



HyNet North West Hydrogen Pipeline

Statutory consultation brochure

HyNet North West
Hydrogen Pipeline

Delivering clean growth

October 2024

Cadent
Your Gas Network

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About Cadent

Cadent Gas Limited (Cadent) is the UK's largest gas distribution network, managing a network of more than 80,000 miles of pipelines, most of which are underground.

These pipelines transport gas to 11 million customers throughout the North West, West Midlands, East Midlands, East of England and North London.

Cadent is the company responsible for developing the HyNet North West Hydrogen Pipeline.

The delivery of net zero by 2050 requires an unprecedented amount of change, investment and collaboration. Cadent is committed as a business to

rising to the challenge. This means transitioning to the use of low carbon fuels, like hydrogen, and energy.

Cadent is working within a variety of clusters and partnerships focused on decarbonising heavy industry and power generation.

Cadent is looking at ways in which it can help support energy security for our regions including the North West and has published a Hydrogen Ten Point Plan, which describes its decarbonisation journey.

Visit www.cadentgas.com/tenpointplan to read Cadent's Ten Point Plan in full.

HyNet North West Hydrogen Pipeline consultation

This consultation is for the HyNet North West Hydrogen Pipeline only and is being run by Cadent. The Project does not include hydrogen production, hydrogen storage or carbon dioxide transportation/storage.

While Cadent's HyNet North West Hydrogen Pipeline forms part of the wider HyNet North West programme, it is being developed as a standalone project and requires its own Development Consent Order. Details of the hydrogen production plant, the hydrogen storage facilities near Northwich and the carbon dioxide pipeline/offshore storage project, can be found at www.hynet.co.uk.

Cadent hopes that the HyNet North West Hydrogen Pipeline will be the first building block in a wider network of hydrogen pipelines across our regions.

This is supported by the UK government. Since our last consultation in December 2023, the government set out its ambition to support two hydrogen storage projects at scale and associated regional pipelines in construction or operation by 2030.

What is a Development Consent Order?

The development consenting regime for an NSIP comes under the Planning Act 2008 and this means we need to apply for a Development Consent Order (DCO). The DCO is an application for consent to undertake a nationally significant infrastructure project.

In the case of energy-related development the Planning Inspectorate acts on behalf of the Secretary of State at the Department

for Energy Security and Net Zero. It will carry out an examination of our proposals and then make a recommendation to the Secretary of State on whether or not to grant the DCO.

The Secretary of State will make the final decision on whether to grant consent for the project.

Reading this brochure

This brochure provides an overview of our updated proposals following the feedback we received during our last round of consultation in September / November 2022. Following this consultation we have made changes to the routing of the pipeline, and have carried out further environmental, engineering and design work. For more information on how our proposals have developed, please see page 10.

A Statutory Consultation Feedback Report has been produced, which summarises and analyses the feedback we received during previous consultation.

As well as this report, there are a number of other resources to help you understand the Project in more detail. These are referenced throughout this brochure and we would encourage you to review them to gain a more detailed understanding of the Project. All these documents are available to read via the knowledge hub on our project website: **www.hynethydrogenpipeline.co.uk/knowledge-hub**.

Scanning the QR code on the right with your phone's camera will take you straight to our project website. From there you can access our knowledge hub where you can read all of the documents listed below.

Use this QR code to visit our website



Project website

As well as hosting the documents referred to below, our project website provides more information and context about the Project. It also includes an interactive map where you can zoom in, search by postcode and explore our proposals in more detail.



Draft Environmental Statement

We published a Preliminary Environmental Information Report for the last consultation in September / November 2022, which set out our preliminary environmental findings.

We have updated and revised this following further design and ecology survey work and have published a Draft Environmental Statement.

This is a technical document describing the Project. It sets out any potential environmental, social and economic effects in detail and measures proposed to mitigate any potentially significant effects, as well as some of the benefits of the Project.

This draft statement will be developed further ahead of the Development Consent Order (DCO) application where it will form part of the submission.



Draft Environmental Statement Non-Technical Summary

This is a shorter, plain language summary of the Draft Statement's key points.



Design Evolution Report

This report summarises the need for the Project. It also describes the different options and alternatives we considered before arriving at the proposals outlined in this brochure.



Statutory Consultation Feedback Report

This provides an overview of how we carried out our statutory consultation in autumn 2022, summarising the feedback we received and explaining how we've considered this feedback.

Our statutory consultation

The HyNet North West Hydrogen Pipeline will help unlock an energy revolution to decarbonise the North West's industry and parts of regional electricity generation. This brochure supports the third consultation on Cadent's updated proposals for the UK's first 100 per cent low carbon hydrogen pipeline at scale.

The current stage of consultation follows two previous stages of consultation completed in 2022.

Since the consultation in 2022 we have been conducting work to finalise the pipeline design and route. This work has been based on feedback we received during public consultation, as well as further technical, environmental, and engineering work. We have also been liaising with stakeholders and carrying out surveys along the pipeline route to identify points where we believe we can improve the overall design.

This consultation (2024) is statutory, which means it is being carried out in accordance with the legislation in the Planning Act 2008. It is likely to be our last route-wide consultation on our proposals before submitting the DCO application, so it is important people take part and have their say.

Cadent's HyNet North West Hydrogen Pipeline

We are developing 100 kilometres (around 62 miles) of new underground pipeline that will safely transport low carbon hydrogen produced by EET Hydrogen at the Stanlow Manufacturing Complex to various industrial offtakers.

The pipeline will be underground, although we will need nine Hydrogen Above Ground Installations (HAGIs) and two Block Valve Installations (BVIs) at key locations along the route. In parallel with the construction of EET Hydrogen's Hydrogen Production Plant, we anticipate starting construction on the first section of the hydrogen pipeline in 2027, subject to obtaining a Development Consent Order (DCO).

Background

At our first consultation, at the start of 2022 we presented a broad corridor within which the pipeline could be routed and search areas within which HAGIs could be located. This was a non statutory consultation.

At the second consultation in September / November 2022, which was a statutory consultation, we presented a red line boundary, which has been refined from our early route corridors. We also presented our proposals for potential HAGI and Block Valve Installation (BVI) sites, and areas we will temporarily need for access and construction.

What is the redline boundary?

We are presenting a redline boundary at this consultation.

The redline boundary (also referred to within our reports as the Draft Order Limits) represents the boundary of the maximum development area we think we'll need to construct and operate the Project. This includes temporary works, like construction access and storage, plus permanent works, such as the pipeline, HAGIs and BVIs and areas where we may require rights to use the land.

At certain points along the pipeline route we are yet to confirm the exact final location of the pipeline and have presented options, which you can see in this brochure. This is because we're still gathering survey results, undertaking engagement and consultation with stakeholders, and seeking more public feedback through this consultation to support our decision.

We will refine the redline boundary in these areas once we've received feedback from this consultation and carried out more technical work.

Why aren't we showing the pipeline route at this consultation?

At the first statutory consultation we presented an indicative pipeline centre line, showing where we proposed to route the pipeline.

For this second phase of statutory consultation we are presenting a narrow corridor within which we will route the pipeline. We are asking for feedback on this and on what we should consider when developing a final pipeline corridor which will be submitted for consent. All feedback received together with our further studies will be used to develop the final detailed pipeline route once consent has been granted. This will help us identify the best sited and most constructable route possible.

We want to hear your views

The HyNet North West Hydrogen Pipeline is a Nationally Significant Infrastructure Project (NSIP). This means we will apply to the Planning Inspectorate and Secretary of State for Energy Security and Net Zero for a Development Consent Order (DCO), in accordance with the Planning Act 2008.

Local people, including elected representatives and other stakeholders, have an important role to play in this process. We need your local knowledge to help us understand any potential impact from the Project and welcome any feedback you may have on our more detailed proposals.

All the feedback we receive will be recorded and carefully considered ahead of submitting the DCO application.

Your feedback

We would like your feedback on our more detailed proposals, including the redline boundary and the area where the pipeline would be located, route options, access points and potential Hydrogen Above Ground Installation (HAGI) and Block Valve Installation (BVI) locations. We have also published our Draft Environmental Statement, as well as a Non-Technical Summary.

Visit the knowledge hub on our project website to read the Draft Environmental Statement in full.

How to submit feedback

There are a number of ways for you to submit your feedback:



Use the project website, which has an online feedback form
www.hynethydrogenpipeline.co.uk



Send an email to **info@hynethydrogenpipeline.co.uk**



Send written feedback to the freepost address **FREEPOST HYNETH NWHP**



Drop into one of our in-person events, discuss the Project with us and pick up a hard copy feedback form to fill in. See page 30 of this brochure or visit **www.hynethydrogenpipeline.co.uk/meet-the-team** for more information.



