HyNet North West Hydrogen Pipeline

Non-statutory consultation

Consultation brochure

HyNet North West Hydrogen Pipeline

Delivering clean growth

Cadent

Your Gas Network

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About Cadent and its hydrogen projects

Cadent is the UK's largest gas distribution network, managing a network of more than 80,000 miles of pipes, most of which are underground. These pipelines transport gas to 11 million customers throughout the North West, West Midlands, East Midlands, South Yorkshire, East of England and North London.

Cadent is involved in several hydrogen projects in partnerships with the energy sector. The three main areas it leads on are blending, industrial power and decarbonising heavy transport.

Cadent has published a Hydrogen Ten Point Plan that outlines its ambition to make hydrogen a safe, fair and reliable choice for consumers. You can read it here: www.cadentgas.com/tenpointplan.

Our non-statutory consultation

The HyNet North West Hydrogen Pipeline will help unlock an energy revolution to decarbonise the North West.

This proposal will be the UK's first 100 per cent low carbon hydrogen pipeline at scale. The plans shown in this brochure are being developed by Cadent, the gas network operator for the region, and are part of the ambitious HyNet North West low carbon cluster. HyNet is an innovative energy project that will unlock a low carbon economy for the North West and North Wales and put the region at the forefront of the UK's drive to achieve net zero.

The HyNet North West Hydrogen Pipeline

We are developing a pipeline that will safely transport low carbon hydrogen produced at Essar's Stanlow Manufacturing Complex near Ellesmere Port to various industrial organisations. The pipeline will also transport hydrogen to blending stations in Warburton and Partington (near Manchester) where it will be blended into the existing gas network to heat homes and businesses. The project will also link to underground hydrogen storage facilities that will be used to balance supply and demand.

Our pipeline will support the UK's drive towards a net zero future and will unlock permanent jobs in the region. The pipeline will be underground, although we will need some additional above ground infrastructure known as Hydrogen Above Ground Installations (HAGIs) at various locations along the route.

Following the construction of the hydrogen production plant at Stanlow, we anticipate starting construction on the first section of the hydrogen pipeline network from 2025, subject to obtaining planning consent.

We want to hear your views

Local people including residents, local elected representatives and other stakeholders, have an important role to play throughout this process. Your views will help shape and refine our final pipeline route.

We need your local knowledge and welcome any feedback you may have on our proposals for the HyNet North West Hydrogen Pipeline. Your insights are also invaluable in helping us to understand any potential impact from the project.

We have currently identified a broad route corridor within which the pipeline could be routed. We have also identified search areas for where our HAGIs could potentially be located.

All feedback you share will be reviewed, recorded and carefully considered as we develop our plans.

This consultation will run for six weeks from **00:01 on 26 January 2022 until 23:59 on 11 March 2022**.

There is more information about the project in this brochure and on our website. There are also a number of ways for you to submit your feedback:

Use the interactive map on our website www.hynethydrogenpipeline.co.uk

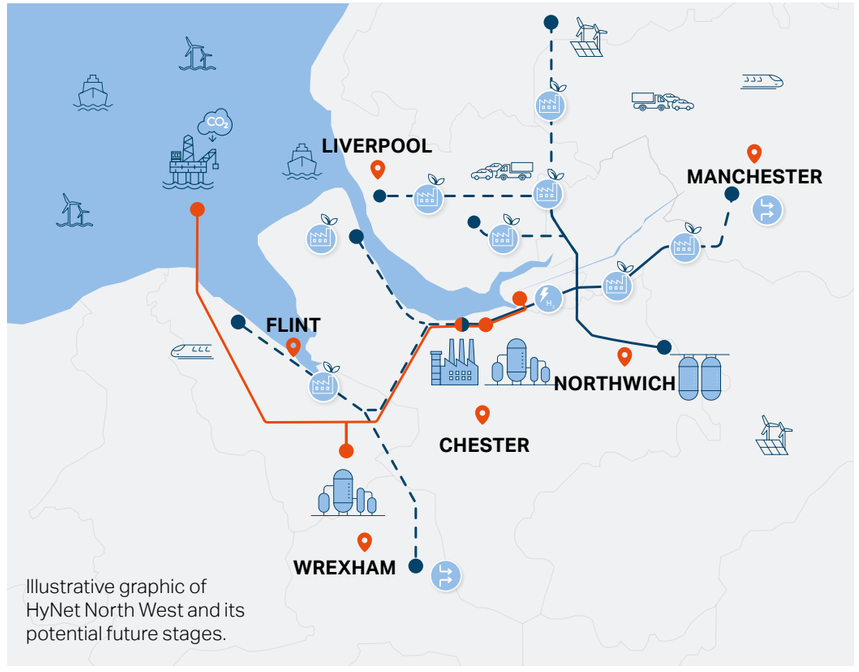
Fill out a paper feedback form
These are available on request, at in-person events and deposit locations. A list of deposit locations can be found on our website.

Email: info@hynethydrogenpipeline.co.uk

Write to us: FREEPOST HYNET NWHP

See pages 20 and 21 of this brochure to find out more about this consultation and the planning process.

HyNet North West, the hydrogen pipeline and delivering a low carbon future



Illustrative graphic of HyNet North West and its potential future stages.

- Initial phases of Cadent's H_2 pipeline
- Potential future phases of Cadent's H_2 pipeline
- ENI'S CO_2 pipeline
- Industrial CO_2 capture
- Low carbon H_2 production
- Underground H_2 storage
- CO_2 storage
- Industrial H_2 user
- Flexible H_2 power generation
- H_2 blending for homes and business
- CO_2 shipping
- H_2 from offshore wind
- H_2 fuelling for transport
- H_2 fuelling from solar and wind
- H_2 trains

What is HyNet North West?

HyNet North West is a ground-breaking energy project that will unlock a low carbon economy for the North West and North Wales, placing the region at the forefront of the UK's drive to net zero.

While ambitious, delivery of HyNet is relatively low-cost and achievable. It meets the major challenges of reducing carbon dioxide emissions.

HyNet will produce, store and distribute hydrogen (H_2), as well as capture and store carbon from industry, in the North West and North Wales. It will use state-of-the-art technology to build new infrastructure while also upgrading and reusing existing infrastructure, which is currently involved in fossil fuel production.

The infrastructure has been designed to be both affordable and safe, and to be built to begin to remove carbon emissions quickly, helping the region and the UK to meet its net zero targets by 2050.

This hydrogen pipeline will play a vital role in delivering hydrogen to users across the region. In addition to the HyNet North West Hydrogen Pipeline, the wider HyNet North West scheme includes:

- Hydrogen Production Plant at Stanlow – developed by Essar Oil UK
- Hydrogen storage at Northwich – developed by INOVYN
- Carbon dioxide pipeline – developed by Liverpool Bay CCS. Please visit www.hynethub.co.uk for more information on this consultation

This consultation is for the HyNet North West Hydrogen Pipeline and is being run by Cadent.

