construction

Next steps

We are carrying out environmental surveys that will feed into our Environmental Impact Assessment (EIA) and are speaking with key local stakeholders which we will continue to do over the coming months. This, along with any feedback from the consultation events, would feed into our planning application which we anticipate submitting to North Lincolnshire Council in early 2026.

The planning application will be accompanied by an Environmental Statement that will set out the results of our EIA for the construction and operational phases of the carbon capture plant. The EIA must consider the cumulative effect of the carbon capture plant project alongside existing developments and the potential

impacts of other local proposals which already have planning permission.

Existing developments would be considered as part of the study baseline; for example, surveys of local noise and air quality would capture the effects of existing operations.

Uniper has a long-standing presence at Killingholme and understands the importance of being a good neighbour. Throughout any development, Uniper would manage all activities to keep any potential impacts to a minimum and ensure it keeps local stakeholders, and the community informed.

Get involved

Join us at our public information events:

South Killingholme Community Centre on
Wednesday 19 November 2025, from 3pm to 7pm

North Killingholme Village Hall on
Thursday 20 November 2025, from 3pm to 7pm.

Scan the QR code for more information:



You can also get involved and share your views about our proposals by contacting us via:



www.uniperuk.consulting/KLCP



0800 066 8941



klcp@communityfeedback.co.uk



FREEPOST KLCP

If you don't have access to the internet, please call us on 0800 066 8941. We can record your feedback, answer any questions and/or send copies of the consultation material (free of charge) in the post.