You can also call **0800 860 6261** to ask any questions you might have

Please ensure you submit your feedback by
23:59, 19th November 2024.

Your privacy matters to us and we go to great lengths to protect it. Please visit **www.hynethydrogenpipeline.co.uk/privacy** to view our privacy policy and understand how Cadent processes your information.

Opportunities for the region

Why the North West?

With a bold history of innovation and industry the North West of England is a natural choice to lead the way in developing alternative sources of energy.

The use of such alternatives will help industry decarbonise and the UK reach net zero by 2050. While establishing the region as a hub of innovation and clean growth, the HyNet North West programme will create economic opportunities that will directly benefit the region.

It will:

- Attract inward investment to increase regional prosperity
- Boost the region's reputation as a highly attractive location for sustainable business
- Provide opportunities for local people to develop new skills and to train to work in exciting and innovative sectors

- Help retain companies looking to decarbonise their businesses
- Directly create new jobs

Cadent's HyNet North West Hydrogen Pipeline will help unlock these opportunities and deliver the hydrogen needed to meet the UK's net zero targets.

It would connect customers to a supply of low carbon hydrogen, helping cut down carbon emissions and reduce the amount of greenhouse gas emissions from industry in the North West.

HyNet North West infrastructure



The technology

What is hydrogen?

Hydrogen can be used for heat, power and even fuel for large vehicles like HGVs. When it's burned, no carbon emissions are released. Hydrogen holds a lot of energy so it's great for transporting large amounts of energy to where it's needed.

Hydrogen at the scale required has to be made either through electrolysis or through reforming methane. Both methods can be used in a way that keeps carbon emissions to a minimum.

Increasing the use of hydrogen as a fuel will mean cutting down on carbon emissions produced from conventionally used fossil fuels such as gas and coal.

What is low carbon hydrogen?

The HyNet North West Hydrogen Pipeline would transport low carbon hydrogen produced by EET Hydrogen.

The UK Government's Low Carbon Hydrogen Standard sets a maximum threshold for the amount of greenhouse gas emissions allowed in the production process for hydrogen to be considered 'low carbon'.

There are many different ways of making low carbon hydrogen. This includes green hydrogen which is produced by the electrolysis of water powered by renewable energy and blue hydrogen which is produced by splitting natural gas. The carbon dioxide created by this process is then captured and stored.

The HyNet North West Hydrogen Pipeline and wider hydrogen network would connect both blue and green hydrogen production plants. Green hydrogen production is expected to increase as the UK generates more renewable energy and builds facilities to produce this type of hydrogen.

Both green and blue hydrogen are expected to play an important role in the UK's goal of achieving Net Zero by 2050.

Why hydrogen?

In 2019, the UK emitted 351.5 million tonnes of carbon dioxide from the use of fossil fuels, accounting for 81 percent of the UK's greenhouse gas emissions.

It's widely accepted now that the use of fossil fuels needs to reduce. The way we heat our homes, run our vehicles and power our industries have all contributed to climate change. We're looking for solutions that balance environmental targets with customer needs.

In order to supply the increasing energy demands of the UK, we will need a combination of approaches. Renewable electricity from wind and solar can do a lot, but to reach 100 per cent net zero and support energy security we will certainly need hydrogen as well, alongside better insulated homes and smarter use of energy. We aim to see electricity and green gas like low carbon hydrogen being used together in partnership.

Hydrogen announcements

In December 2023, the Government made several announcements relating to hydrogen and published a Hydrogen Transport and Storage Networks Pathway.

The strategy sets out the approach to developing a low carbon hydrogen sector in the UK to meet the ambition for 10GW of low carbon hydrogen production capacity by 2030.

This includes the ambition of a core hydrogen network, which would support industry, particularly in 'hard to electrify' sectors, and would provide greener, flexible energy across power, heat and transport.

It also supports increasing levels of hydrogen production, to contribute to the 10GW target, providing flexibility and security in our energy system.

You can read more at

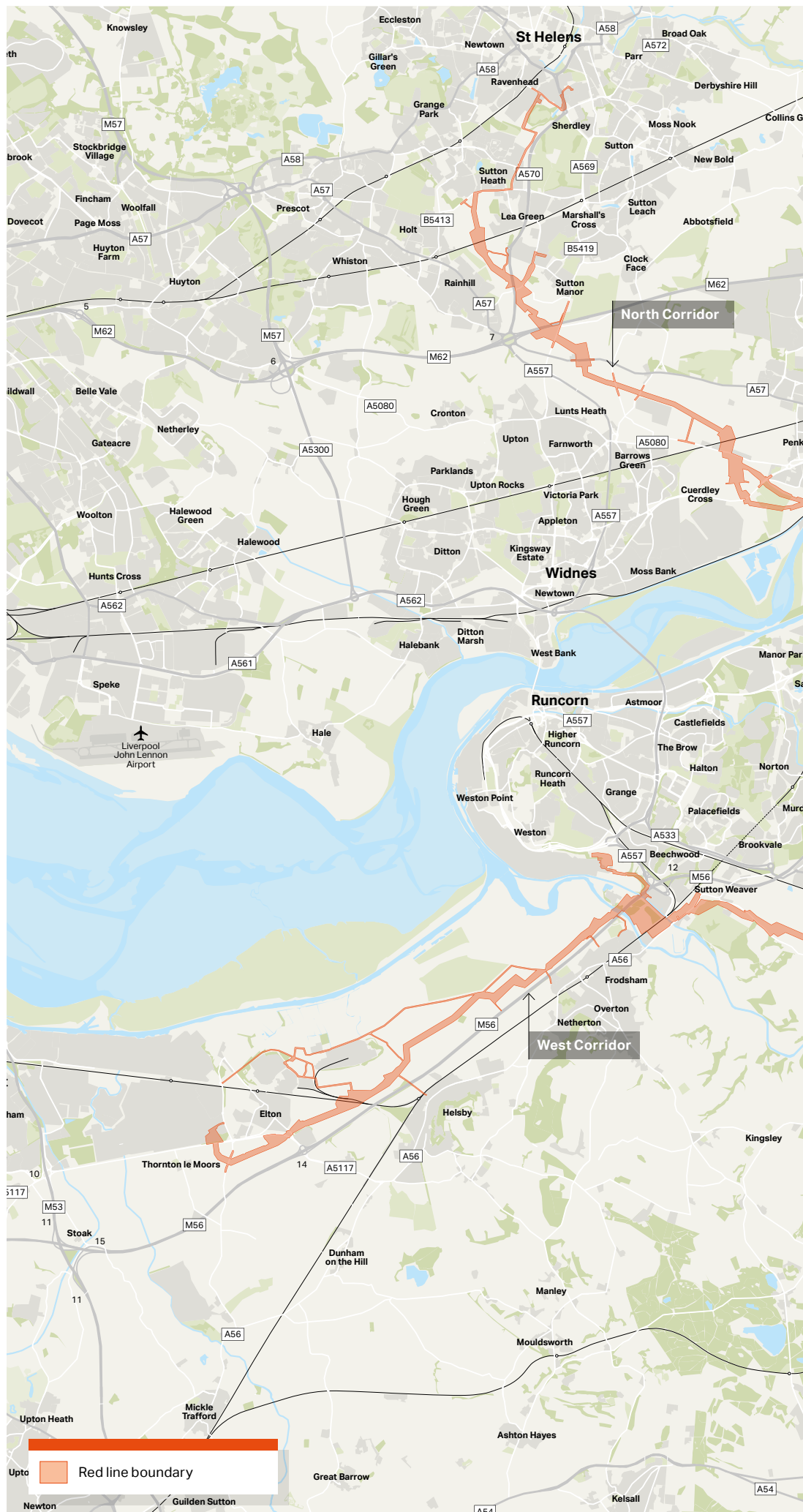
<http://www.gov.uk/government/publications/uk-hydrogen-strategy>
www.gov.uk/government/publications/uk-hydrogen-strategy

Overview map

This map shows an overview of our updated plans for the HyNet North West Hydrogen Pipeline.

To help explain the proposals we have split the development area into individual corridors (west, north, east and south) – we will need to construct a main pipeline in each of these corridors, plus spurs to serve specific offtakers.

On pages 20 to 26 we present each corridor in more detail.



Find out more

Read our Statutory Consultation Feedback Report via the knowledge hub on our project website.

This sets out in detail how we analysed and responded to feedback received during our last consultation in 2022.

How our proposals have developed

Over the past year we have been conducting work to finalise the pipeline design. This work has been based on feedback we received during public consultation, as well as further technical, environmental, and engineering work. We have also been liaising with stakeholders and carrying out survey work along the pipeline route to identify points where we believe we can improve the overall design.