Find out more

For more information about the benefits of HyNet North West, visit www.hynet.co.uk/benefits.

Opportunities for the region

With a bold history of innovation and industry the North West is a natural choice to lead the UK toward decarbonisation and reaching net zero.

While establishing the region as a hub of innovation and clean growth, HyNet will create opportunities that will directly benefit the region:

- It will attract inward investment to increase regional prosperity
- It will boost the region's reputation as a highly attractive location for sustainable organisations
- It will provide opportunities for local people to develop new skills and to train to work in exciting and innovative sectors
- It will directly create thousands of new jobs

Environmental benefits

- HyNet could reduce carbon emissions by 10 million tonnes a year by 2030
- HyNet will provide nearly 50 per cent of the total hydrogen needed to meet the UK's net zero targets
- HyNet will single-handedly be able to deliver 80 per cent of the UK's clean power target for transport, industry and homes by 2030

Economic benefits

- By 2050, HyNet could generate up to £17 billion for the local region, and £31 billion for the UK
- HyNet will directly provide 6,000 permanent jobs for the region
- HyNet is leading the way to a hydrogen economy, which will support up to 75,000 jobs across the UK by 2035

Net zero by 2050

The UK has committed to net zero emissions by 2050. This means that over the next 30 years we need to reduce our net carbon dioxide emissions by 100 per cent.

To achieve this, the Government is exploring wide-ranging plans to transform how energy is produced and used, how people travel, and how our natural environment can be restored.

This includes advancing the deployment of offshore wind, solar energy generation and electric vehicles, hydrogen and Carbon Capture Usage and Storage (CCUS).

HyNet will help the UK succeed in its drive to net zero.

Find out more

In October 2021, the Government announced HyNet as the UK's leading industrial decarbonisation cluster. This means the scheme has been selected to lead the way in developing hydrogen and CCUS infrastructure. This places the region at the heart of the UK's drive to net zero.

HyNet is key to decarbonising industry across the region with the potential to reduce carbon emissions by 10 million tonnes every year by 2030. That's equivalent to taking four million cars off the road.

The technology

What is hydrogen?

Hydrogen doesn't typically exist by itself in nature and must therefore be manufactured using one of a variety of processes. Each process adds cost and, like all energy transformation processes, comes at the cost of some efficiency. However, once energy is converted into hydrogen it can be stored and transported and then turned back into other forms of energy. This makes it tremendously versatile, capable of uses in the power, heat and transport sectors.

By 2030, the Government is aiming for 5GW of low carbon hydrogen production capacity to be used across the economy. To achieve this, organisations from across the energy industry must work together to scale up low carbon hydrogen production.

To make this happen we must change the way we get our heat and hot water. In the UK, more than 80 per cent of fuel for heat comes from natural gas.

This means we need to transition to greener forms of gas. Instead of natural gas that is produced from fossil fuels, we need an alternative source, and that gas is hydrogen. While most hydrogen today is produced in ways that also emit greenhouse gases, it is possible to produce it in ways that are low carbon, therefore supporting our net zero ambitions.

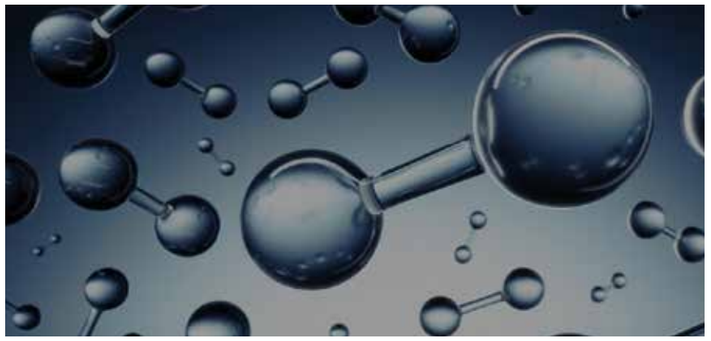
From 2025, the aim is for HyNet North West to produce, store and distribute such low carbon hydrogen, as well as capture and store carbon from industry in the North West of England and North Wales.

What solution does hydrogen offer?

Traditionally we have burned fossil fuels (such as natural gas) to produce the energy we need day-to-day for cooking and heating our homes, as well as providing power for industrial use. But this produces carbon dioxide, a greenhouse gas that contributes to global warming.

Hydrogen offers a clean alternative source of fuel that doesn't release harmful emissions into the atmosphere.

Hydrogen can also be used in multiple sectors which presents an opportunity to reduce carbon emissions across different industries, in power generation, transport, and in our homes and businesses.



What's the difference between blue hydrogen and green hydrogen?

There are many different ways of making low carbon hydrogen. Two main types of low carbon hydrogen are typically described as either 'blue' or 'green'. The HyNet consortium will initially be producing low carbon blue hydrogen, and the hydrogen pipeline will be able to carry all types of low carbon hydrogen. This means it will be capable of transporting both 'blue' and 'green' hydrogen.

Blue hydrogen

This is produced by 'splitting' natural gas. Carbon dioxide is a by-product of this process, which is then captured and stored underground, offshore. Blue hydrogen can be regarded as 'low carbon' provided that almost all carbon dioxide created during production is captured and stored – just as we are doing with HyNet, with capture rates of 97 per cent.

Green hydrogen

This is produced via the electrolysis of water. Electrolysis means to use electricity to split water into hydrogen and oxygen. This process must be powered by a renewable source of electricity (e.g. wind or solar, nuclear) so that no carbon dioxide is emitted in the production of the electricity. Large-scale green hydrogen generation requires the construction of new renewable electricity generation infrastructure. Many renewable energy developers are looking to co-locate hydrogen production with new or existing infrastructure.

Did you know?

In the UK's Hydrogen Strategy, the Government has set a target for 5GW of low carbon hydrogen production capacity by 2030. 5GW would be approximately sufficient power to heat 1.5 million homes for one year.

Why is the hydrogen pipeline needed?

The HyNet North West Hydrogen Pipeline (the project we are consulting on) will be the UK's first 100 per cent hydrogen pipeline at scale and is essential to unlocking the benefits and ambitions of HyNet.

The pipeline will deliver the infrastructure needed to provide clean hydrogen power to industry, and blended hydrogen power to homes across the region. Without the hydrogen pipeline, the benefits of the HyNet low carbon cluster scheme cannot be realised.

What is blended hydrogen?

Blended hydrogen is when we mix hydrogen (up to 20 per cent by volume) into the existing natural gas pipelines. This hydrogen and natural gas mix is less carbon intensive, reducing the environmental impact of the energy we use in our homes and businesses while allowing existing domestic appliances, such as our hobs and boilers, to keep working without any changes.

