

ROUTE CHOICE AND ALTERNATIVES TO CCS

HOW WE CHOSE THE PROJECT ROUTE

To select the proposed route, we investigated the coastline from North Wales to Cumbria to identify where the onshore pipeline could connect to offshore infrastructure. We then considered the route the pipeline could take from the cement and lime plants to this point.

To do this we looked at constraints including existing built-up areas, topography, ecologically designated sites, scheduled monuments, listed buildings. Within these constraints, where possible, we aim to follow the shortest route, as this minimises environmental impact. After reviewing these, the proposed route through Cheshire and the Wirral emerged as the most feasible option, balancing engineering needs with environmental and community considerations.

Early consultations with local communities, landowners, and stakeholders will help to refine the

route. Ongoing studies will continue to shape the pipeline corridor, determine exact locations for above ground infrastructure, and define temporary construction needs, ensuring the project is both practical and responsible. We will share the next iteration of the project during our phase 2 consultation in late 2026.

Alternatives to the pipeline

In our early feasibility studies, we looked at different ways to reduce carbon emissions from cement and lime plants to find the most efficient approach. The three options were:

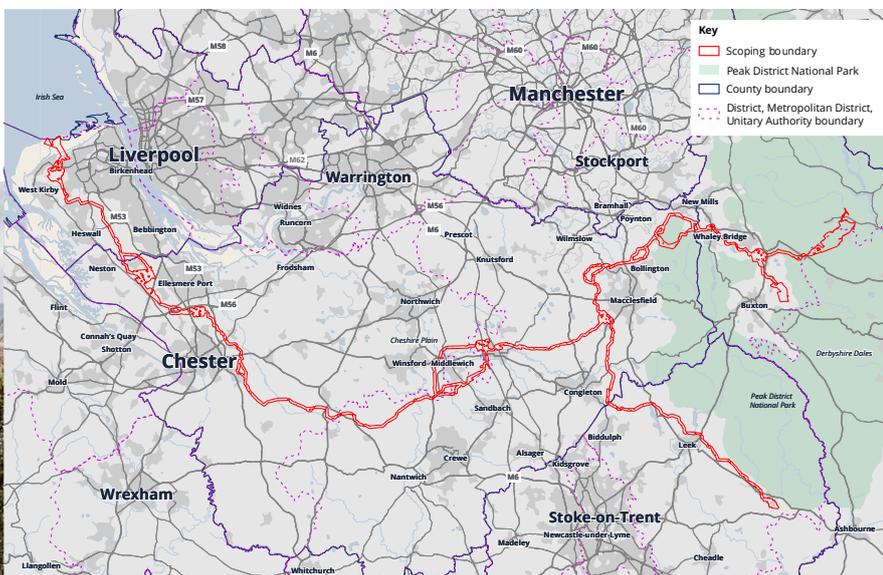
1. Move the cement and lime plants to the coast. This would necessitate transporting the raw materials (e.g. limestone rock) from where they're found naturally in Derbyshire and Staffordshire, by rail or road in many thousands of journeys.

2. Capture and transport the carbon dioxide emitted by road in trucks.

The estimated number of one-way truck movements added to the roads is 400 each day.

3. Capture and transport the carbon dioxide emitted via a buried pipeline.

Having evaluated the options, an underground pipeline to transport CO₂ emissions from the cement and lime plants to the MNZ store was the least disruptive to the local communities and business in the long term, and with the least overall environmental impact.



Sensitive habitats along the Dee and Mersey

The pipeline cannot follow the River Dee or Mersey Estuary because both are internationally protected Ramsar wetlands, home to unique habitats and wildlife. Major infrastructure, including pipelines, is not suitable in these sensitive areas.

Climate change and our legal obligations

The UK has a legally binding commitment to reach net-zero carbon emissions by 2050, meaning that the amount of greenhouse gas emitted by the country must be balanced by the amount that we prevent being emitted (or remove).

For energy intensive industries such as cement and lime, this is a major challenge. Around two thirds of their CO₂ emissions come from the chemical reactions in the materials themselves, not from the fuel they use, so these emissions can't simply be designed out. Carbon Capture and Storage (CCS) provides a proven and scalable way to deal with this. The UK Climate

Change Committee describes CCS as "a necessity, not an option." A report by the Grantham Research Institute on Climate Change and the Environment goes further, stating that "CCUS is virtually the only known technological option for achieving deep emissions cuts in cement production, an industry that produces almost 7% of the world's emissions."

Low carbon cement: alternative options

There are several low carbon alternatives to Portland cement in early development, as well as methods of reducing emissions from traditional manufacturing processes. Some of the Peak Cluster partners are actively exploring and supporting these alternatives, such as Material Evolution's MevoCem. These emerging technologies require long-term performance testing, which will mean it may take time for them to be adopted in traditional construction markets. Although low carbon alternatives can deliver reductions in emissions, CCS sits alongside these technologies as a necessary addition to achieve net zero.

Tree planting as an alternative

Tree planting is often seen as a natural way to remove CO₂, but the scale required to match industrial emissions can be immense. For example, removing around 3 million tonnes of CO₂ per year—the level targeted by Peak Cluster—would require planting and maintaining trees across an area equivalent to the Peak District National Park (about 555 square miles), every two and a half years.



GET IN TOUCH

If you'd like to talk to a team member about the project, or for us to send you copies of our consultation materials, you can get in touch in the following ways:



Website: www.peakcluster.co.uk



Phone: 0800 0129 167 (freephone)



Email: consultation@peakcluster.co.uk



Write: FREEPOST PEAK CLUSTER