Stage One consultation – early 2022

We held the first stage of consultation in January 2022. At this consultation we presented broad route corridors within which the pipeline could be routed and large search areas where we could locate HAGIs.

We also consulted on two route options around Northwich.

Stage Two consultation – autumn 2022

At this consultation we presented updated proposals, including a refined redline boundary, within which we identified an indicative pipeline centre line, potential HAGI and BVI sites and areas we'll temporarily need for access and construction.

The updated plans we presented were influenced by the feedback we received during our first consultation, as well as technical, engineering and environmental work.

Stage Three consultation – (this consultation) autumn 2024

The main changes we have made to our proposals since the last consultation have been to amend the the pipeline's route in certain areas and the location of some HAGIs.

At the Stage Two consultation we presented options for the routeing of the pipeline, particularly in the northern and southern corridors, which included options at the Creamfield's festival site in the north and to cross the Weaver Navigation and West Coast Mainline in the south.

We have narrowed and adjusted the redline boundary in some areas across the route following feedback received and further work since the Stage Two consultation. Another key change has been to remove the Northwich Spur from the Development Consent Order. This is expected to be consented separately.

Find out more

Read our Statutory Consultation Feedback Report via the knowledge hub on our project website. This sets out in detail how we analysed and responded to feedback received during our last consultation in 2022.



Hydrogen Above Ground Installations (HAGIs)

The majority of our pipeline will be underground. However, we will need nine HAGIs at certain points along the pipeline. This includes a Central Hub HAGI, which will act as the central connection point for each of the pipeline corridors.

HAGIs allow us to control the flow and pressure of the hydrogen and to facilitate inspection and routine maintenance of the pipeline. They will also act as the connection points to the Hydrogen Production Plant, Hydrogen Storage Facility and the spurs to the offtakers.

What HAGIs typically look like

HAGIs usually include a range of above ground equipment and structures. These structures are expected to be up to 3 metres in height, subject to final design.

Our HAGI sites will be protected by security fencing between 2.4 and 3.6 metres high with a gate allowing access. They usually require an access road linking the site to the local road network and places for workers to park their vehicles within the HAGI. In some cases, fences may need to be higher and additional security measures added.

HAGIs will also need to connect into the local electrical distribution and telecommunications networks. Sites can vary in size depending on their specific use, but they typically range between 0.5 and 1.5 hectares (1 hectare is around the size of a football pitch). Your feedback and our work since the consultation in autumn 2022 informed the decision to reduce the number of HAGIs from ten to nine.

Minimising any potential visual and environmental impact		Offtaker connections
Outlined below are some of the ways we will look to mitigate any potential impacts: • There may be some noise during construction, but we will abide by our commitments set out within the Outline Construction Environmental Management Plan (CEMP) to ensure that it is minimised and not significant. • HAGIs will generally be largely screened from view with vegetation and/or fencing. Please see our outline landscaping plans for more information which are available in the Draft Environmental Statement.		Offtakers will also need to build some above ground infrastructure to connect to the hydrogen pipeline. The connection points would be smaller than BVI and HAGIs. These connections are generally located within the offtaker's land and existing facilities.
Block Valve Installations (BVIs)		Provide your comments
Two Block Valves are required as part of the Project; The Sworton Heath BVI will be located on the East Corridor, and the Hartford BVI will be located on the South Corridor. BVIs act as a cut-off point to isolate a section of pipeline for maintenance, repair or safety reasons. These are smaller than HAGI sites, typically measuring around half a hectare (half a football pitch). Security fencing will be around 2.4 metres high.		We would like your feedback on the potential HAGI and BVI sites we've identified along the pipeline route, including the alternative locations. See pages 20 to 26 of this brochure to find out more and see the locations of these potential sites.
A gate will be required for access for maintenance. This is likely to include an access track (or similar) and space for vehicles to turn. For more information about HAGIs and BVIs read the Project Description in the Draft Environmental Statement and Non-Technical Summary of the Draft Environmental Statement via the knowledge hub on our project website.		

Existing natural gas above ground infrastructure similar to what a HAGI would look like.



Temporary construction areas and access routes

At certain points along the route we will require temporary construction areas. These locations will allow us access to build the pipeline and HAGIs.

As part of our ongoing work, we will carry out further surveys of construction areas and continue to liaise with local highway authorities to confirm roads are suitable to use and support the safety of other road users. We will aim to carry out our construction as sensitively as possible and we will abide by the Outline Construction Environmental Management Plan. We would welcome any feedback that can help us finalise our construction plans.

Temporary construction areas are likely to include:

- Secure fencing.
- Hard surfacing and drainage.
- Welfare facilities.
- Site offices to safely administer the works.
- Vehicle/plant storage and associated fuels.
- Storage for pipes in stacks, equipment and materials.
- Lighting.

Smaller temporary compounds would also be established at BVI locations to enable construction.

Once the pipeline has been constructed, the temporary construction compounds would be removed and land reinstated to its former condition.

Operation and Maintenance

HAGIs would be operational 24 hours a day, but unmanned. They would generally be monitored and operated remotely from an Energy Control Centre located off-site.

Maintenance

A schedule of maintenance would take place, typically including short planned periods of maintenance, and pipeline inspections every one to five years. Pipeline inspections would include running an inspection tool through the pipeline from one HAGI to the next.

The pipeline itself will be monitored both remotely and from publicly accessible vantage points by the Cadent Operations teams on a regular basis to educate and prevent persons damaging the pipeline through 3rd party activities. This is a standard process which occurs on all our natural gas pipelines at this scale by Cadent.

Traffic and Construction routes

Temporary access routes are required to transport the equipment, materials and people we need to construct the pipeline. We have made some changes to the temporary access routes we plan to use following the last consultation.

- Most construction vehicles and almost all HGVs previously planned to use Eaton Lane are now proposed to access the working area from the A533 instead. More information about Eaton Lane can be found on page 26.
- The Covershaw Lane access route in Trafford has been removed as it is unsuitable for large vehicles.
- Carrgreen Lane in Trafford is to be used with single way operations due to its restricted width.
- The B5356 east of Appleton Thorn in Warrington is no longer proposed to be used to avoid an environmental weight restriction.
- The A57 Manchester Road is no longer proposed to be used for access from the M6 into Warrington.
- Grimsditch Lane in Warrington Borough is no longer proposed to be used as an access route.

Temporary access routes would connect to construction access points. The access points are located as close as possible to places where the pipeline crosses or passes near to the road network.

Standard construction hours would generally be from 8am to 6pm - Monday to Saturday. During term-time in locations affecting schools, deliveries would not take place during school start and end times.

Roads included in the redline boundary

For roads included in the redline boundary, where needed we will carry out works to bring them up to the appropriate standard to accommodate construction vehicles for the Project. In some cases this may include localised road widening or temporary traffic management measures.

Environment

Our pipeline will bring positive long-term environmental benefits by helping industrial offtakers across the region decarbonise their activities. We look to identify, avoid, manage and minimise environmental impacts in our plans to construct and operate the pipeline and have assessed any potential impacts in our Draft Environmental Statement.

Environmental surveys have been undertaken to help us to understand the area we are working in, and the locally specific considerations we need to make to manage and minimise the pipeline's impact on the environment. Some of the surveys we have carried out to assess possible effects on the environment include:

- Ecology surveys
- Ornithology surveys
- Aquatic surveys
- Soils and peat surveys
- Traffic surveys
- Noise surveys
- Landscape surveys
- Archaeology surveys

We have also been engaging with statutory bodies, including the Environment Agency and Natural England. This has helped us understand in greater detail the areas we are working in.

Further information about our surveys can be found in the relevant chapters of the Draft Environmental Statement.

Biodiversity Net Gain

Biodiversity is the variety of plants and animals present in an area and is a key indicator of the health of an ecosystem.

We are committed to achieving Biodiversity Net Gain as part of the Project. By working to achieve Biodiversity Net Gain, we will ensure our work results in more or better quality environments for plants and animals.

By 2026 Cadent hopes to be accredited to The Wildlife Trust Biodiversity benchmark across all of its existing key sites.



How we would construct the project

Cadent is an experienced and trusted operator of gas pipelines. We will bring our extensive expertise of constructing, operating and maintaining the existing gas network to this project.

The pipeline would be constructed predominantly using open trench (or 'open cut') techniques. Where it is not possible or practical to use open trench pipeline construction, trenchless crossing techniques will be used. This method is likely to be used to cross existing infrastructure like roads, railways and waterways.

Over the next pages we have provided an overview of open trenching and trenchless construction methods.

Open trenching

Open trench (or 'open cut') excavation is the most common method for installing underground pipelines, cables or other below ground infrastructure.