An overview of our proposals

The HyNet North West Hydrogen Pipeline includes the construction, operation and maintenance of around 125 kilometres of new gas transportation infrastructure. The pipeline will vary in diameter along the route between 12 inches to 48 inches. The primarily underground pipeline will connect a number of defined end points, distributing hydrogen to industry and blending hydrogen into the existing gas network in the North West.

Defined end points	Why it's needed
Hydrogen production facility at Stanlow Manufacturing Complex	Provides a source of hydrogen to supply the pipeline network
Hydrogen storage facility, near Northwich	Allows hydrogen to be stored at times of peak supply and released into the network to meet demand
Blending to the existing gas network, near Warburton and Partington	Allows hydrogen to be blended with natural gas and supplied into the wider pipeline network
A cluster of industrial operations across the project area	Helps decarbonise industry in the region

Find out more

Over the next few pages, you can read more about our proposals and how we developed them. We've also provided more detail on each route corridor, so you can see our plans in your area.

The pipeline

The pipeline will connect to the proposed hydrogen plant at Stanlow Manufacturing Complex, near Ellesmere Port. This will be the source of hydrogen for onward distribution into the network. The pipeline will then continue to a 'Central Hub' at the centre of the network. The Central Hub will act as the connection and onward distribution point for users and connection to storage along the south, east and north sections of the route corridor.

We have used our early feasibility and design work to date to develop a route corridor, a broad area within which the underground pipeline could be routed. On the map, the route corridor broadly represents a cross (or an 'X'). We'll consider all comments we receive during this consultation, alongside further technical and environmental surveying work. This will help us to develop a more detailed design for the pipeline ahead of our second consultation, which is scheduled for later this year.

Spurs

In some areas, we have identified spurs off the route corridor. These are needed to take hydrogen from the main pipeline to specific industrial users in the region. We expect that these spurs will use a smaller type of pipe and will include installing pipe within roads, much like Cadent's existing network.

What you can tell us

We want to know whether you have any views or information that can help us develop and finalise a proposed route for the pipeline within our route corridor, or the spurs we have identified.

Hydrogen Above Ground Installations (HAGIs)

The majority of our new infrastructure will be underground. However, at certain points along the pipeline, we will need some above ground infrastructure. We call these Hydrogen Above Ground Installations (HAGIs). These sites will give us access to inspect the integrity of the pipeline and to manage the flow to different parts of the network. They will also allow future connections to the network.

HAGI search areas have been identified within the route corridor based on points along the pipeline network where connections or block valves are required. We currently anticipate needing around 12 HAGIs, which would be located within the search areas we have identified. You can see these search areas on the maps later in this document.

HAGI sites will also include connection points to the new hydrogen plant, storage facility, and to support connections to industrial users and blending points within the existing gas network.

What do HAGIs look like?

Typically, HAGIs require a range of above ground equipment and structures. These structures are usually around 1.5 to 2 metres tall. HAGI sites vary in size, but typically range between a half and two hectares. One hectare is around the size of a football pitch.

HAGI sites will need security fencing, which is typically 2.4 metres high, and gates for entrance and exit. However, in some cases fences may need to be higher and additional security measures added.

Access to HAGI sites from road networks will be needed. This is usually via an access track, or similar. Operatives will need space to safely park their vehicles and open the gates to the HAGI.

HAGIs will also need to connect into the local electrical distribution and telecommunications network.

Block valves

Where the distance between two HAGIs is greater than 16 kilometres, we may need to install a Block Valve Installation (BVI). These are smaller than HAGI sites, typically measuring around half a hectare (half a football pitch). BVIs may also be required at locations where the pipeline needs to cross a river or watercourse.

Fences will be approximately 2.4 metres high and a gate for entrance and exit will be required. Access for service vehicles (typically light goods vehicles) will be needed. This is likely to include an access track (or similar) and space for vehicles to turn.

Currently, we think there will be two points along the route corridor where we will need to install BVIs.

What you can tell us

We want to know if you have any information that could inform the siting of a HAGI, or if there's anything you'd like us to consider when we look for a location.

How we developed our proposals

Assessment of alternative route corridors

In developing our route corridor (as shown later in this brochure), we also assessed and ruled out three alternative route corridors. We call the route corridor we are consulting on 'A'. Alternatives that were ruled out are called 'B', 'C' and 'D'. We've provided an explanation for why B, C and D were ruled out and why we decided to move forward with A.

All alternative route corridors were developed with consideration to a range of technical, environmental and cost factors. They were also developed with the same objective in mind – to deliver hydrogen to defined end points.

A This is the route corridor we are consulting on. It roughly forms an 'X' shape, with a Central Hub and four legs: west to Stanlow; north to St Helens; east to Partington and Warburton; and south towards Middlewich (see pages 12-19 for more detail).

B This formed a 'H' shape. The western leg would have run from Stanlow to Frodsham; the north across the Mersey Estuary to St Helens; the east from Partington; the south past Warburton to a location near junction 20 of the M6, then south to the hydrogen storage facility.

C This would have been a combination of options A and B, with the western, northern and eastern legs the same as those chosen in A. The connection to the hydrogen storage facility included the option provided in B, with a leg running from near junction 20 of the M6 to the hydrogen storage facility.

D This roughly formed a 'H' shape. It would have had a western leg running from Stanlow to St Helens across the Mersey Estuary (with a spur towards Warrington). The southern leg would have run from Stanlow to Middlewich and an eastern leg from Winsford to Carrington.

Why we ruled out the alternatives

We chose A as the most appropriate option because:

- B and D both involved crossings of the Mersey Estuary. This would have led to additional environmental impacts because of how close our work would have been to a Special Protection Area and Ramsar site (Ramsar sites are designated as wetlands of international importance). The long distance drilling that these options require would have also been challenging and added cost to the project.
- C would have needed an additional Central Hub site. This would have made our project more complex to construct and required the use of more land.

Hydrogen Above Ground Installations (HAGIs)

Search areas for HAGIs have been identified along the preferred route corridor. Their locations have been informed by the points along the pipeline network where we think we'll need connections or block valves (more information on block valves on page 7). We have also tried to avoid key landmarks and potential obstacles where possible.

Find out more

You can find out more about the work to develop a route corridor, and the alternatives we considered, in our Route Corridor Report. This is available on our website or by contacting our team (details on the back page).

Environmental considerations

The underground pipeline and Hydrogen Above Ground Installations will be designed and constructed to minimise impact on natural habitats and the environment. This includes looking at a wide range of factors, including ecology and wildlife, the historic environment and existing ground conditions.

The project team will be carrying out a number of surveys, site and route investigations, as well as other assessments, to better understand potential environmental issues and impacts.

The underground pipelines will primarily run through open land and will not be routed under people's homes.