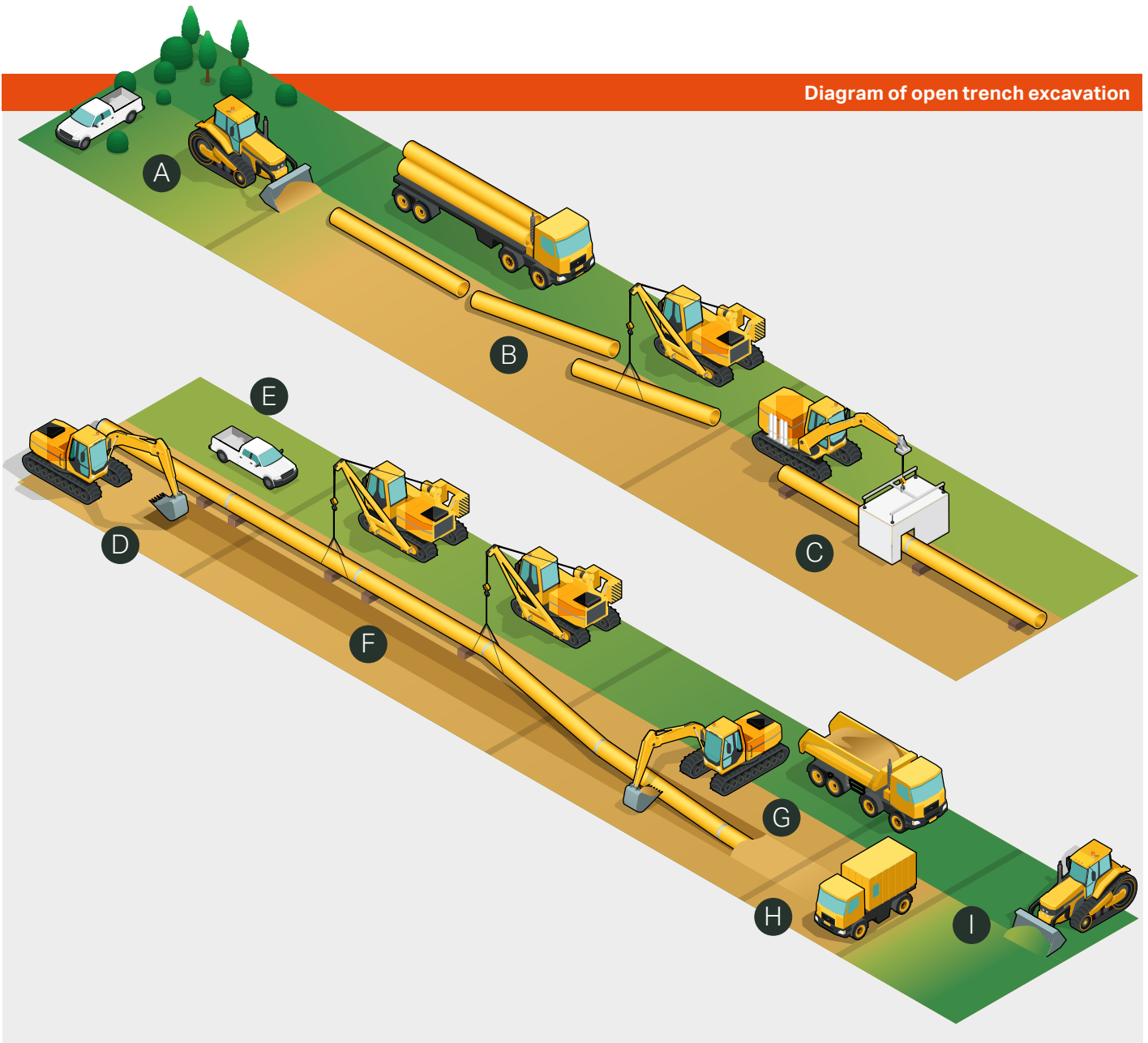
- Open trenching begins by marking out the total area within which construction work will take place.
- The area is surveyed and the appropriate environmental mitigations are installed around the working area to protect water ways, important environmental receptors and areas which require mitigations in how we construct the pipeline or HAGI.
- Topsoil is then carefully stripped and stored next to the pipeline route so it can be maintained. Meanwhile, the pipeline's individual pipes are delivered in short lengths and placed on temporary supports. These short lengths of pipeline are welded together into longer sections called 'strings'.

- Testing is completed on each weld and a full inspection report produced before the welds are coated.
- The pipeline trench is then dug, with excavated material stored separately from the already stripped topsoil.
- The pipeline 'strings' are then lowered into the trench using special vehicles called 'side booms' (pictured) or excavators and welded to the pipeline that's already been laid.
- The trench is backfilled using the previously excavated material and the topsoil is replaced.
- The pipeline is then hydrotested (filled with water) to prove it is fit for operation. Rigorous checks are then undertaken prior to the pipeline being commissioned once the entire section is complete.
- Once the land above the pipeline has been fully reinstated it can be returned, as far as possible, to its previous use. We anticipate that open trenching will be the predominant technique we use to construct our underground pipeline.
- A short time after reinstatement it will not be possible to see where the pipeline was constructed, apart from pipeline market posts installed at fence lines and boundaries to identify its presence.

We will build the pipeline in stages and our construction activities are likely to move around, which means we won't be working across the whole development area for the entire three years it will take to build the pipeline.

Once the Project has been constructed, the pipeline will be buried underground. Only the above ground infrastructure (HAGIs and BVIs) will remain visible.

Diagram of open trench excavation



- | | |
|---|------------------------------------|
| A. Surveying and clearing of site | F. Lowering pipe into trench |
| B. Laying out pipe sections, cold bending | G. Backfilling trench and pipeline |
| C. Welding pipe sections together | H. Hydrotesting pipeline |
| D. Digging pipeline trench | I. Site restoration |
| E. Construction inspection | |

How we would construct the project

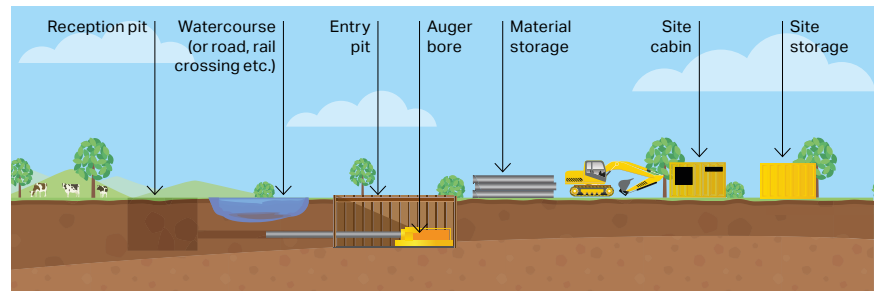
Trenchless methods (for roads, rivers, other utilities, and rail)

In some cases, for engineering and environmental reasons, open trench methods are not viable so trenchless crossing methods will be considered.

We'll need to use trenchless methods at various points along the pipeline route to cross major roads, such as the M56, M62, M6 and watercourses like the River Weaver Navigation, River Mersey and Trent and Mersey Canal. The locations we expect to use trenchless methods are shown on the interactive map available on our Project website. For more information on the trenchless crossings we think we'll need, please see the Draft Environmental Statement.

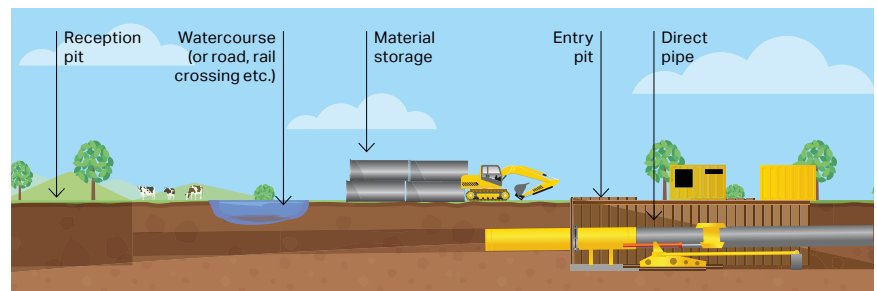
Auger boring

Auger boring can either be 'cased' or 'uncased'. For cased auger boring, steel or concrete pipe sections are pushed along the crossing section and material is removed by the auger drill inserted into the pipe. Following installation of the casing pipe, the hydrogen pipe is inserted with insulators to insulate and centralise the pipe in the casing. For uncased auger boring the hydrogen pipe is inserted directly into the ground with no casing.



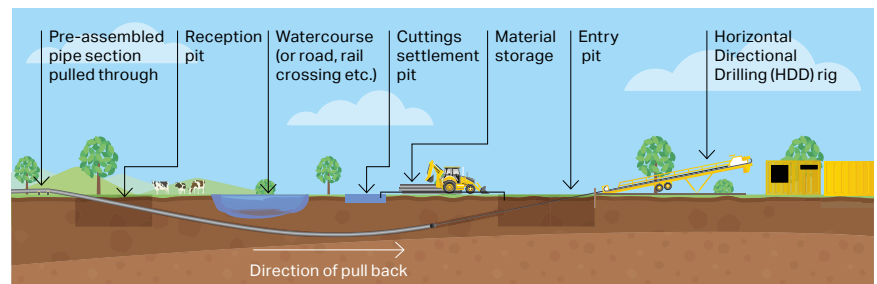
Direct pipe

Direct pipe can be applied to longer trenchless crossings. This technique is similar in its method and set up to micro-tunnelling (see below). However, the pipeline is installed directly into the ground behind the cutting / tunneling machine, rather than the pipeline being installed inside another pipe tunnel.



Horizontal Directional Drilling (HDD)

HDD is typically used on long trenchless crossings. It requires an entry and exit pit on either side of the crossing. A hole is then drilled beneath the crossing and the hydrogen pipe pulled back through the drilled tunnel.

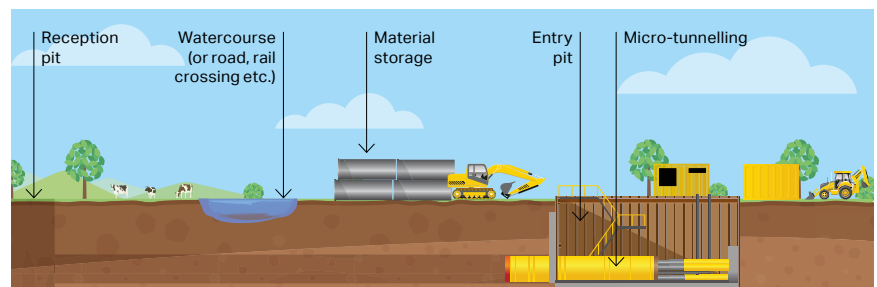


Micro-tunnelling

Micro-tunnelling is especially useful for laying pipelines beneath motorways, large roads, railway lines and other sensitive areas. A cutting tool / tunneling machine provides the mechanical excavation, which is generally controlled remotely above ground.

Individual tunnel pipes (not the hydrogen pipe) are installed behind the tunnel machine as it makes progress. Once the tunnel pipe is in place the hydrogen pipeline pipes are lowered into the tunnel where they follow the same strict quality inspections before being pushed into the tunnel pipe.

This continues until the hydrogen pipe is fully inserted. Connecting sections of pipe are then installed to connect this tunnel section to the sections of pipeline either side. The tunnel is then filled with a grout between the outside of the hydrogen pipe and the inside of the tunnel pipe.



These graphics are for indicative purposes only and not to scale.

Landowners



The land agent team on Cadent's HyNet North West Hydrogen Pipeline project is being led by Fisher German LLP. Fisher German is a specialist company that has provided land agency services in connection with our pipeline network since its inception.

As part of the DCO application process there's a legal requirement to identify who owns or has an interest in land affected by the Project. To make sure the information gathered is as accurate as possible, Fisher German has been engaging with potentially impacted landowners.

As part of this consultation we have written to everyone that we have identified as having an interest in land affected by the Project, inviting them to comment on our more detailed proposals.

We will continue to talk to landowners following the closure of this consultation as we prepare to submit our application for development consent and, if successful, carry out the installation of the pipeline.

The project will require some land rights over private land, both long term and short term. We will offer payments to landowners who host our pipeline or provide access during its installation. Agreements will be prepared with the appropriate persons/ companies as required.

Our proposals

West Corridor: Stanlow to the Central Hub

The West Corridor would start at the Hydrogen Production plant HAGI at the Stanlow Manufacturing Plant where hydrogen would be produced by EET Hydrogen and transported into the pipeline network. The pipeline would then run approximately 9.7km north east to the Rocksavage HAGI and then 9.7km east to the Central Hub HAGI. The route has considered the existing above and below ground infrastructure in the area.

HAGIs

Three HAGIs are required in the West Corridor.

- **Hydrogen Production Plant HAGI**

This HAGI is within the Stanlow refinery/manufacturing plant. It is required to transport hydrogen from its production at Stanlow into the Project's network.

- **Rocksavage HAGI**

The HAGI at Rocksavage is required to accommodate a spur to the Runcorn HAGI. This location has been selected as there are ground condition constraints in this area.

- **Runcorn HAGI**

This HAGI is required to support an offtaker connection at Rocksavage Power Station.

Spurs

Runcorn / Rocksavage spur

The spur would start at the Rocksavage HAGI and then run north to the Runcorn HAGI. From the Runcorn HAGI it would connect to Intergeren to support low carbon electricity generation for the region.

The connection to the Heath Business and Technical Park from the Runcorn HAGI has been removed from our DCO application as further work is required to understand the hydrogen requirement of the Park.

We would like your feedback on the redline boundary in our West Corridor, within which our pipeline would be routed, HAGIs sited and temporary construction areas located.



Find out more
and submit
feedback



Use the project website:
www.hynethydrogenpipeline.co.uk



Attend an in-person
or online event.
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Send an email to: info@hynet-hydrogenpipeline.co.uk

Our proposals

North Corridor: Central Hub to Higher Walton HAGI, Clock Face HAGI and St Helens including the Warrington spurs

The North Corridor would start at the Central Hub HAGI and run approximately 9km north to the Higher Walton HAGI and then a further 9.7km northwest to the Clock Face HAGI and onto industrial offtakers including glass manufacture in St Helens.

Creamfields festival site

At the statutory consultation held in autumn 2022, we asked for feedback on three options we presented near to Daresbury and the Creamfields festival site.

Following further work and the consideration of feedback, one option is now being presented, which has been chosen considering the festival site, the local environment and housing in the area.

North Corridor option

Fiddlers Ferry

There are proposals to redevelop the former Fiddlers Ferry Power Station site and it is allocated for redevelopment in the Local Plan. To avoid affecting this area and potentially creating the need to relocate some of the development planned, we are presenting two options in this area.

The first option (NP6) is routed in a north-westerly orientation from the Moore Nature Reserve, crossing the River Mersey, Canal and railway line before travelling along the eastern edge of the Fiddler's Ferry Golf Course.

The second option (NP7) heads north west across the golf course after crossing the River Mersey, Canal and railway, aligning the route of an existing ethylene pipeline.

HAGIs

Two HAGIs have been identified in the North Corridor with two alternatives identified for Higher Walton, which are seeking feedback upon:

- **Clock Face HAGI** - this would be located in a field bounded by the M62 and the B5419.
- **Higher Walton HAGI** - we have identified two options for the location of our Higher Walton HAGI (HWH2 and HWH8).

HWH2 is located on the North bank of the Manchester Ship Canal, on Birchwood Road.

HWH8 is being presented as an alternative to HWH2 which was proposed at the previous consultation. It is located on the south bank of the Manchester Ship Canal on agricultural land to the north of Mill Lane.

We are asking for feedback on both of these options, and are working with landowners to inform our final decision.

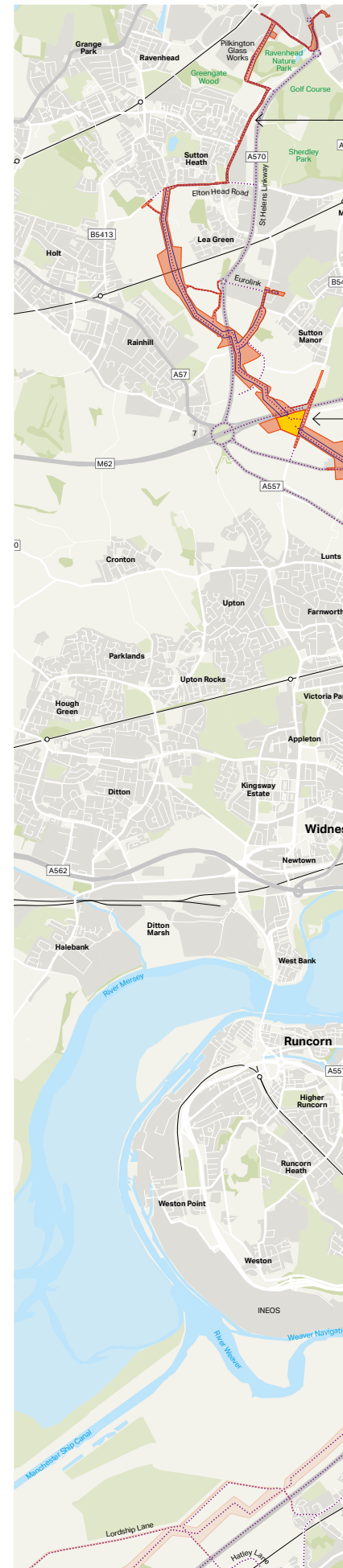
Spurs

There are three spurs (smaller connecting pipelines) planned in the North Corridor.