Some surveys may be required in areas beyond the preferred route corridor and HAGI search areas to gain a better understanding of local habitats and how the project may impact them. There is, however, no intention to conduct surveys in private houses. Surveys will predominantly take place on open land and we will always work with landowners to seek voluntary access.

What you can tell us

We want to know whether you have any views or information about how we plan to address environmental considerations.

How we would construct the project

Cadent is an experienced and trusted operator of pipelines. We will make sure we bring our knowledge of constructing and maintaining the existing gas network to this project.

Constructing an underground hydrogen pipeline

To build our underground pipeline we will have to cross roads, railways, waterways and other sensitive areas. To do so we may need to use a number of different construction techniques. These include:

Open trenching

Open trench excavation is the most common method for installing underground pipelines. Open trenching begins by marking out the total area within which construction work will take place. Topsoil is then carefully stripped and stored next to the pipeline route. Meanwhile, the pipeline is delivered in short lengths and placed on supports. These short lengths of pipeline are welded together into longer sections called 'strings'.

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) and welded to the pipeline that's already been laid.

The trench is then backfilled using the previously excavated material and the topsoil is replaced. Once the land above the pipeline has been fully reinstated, it can be returned to its previous use.

We anticipate that open trenching will be the predominant technique we use to construct our underground pipeline.

Trenchless methods

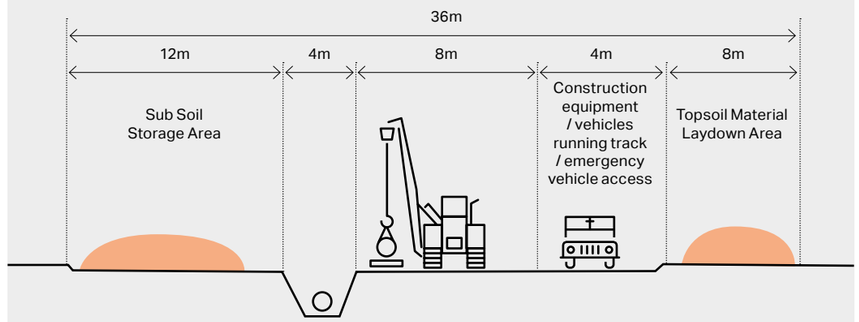
In some cases, for engineering and environmental reasons, open cut methods are not viable so trenchless methods will be considered.

Possible trenchless techniques that will be assessed as part of the design could include:

- Auger boring
- Horizontal directional drilling
- Microtunneling

We will provide more information on our construction methods as the project develops.

Diagram of open trench excavation



Typical working width – may vary depending on size of pipe or ground conditions.

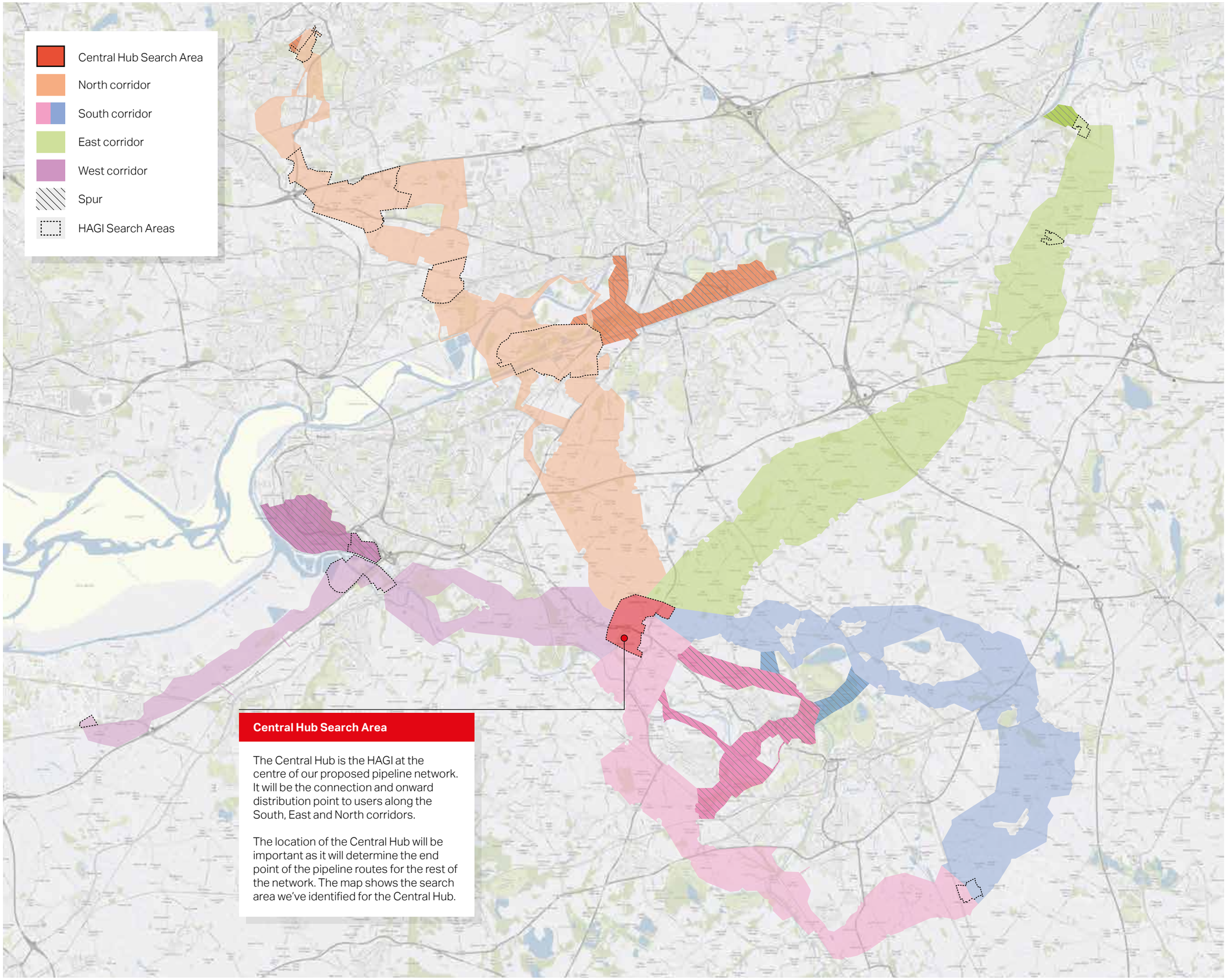
Overview map

This map shows an overview of the proposals we are consulting on. We have identified a route corridor, within which our underground pipeline could be constructed.

This route corridor is based on preliminary desk-based assessments and some initial site visits. Where the infrastructure needs to leave the main network to connect to industrial users and blending points, we have identified a number of spurs.

For the above ground infrastructure, we have identified search areas within which our HAGIs could be sited.