- **Clock Face spur** - would start at the Clock Face HAGI and would run to an offtaker approximately 5 km to the north east.
- **St Helens spur** - this spur would start at the Clock Face HAGI and run to offtakers in St Helens.
- **Warrington spur** - the Warrington spur would start at the Higher Walton HAGI and run east into Warrington. It would be approximately 6km in length.

The following offtakers are served by the spurs from the North Corridor - Ingevity, Novelis, NGF Europe Ltd, NSG Pilkington Greengate Works and Glass Futures.

We would like your feedback on the redline boundary in our North Corridor, within which our pipeline would be routed, HAGIs sited and temporary construction areas located.



Find out more
and submit
feedback



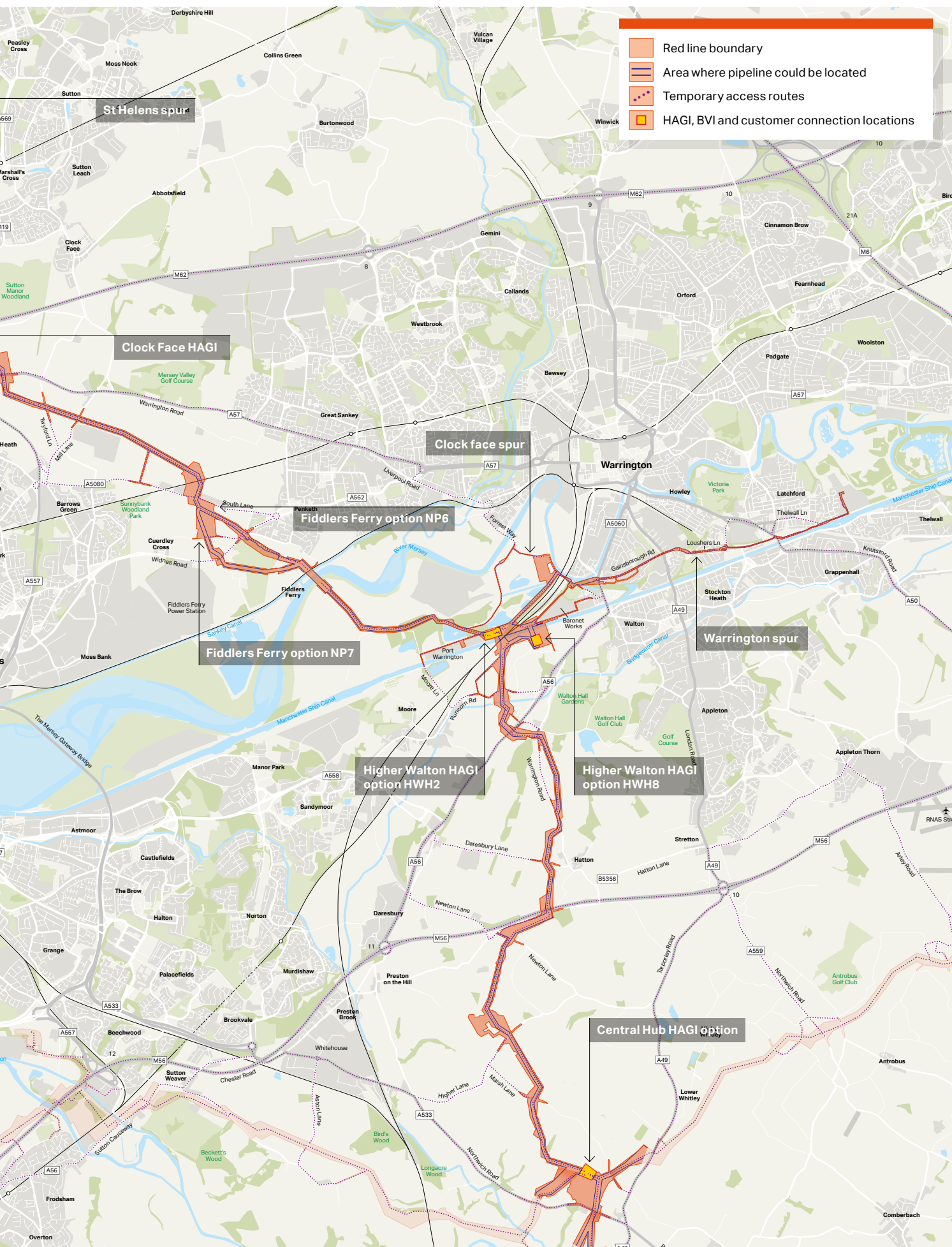
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Visit our **website** and read our
consultation documents

Our proposals

East Corridor: Central Hub to Warburton and Partington, and the Warburton and Partington spurs

The East Corridor would start at the Central Hub HAGI with the pipeline running approximately 18km northeast to the Warburton HAGI. The pipeline would then continue northeast for approximately 3.8km to the Partington HAGI.

Places for Everyone, the Joint Development Plan which includes Trafford, allocates land in Partington for development. This has resulted in a very minor increase in land being added to the redline boundary on the approach to the Partington HAGI (adjacent to Sinderland Road). This minor change moves the pipeline from the centre to the edge of agricultural fields.

HAGIs

- **Warburton HAGI** - This HAGI is required to accommodate potential blending of hydrogen and methane gas. Works are dependent on a government decision on blending.
- **Partington HAGI** - We are presenting two options for the Partington HAGI. The first option (PH1) is proposed to the west of the HAGI location presented at the 2022 statutory consultation, at the site of a previous gasholder.

The second HAGI option has been introduced at this consultation and is to the east of Sinderland Road (PH2).

These options are required to avoid the planned development of warehouses in the area, and this development, together with existing pipelines running through the land, restricts the land available in to site a HAGI.

Block Valve Installation (BVI)

Due to the length of the East Corridor, a BVI is required to allow isolation of different parts of the pipeline for maintenance. Following our consideration of feedback received at previous consultations, we are presenting one option for the BVI on the north side of the A50.

Spurs

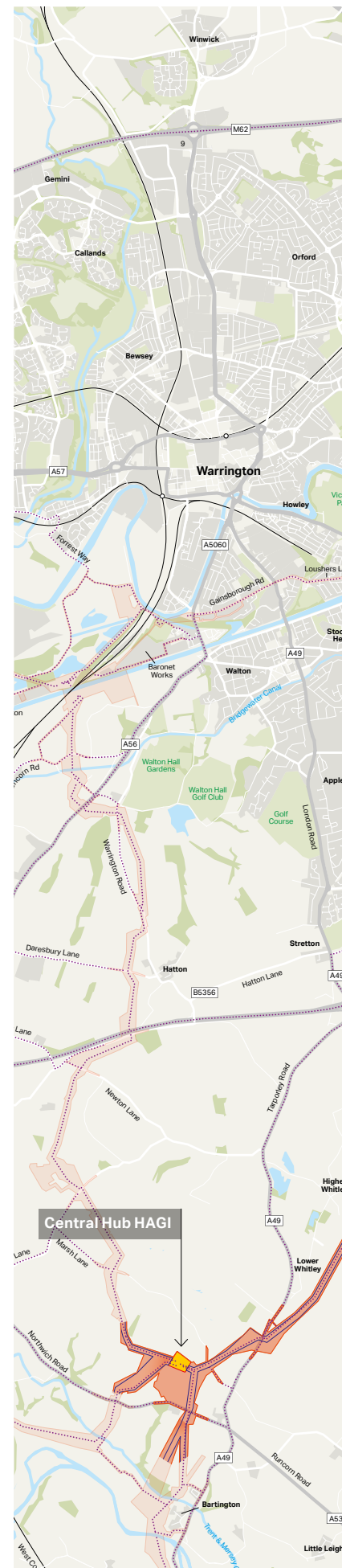
Partington spurs

The Partington spurs will start at the Partington HAGI and connect through separate pipelines to Basell Polyolefins.

Pending a policy decision on the blending of hydrogen into the gas network in 2025 a spur connecting to the Partington Cadent Gas Above Ground Installation will be installed.

The Partington HAGI will also facilitate a connection to ESB Power for low carbon electricity generation in the region, for which the pipeline connection would be provided by ESB.

We would like your feedback on the redline boundary in our North Corridor, within which our pipeline would be routed, HAGIs sited and temporary construction areas located.



Find out more
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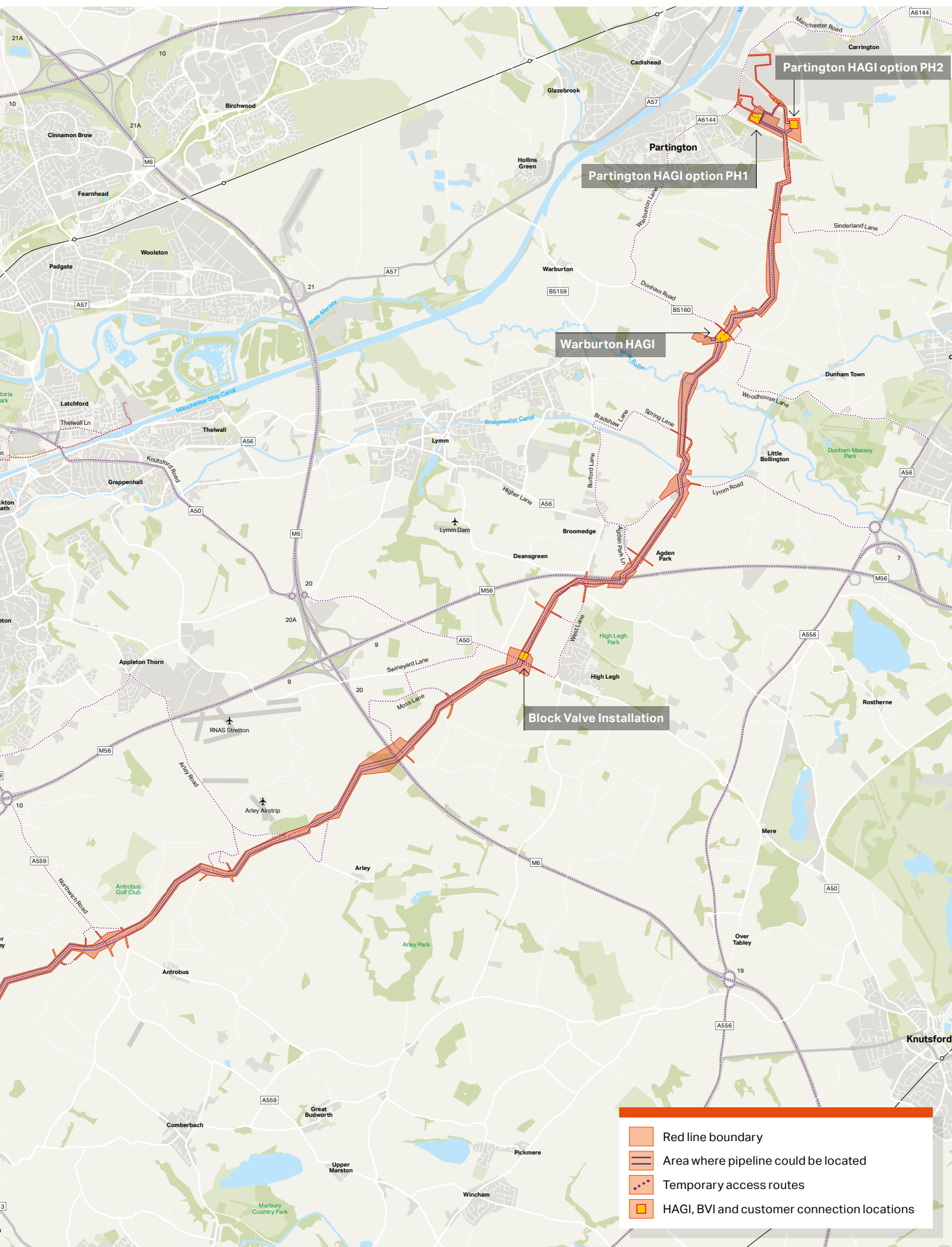
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Our proposals

South Corridor: Central Hub to the hydrogen storage facility

The South Corridor would start at the Central Hub HAGI with the pipeline running approximately 17.9km south to a Hydrogen Storage Facility.

The facility will store hydrogen in underground caverns to the south of Northwich. Hydrogen stored in these caverns would then be transported to industrial offtakers.

Block Valve Installation (BVI)

Due to the length of the South Corridor, a BVI is required to allow isolation of different parts of the pipeline for maintenance. At the autumn 2022 consultation, five options for a BVI on the South Corridor were presented. The BVI location presented at this consultation is north of the A556 and takes account of the feedback received. This location is well screened by trees from the A556 and housing to the east. Access would be via the A556, this would use an existing site route, which serves Forest Hill Quarry.

Northwich Spur removal

In May 2023 we announced that the Northwich Spur would not be taken forward as part of the Development Consent Order (DCO) application. This means we are not presenting or asking for feedback on the Northwich Spur. We envisage that this spur will be consented separately in the future.

More information on the Northwich spur can be found on our website at <https://www.hynethydrogenpipeline.co.uk/news-updates/2-may-2023/>

Design Evolution Report

More information on the different options and alternatives we considered before arriving at our proposals in the west, north, east and south corridors can be found in the Design Evolution Report.

Weaver Navigation and West Coast Mainline crossing

At the statutory consultation in autumn 2022, we presented four options for the trenchless crossing of the Weaver Navigation and West Coast Mainline.

Following responses to this consultation, the routing in this area has been adjusted to avoid the Vale Royal Abbey Golf Club and to reduce effects on the business, we will also avoid the need for construction near Vale Royal Abbey.

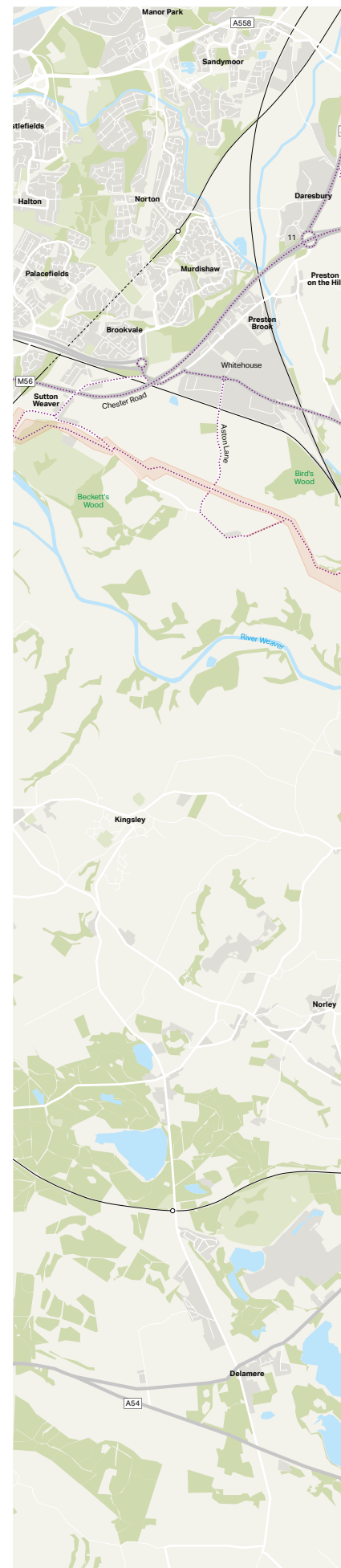
The pipeline in this area would be installed using a trenchless crossing. You can read more about construction methods on pages 16 to 17.

Eaton Lane

We received feedback at the statutory consultation sharing concern about the use of Eaton Lane for construction vehicles, as it is a well-used public right of way.

Considering these comments, most construction vehicles and almost all HGVs previously planned to use Eaton Lane, are now being proposed to access the working area from the A533 instead.

Where HGV's are required to enter through Eaton Lane by exception, the correct controls will be in place to safely manage its access, protecting members of the public.