To help explain the proposals, we've split the route corridor into individual sections, although we will need to construct a pipeline in each of these sections. Over the next few pages, you can see each section of the route corridor in more detail.



Central Hub Search Area

The Central Hub is the HAGI at the centre of our proposed pipeline network. It will be the connection and onward distribution point to users along the South, East and North corridors.

The location of the Central Hub will be important as it will determine the end point of the pipeline routes for the rest of the network. The map shows the search area we've identified for the Central Hub.

Route corridors

West corridor: Stanlow to the Central Hub, and the Runcorn spur

The route corridor

This route corridor starts at the proposed hydrogen production plant at Essar's Stanlow Manufacturing Complex.

From there, it runs east towards the M56. Before it gets to the M56, it turns to run east again up the north side of the M56 in the direction of Frodsham and the Rocksavage roundabout.

Just before the Rocksavage roundabout, the route corridor turns east again, crossing the M56, towards the River Weaver Navigation.

The corridor then travels in the direction of Little Leigh, avoiding the Chapel and Dell ancient woodland, the listed buildings in the area and Aston Park.

It then crosses the railway line before arriving at the Central Hub.

The spur

In this area, we'll also need a spur in the direction of Runcorn. This will connect to the pipeline network via the Rocksavage HAGI Search Area and will extend roughly north-east, crossing the River Weaver Navigation.

The spur then runs approximately north-west with two options around Weston, one to the west and the other to the east.

We need this spur to connect to the following users:

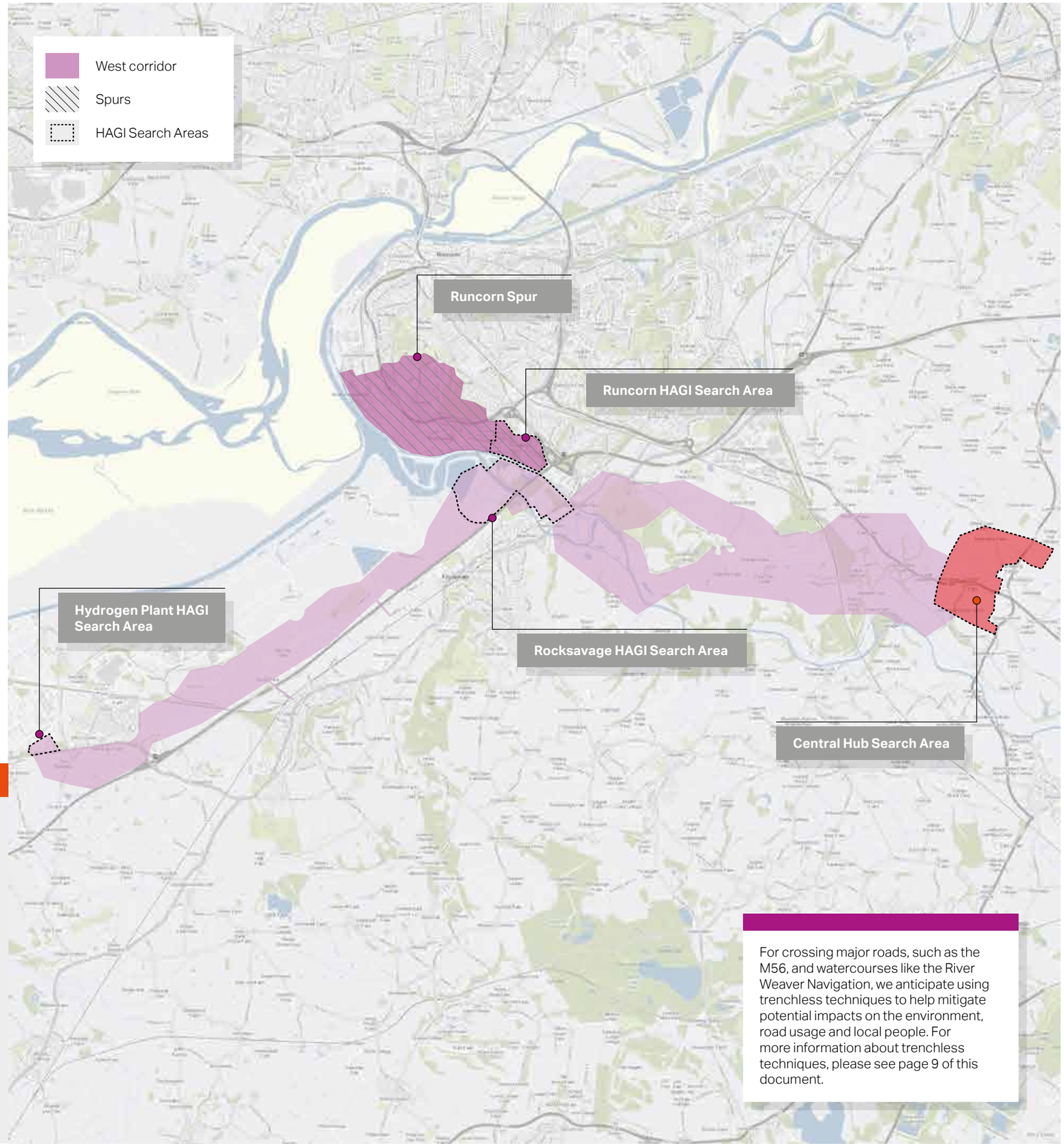
- Intergen
- The Heath Business and Technical Park
- Inovyn

The spur options are bound by the Manchester Ship Canal to the west and Runcorn Heath to the east. Therefore, crossing of the A557 Expressway near the Weston Point Interchange would be required.

HAGIs

In this area, we think we will need three HAGIs (see page 7 for more information on what a HAGI is). These would be:

- Hydrogen Plant HAGI Search Area
- Rocksavage HAGI Search Area
- Runcorn HAGI Search Area



Your opportunity to comment

We want your views and any information that could help us to develop a route for the pipeline or identify a site for our HAGIs within this corridor.

Provide your comments by:

Using our project website:
www.hynethydrogenpipeline.co.uk

Sending an email to:
info@hynethydrogenpipeline.co.uk

Sending written feedback to our freepost address:
FREEPOST HYNET NWHP

Please ensure you submit your feedback by 11 March 2022.

For crossing major roads, such as the M56, and watercourses like the River Weaver Navigation, we anticipate using trenchless techniques to help mitigate potential impacts on the environment, road usage and local people. For more information about trenchless techniques, please see page 9 of this document.

Route corridors

North corridor: St Helens to the Central Hub, and the St Helens and Warrington spurs

The route corridor

This route corridor starts at Pilkington Glass Works in Ravenhead, St Helens.

From there, it travels south along the route of the St Helens Linkway. To cross the A570 and later, the Manchester to Liverpool railway lines, and to avoid the areas of Sutton Green and Lea Heath, there are two options. The first is to go south-west from Pilkington Glass Works through an area of open fields. The second is to go east, under local fields and recreational sites such as Sherdley Park golf course.

Both options join back up near Micklehead roundabout on the A570. At this point, the route corridor option travels south to the Clock Face HAGI Search Area by crossing the M62.

From here, there are two different ways to reach the Cuerdley HAGI Search Area, travelling either north or south of the A57. The corridor then travels south-east towards the Fiddlers Ferry Power Station site and crosses the St Helens Canal and the River Mersey.

The corridor then runs south, avoiding Moore and Walton and crossing the A56 and the M56 before passing through open fields to connect to the Central Hub.

The spurs

In this area, we'll also need three spurs: two in the direction of St Helens and one in the direction of Warrington. The spur at the northern end of the corridor will connect to the pipeline network near Ravenhead. We need this spur to connect to the following users:

- NSG-Pilkington's Greengate Works
- Glass Futures

We'll also need a spur near Micklehead Green to the south of St Helens. This will connect to the pipeline network via the Clock Face and Burtonwood HAGI Search Areas and may involve crossing the River Mersey.

We need this spur to connect to the following users:

- NSG's NGF site on Lea Green Industrial Park

The spur in the direction of Warrington will connect to the pipeline network via the Higher Walton HAGI Search Area. This will involve crossing the River Mersey, West Coast Mainline, A5060, A49, A5061 and A50. One part of the spur will travel north, and the other east to connect to the following users:

- Pilkington UK Ltd
- Glass Futures
- NGF Europe Ltd
- Novelis
- PQ Silicas
- Ingevity / Solvay

HAGIs

In this area, we think we will need five HAGIs (see page 7 for more information on what a HAGI is). These would be:

- St Helens HAGI Search Area
- Clock Face/Burtonwood HAGI Search Area
- Cuerdley HAGI Search Area
- Higher Walton HAGI Search Area

Your opportunity to comment

We want your views and any information that could help us to develop a route for the pipeline or identify a site for our HAGIs within this corridor.

Provide your comments by:

Using our project website:
www.hynethydrogenpipeline.co.uk

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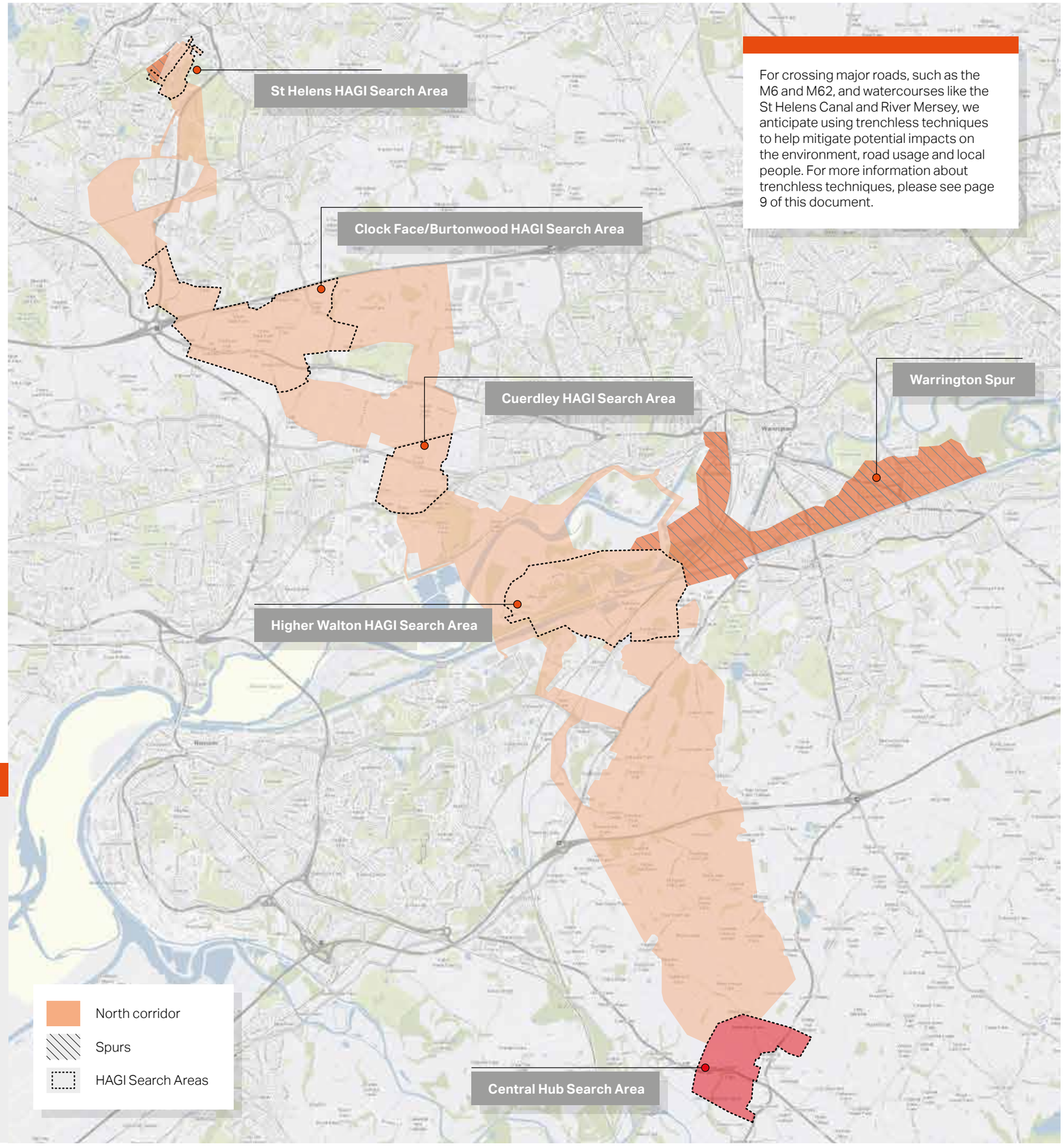


For crossing major roads, such as the M6 and M62, and watercourses like the St Helens Canal and River Mersey, we anticipate using trenchless techniques to help mitigate potential impacts on the environment, road usage and local people. For more information about trenchless techniques, please see page 9 of this document.

Route corridors

East corridor: Partington to the Central Hub, and the Partington spur

The route corridor

This route corridor starts on Manchester Road in Partington.

From there it travels south through open fields and the existing industrial areas of Partington.

It continues to cross the B5160 before turning slightly south-west, predominantly through rural fields. It then crosses the River Bollin, Bridgewater Canal, A56, M56 and A50, before also crossing the M6 to the south of Lymm Interchange.

From there, it passes through more rural fields, crossing the A49 and A559 before reaching the Central Hub.