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Our proposals

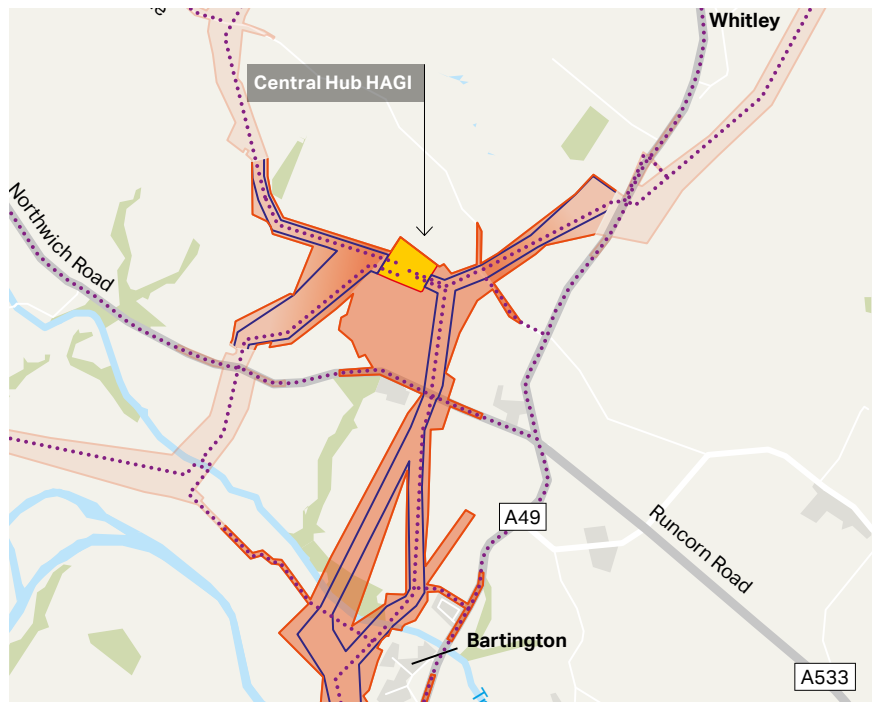
Central Hub

At the statutory consultation the Central Hub was shown with two HAGI options, one around Woodside Farm (CHH1), and another closer to Marsh Lane (CHH2). A wide corridor was identified around these options to allow for the routing of the four main pipeline corridors.

The second Central HAGI (CHH2) option near Marsh Lane is being proposed at this consultation and the option closer to Woodside Farm discounted, due to its proximity.

The selected option has also been considered more suitable as it's located some distance from roads and footpaths and should not be easily seen during both construction and operation.

We have also reduced the Corridor around the Central Hub following further technical work and in consideration of the feedback we received.



Managing a hydrogen network

Cadent has a long history of safely managing the UK's existing gas network. Cadent is the largest gas distribution company in the UK, and safely keeps the energy flowing to over 11 million homes, offices and businesses.

The gas network delivers more than twice as much energy in a year as the electricity network. It is therefore important to take steps to decarbonise industry which uses the gas network by offering access to hydrogen instead of natural gas, and we are committed to doing this safely, efficiently and reliably.

Here are some of the activities we are undertaking to ensure we operate and construct the pipeline safely:

- We are engaging with the Health and Safety Executive on our plans for the hydrogen pipeline, through established processes related to pipeline operations.
- The hydrogen pipeline will be designed, constructed and managed in line with the Pipeline Safety Regulations 1996 – the same regulations that govern natural gas unless there is a change to the requirements we need to meet.
- The Project will be designed to the Institution of Gas Engineers and Managers (IGEM) design standard, specifically developed for hydrogen.
- As with existing gas networks, we're carrying out thorough safety assessments as part of the design process for the Project.
- The Project will be constructed by competent constructors using a stringent quality management and control system.
- The pipeline will be maintained through an effective Pipeline Integrity Management System. We will monitor any work that takes place in the vicinity of the pipeline. We will also work with landowners who would like to undertake activities near to the pipeline.

Have your say

Local people, including residents, local elected representatives and other stakeholders, have an important role to play throughout this consultation. We need your views and knowledge as we work to develop our final proposals.

This consultation will run from 14th October to 19th November 2024.

This is a statutory round of consultation meaning it's a required part of the Government's planning process for Nationally Significant Infrastructure Projects, as per the Planning Act 2008.

We would like your feedback on:

- The Draft Environmental Statement we have published as part of this consultation.
- New options for the Higher Walton and Partington HAGIs.
- Updated Block Valve Installation locations.
- The alternative route options we are presenting to avoid the former Fiddlers Ferry Power Station.
- Other changes, additions and reductions to the area we are proposing.
- Any other feedback you may have on our proposals.

Hard copy materials

Materials are digitally available on our project website. However, if you would prefer to view project materials in hard copy form then you can contact the project team or visit a number of information points across the project area. A reasonable printing charge may apply for some hard copy materials.

Call **0800 860 6261** or email **info@hynethydrogenpipeline.co.uk** to contact the team or visit the project website to see the locations where you can view hard copy materials.



You can take part and comment on our proposals by:



Using the project website
www.hynethydrogenpipeline.co.uk



Send an email to
info@hynethydrogenpipeline.co.uk



Send written feedback to the freepost address **FREEPOST HYNETH NWHP**



Drop into one of our in-person events, discuss the Project with us and pick up a hard copy feedback form to fill in. See page 30 of this brochure or visit **www.hynethydrogenpipeline.co.uk/meet-the-team** for more information or ask any questions you might have by calling **0800 860 6261**.



Meet the team

You can find out more about Cadent's HyNet North West Hydrogen Pipeline at one of our consultation events.

These events are a great way to learn more about our proposals, meet the project team and ask any questions you may have about the Project.

In-person consultation events are 'drop in' events, meaning you can stop by at any point to learn more and speak to the team. The details are as follows:

In-person consultation events		
Whitley Village Hall	Wednesday 16th October 2024 4pm to 8pm	Whitley Village Hall, Village Lane, Higher Whitley, Warrington WA4 4EJ.
High Legh Village Hall	Thursday 17th October 2024 10am to 1pm	High Legh Village Hall, West Lane, Knutsford WA16 6LR.
Frodsham Community Centre	Thursday 17th October 2024 5pm to 8pm	Frodsham Community Centre, Fluin Lane, Frodsham WA6 7QN.
Thatto Heath Library	Friday 18th October 2024 12pm to 4pm	Thatto Heath Library, Thatto Heath Road, St Helens WA10 3QX.
Milner Church Institute	Saturday 19th October 2024 10am to 3pm	The Milner Church Institute, Runcorn Rd, Moore, Warrington WA4 6TX.
Westy Community Centre	Monday 21st October 2024 3pm to 6pm	Westy Community Centre, Bridgewater Avenue, Latchford, Warrington WA4 1TA.
FUSE ROC	Wednesday 23rd October 2024 10am to 1pm	The Fuse ROC Centre Warburton Lane, Partington, Manchester M31 4BU.
Davenham Methodist Church	Thursday 24th October 2024 5:30pm to 8:30pm	Davenham Methodist Church. 8, Firth Fields, Davenham CW9 8JB.

Online events

Online event 1

Thursday 7th November
6pm to 7pm.



Online event 2

Tuesday 12th November
6pm to 7pm.



Help

Should you experience any issues while trying to register attendance at one of our online consultation events then please contact the project team by emailing **info@hynethydrogenpipeline.co.uk** or calling **0800 860 6261**.

Please also refer to the project website for any updates before attending in-person events.

The online events will be held on Zoom and include a presentation from the project team followed by a question and answer session. Please scan the QR codes or visit **www.hynethydrogenpipeline.co.uk/meetthe-team** to register your attendance for an online event.

Next steps

Once this consultation closes we will carefully consider all the feedback we have received alongside further technical, engineering and environmental work.

This information will be used to finalise our design for the HyNet North West Hydrogen Pipeline – the basis of our DCO application.

The final design will include our redline boundary, HAGIs, BVIs and areas to be used for construction and access. We will aim to remove any optionality.

This stage of consultation is likely to be the last project-wide consultation on our proposals so it's really important you take this opportunity to have your say. Once we have developed our final proposals we will submit an application for development consent to the Planning Inspectorate and Secretary of State for Energy Security and Net Zero. We expect to submit our application in Spring 2025.

Our application will include:

- A final Consultation Report summarising people's responses to this and previous consultations. It will include an explanation of how we have taken people's views into account.
- A final Environmental Statement setting out the environmental and socioeconomic considerations for the Project and how we propose to mitigate them.

The Planning Inspectorate will examine our proposals and prepare a report for the Secretary of State for Energy Security and Net Zero. The Secretary of State will then make the final decisions on our application, which we currently expect mid to late 2026. If our application is successful, we expect to begin construction in 2027 and for construction to take around three years to complete.

There will be further opportunities for people to get involved as part of a process led by the Planning Inspectorate following application submission. You can find out more about this process by visiting:

<https://infrastructure.planninginspectorate.gov.uk/applicationprocess/>

Current project timeline



Please note that this is an indicative timeline and could be subject to change.

Contact us

To submit feedback, ask questions and find out more, get in touch with the project team via the contact details below:



Email: **info@hynethydrogenpipeline.co.uk**



Register to stay informed:

www.hynethydrogenpipeline.co.uk/keep-in-touch



Write to us: **FREEPOST HYPNET NWHP**



Call: **0800 860 6261**

For confidential support, contact Shout



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