The spur

In this area, we'll also need a spur in the direction of Partington. This will connect to the pipeline network via the Partington HAGI Search Area, crossing the A6144 just south of where Manchester Road meets Common Lane. We need this spur to connect to the following users:

- SAICA, Partington

HAGIs

In this area, we think we will need two HAGIs (see page 7 for more information on what a HAGI is).

These would be:

- Partington HAGI Search Area
- Warburton HAGI Search Area

Partington and Warburton HAGIs will be blending points to allow hydrogen to be blended with natural gas and supplied into the wider gas pipeline network to maximise the extent of supply.

Your opportunity to comment

We want your views and any information that could help us to develop a route for the pipeline or identify a site for our HAGIs within this corridor.

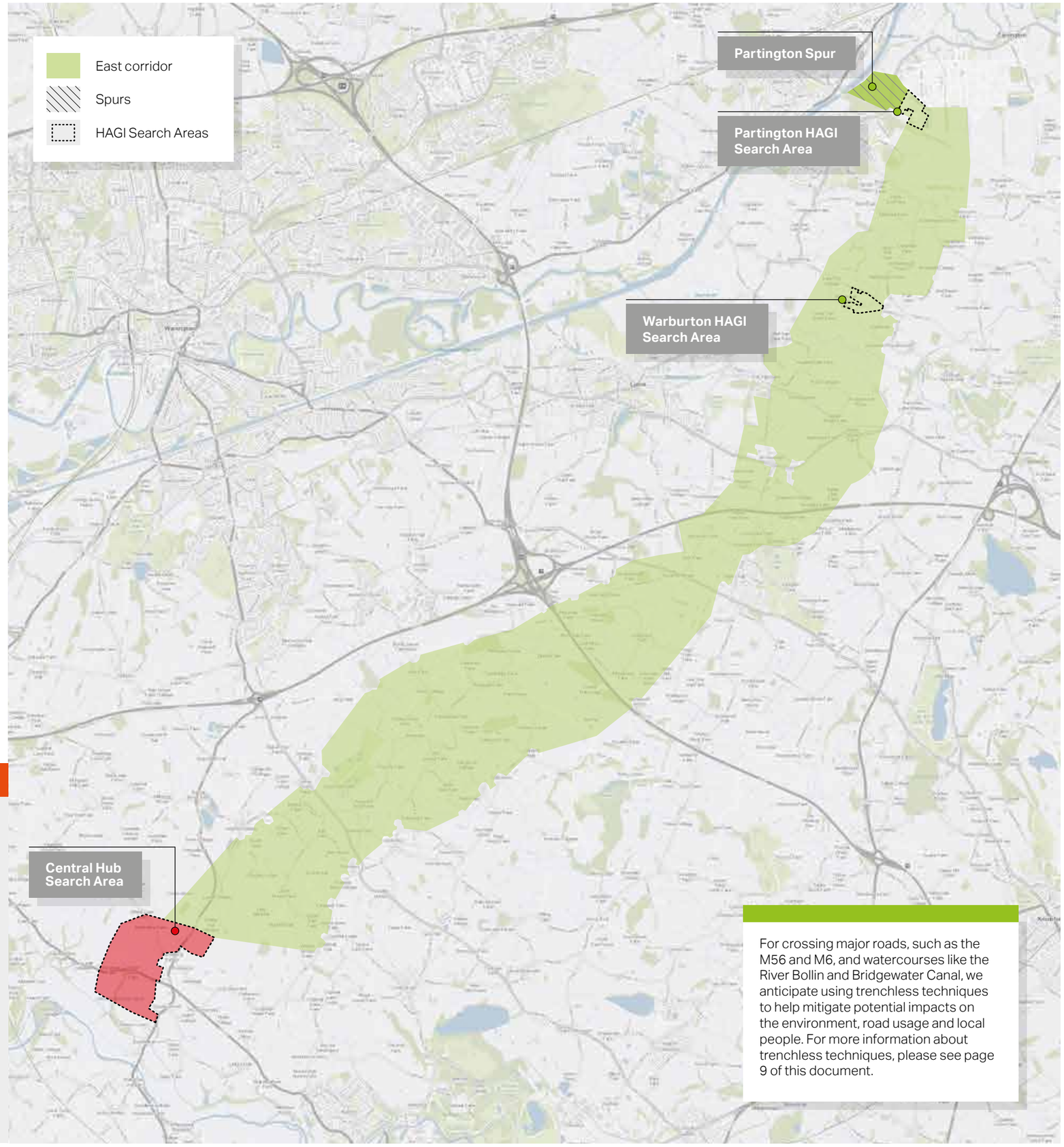
Provide your comments by:

Using our project website:
www.hynethydrogenpipeline.co.uk

Sending an email to:
info@hynethydrogenpipeline.co.uk

Sending written feedback to our freepost address:
FREEPOST HYNET NWHP

Please ensure you submit your feedback by 11 March 2022.



For crossing major roads, such as the M56 and M6, and watercourses like the River Bollin and Bridgewater Canal, we anticipate using trenchless techniques to help mitigate potential impacts on the environment, road usage and local people. For more information about trenchless techniques, please see page 9 of this document.

Route corridors

South corridor: Central Hub to Hydrogen Storage Facility and the Northwich spur

The route corridor

This route corridor is made up of two different possible options.

- **Option A, west of Northwich** (shown in pink) starts at the Central Hub, travelling south along the A49, with crossings at various intersections, including the River Weaver Navigation, the Trent and Mersey Canal, the West Coast Mainline and the A49 in between Pinfold Hollows and Weaverham.

  It continues south, along the western edge of Northwich, crossing the regional rail line between Northwich and Middlewich and the A556.

  From there it travels south east, before crossing and briefly following the line of the West Coast Mainline. Near Moulton, the corridor turns east, crossing a number of roads, the Trent and Mersey Canal and another railway, to get to the existing hydrogen storage facility.

- **Option B, east of Northwich** (shown in blue) starts at the Central Hub and travels east, passing through the open fields around Comberbach and crossing the A559. The corridor splits to avoid Wincham, using open fields to continue east.

  After crossing the A556 and a regional rail line between Plumley and Lostock Graham stations, the corridor travels south and south-west, through open fields to the existing hydrogen storage facility.

Based on our current understanding, option A is our preferred corridor.

The spur

Regardless of the option selected, we'll also need a spur in the direction of Northwich to connect to Tata Steel, Winnington.

For this, there are four options.

Two options extend south-east from the Central Hub, involving crossings of the Trent and Mersey Canal, the River Weaver Navigation, the West Coast Mainline and the A553.

The other options connect via either option A or option B.

HAGIs

In this area, we think we will need one HAGI (see page 7 for more information on what a HAGI is).

This would be:

- Hydrogen Storage Facility HAGI Search Area

Your opportunity to comment

We want your views and any information that could help us to develop a route for the pipeline or identify a site for our HAGIs within this corridor.

Provide your comments by:

Using our project website:
www.hynethydrogenpipeline.co.uk

Sending an email to:
info@hynethydrogenpipeline.co.uk

Sending written feedback to our freepost address:
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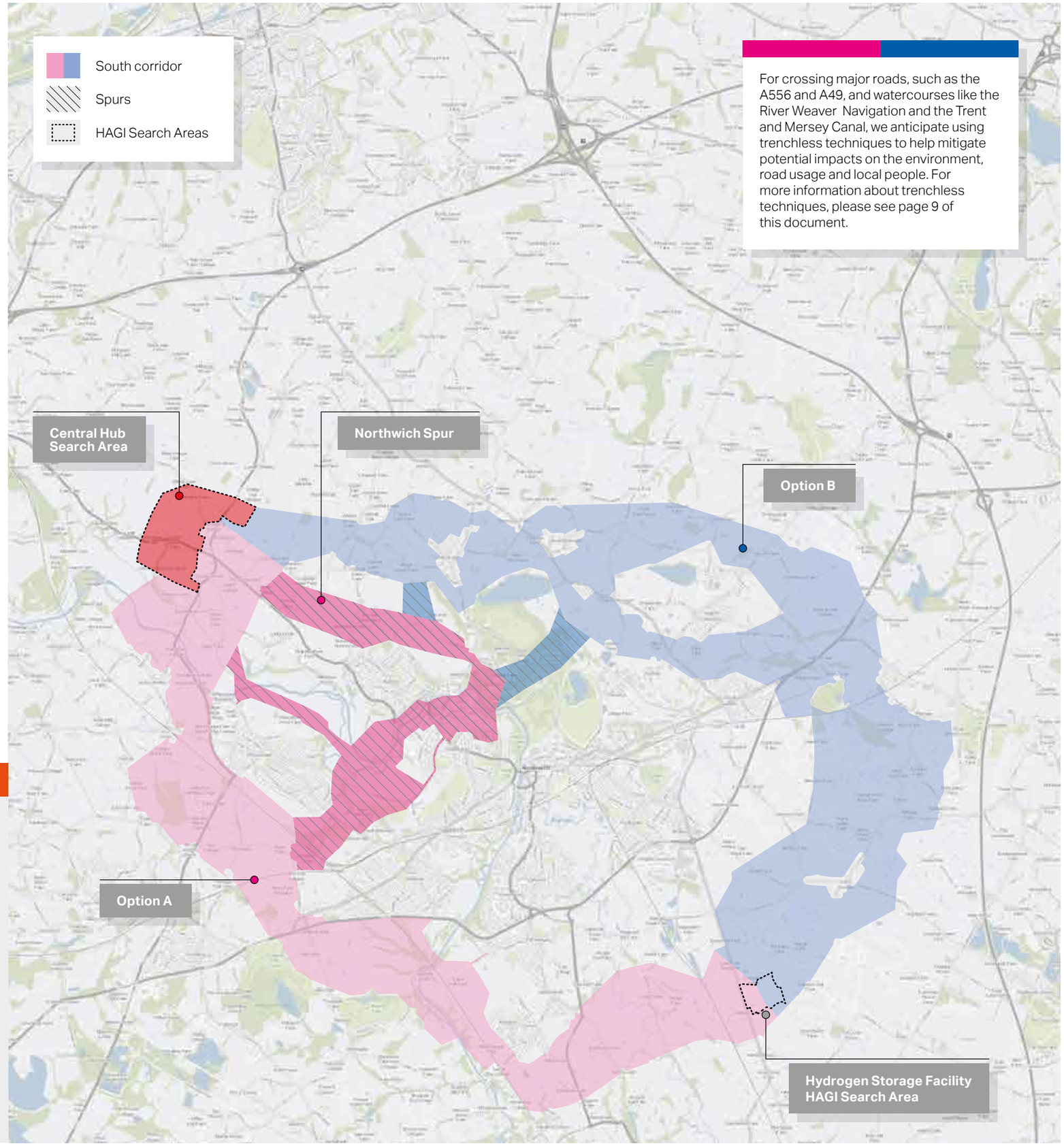
Please ensure you submit your feedback by 11 March 2022.



Have your say

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

Our first round of consultation will run for six weeks from **00:01 on 26 January 2022 until 23:59 on 11 March 2022**. This consultation period is non-statutory and will be followed by a second round of statutory consultation later in 2022.

We'll consider all comments we receive, alongside further technical and environmental surveying work. This will help us to develop a more detailed design for the pipeline ahead of our second consultation. We will also identify sites for our HAGIs within our search areas.

Should you require this consultation brochure, or any of our other materials, in a more accessible format, please contact the project team by emailing info@hynethydrogenpipeline.co.uk or calling 0800 8606 261.

You can share feedback by:

Using our project website:
www.hynethydrogenpipeline.co.uk

Submit feedback on our website using our online feedback form and interactive map. The mapping tool allows you to leave comments at different location points along our route corridor.

Sending an email to:
info@hynethydrogenpipeline.co.uk

We welcome all feedback and any questions you might have about the project via email.

Sending written feedback to our freepost address:
FREEPOST HYNET NWHP

You can write us a letter or send hard copy feedback forms, which will be available at events, deposit locations or by request. A full list of deposit locations is available on our website.

Please ensure you submit your feedback by 11 March 2022.

Meet the team

You can find out more about the HyNet North West Hydrogen Pipeline at our consultation events.

We are planning to host a number of in-person events between **15 and 26 February 2022**, and two online events on **17 and 22 February 2022**.

Covid-19: In carrying out our in-person consultation events, we will adhere to any Government guidance in place at the time.

Should Government Covid-19 guidance require us to cancel our planned in-person consultation events, we will endeavour to let people know and provide an online alternative.

The events are a great opportunity to meet the technical team and to ask any questions you may have about the project.

For event details, timings and locations please visit www.hynethydrogenpipeline.co.uk.

Next steps

After the consultation closes, we will consider all feedback we have received. We will also carry out lots more technical engineering and environmental work, to understand more about the areas we could route the pipeline in.

This work will help us identify a more detailed design for the pipeline route. We will present this, alongside our preliminary environmental work, at our second consultation later this year.

Application process

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

As part of the DCO process, we will be carrying out consultation and engagement with stakeholders and local communities. This will be undertaken throughout the pre-application phase during our two rounds of public consultation.

You can find out more about the DCO process here: www.infrastructure.planninginspectorate.gov.uk/application-process.

Current project timeline

January 2022:
Non-statutory consultation launches

September 2022:
Statutory consultation launches

Spring 2023:
Development Consent Order (DCO) submission

Summer/Autumn 2024:
Secretary of State decision

2025-2027:
Construction takes place

2027:
Commissioning phase before pipeline becomes operational

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 HYNET NWHP

0800 8606 261