KEUPER GAS STORAGE PROJECT
PROPOSAL SUMMARY DOCUMENT

INEOS Inovyn

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INTRODUCTION

Keuper Gas Storage Limited (KGSL) is consulting on plans to change the previously consented Keuper Gas Storage Project – referred to throughout this document as 'the Project' or 'KGSP'. This document provides an overview of all key information associated with the Material Change Application sought by KGSL.

The KGSP was classified as a Nationally Significant Infrastructure Project (NSIP). Granted consent in 2017, it involves the construction and operation of underground gas storage facilities and associated infrastructure on and under land at the southern end of the Holford Brinefield and surrounding area north of Middlewich in Cheshire.

KGSL is now seeking a change to the consented Project to store hydrogen ensuring the Project underpins efforts to tackle climate change and net zero emissions by 2050.

The Proposal Summary Document outlines:

- Why we are proposing a change to the previously consented Development Consent Order (DCO)
- Information about the planning process
- Information about the updated environmental surveys
- How you can have your say
- Next steps.

THE PLANS

The KGSP would involve using specially designed underground salt cavities – created through solution mining – to store hydrogen. Cheshire's geology means it is one of the few places in the UK where hydrogen can be safely stored underground and INOVYN Enterprises has been solution mining the Holford Brinefield to produce brine for over 90 years. The cavities left behind once the brine is mined have been used to safely store gas since the 1980s.

We are proposing a 'Material Change' to the KGSP plans approved in March 2017, to allow the project to store hydrogen rather than natural gas, improve the associated infrastructure and allow connection to the HyNet Hydrogen Pipeline, the regional hydrogen and carbon capture project planned to produce, store and transport hydrogen around the North West and North Wales for industry and electricity generation.

The proposed changes comprise:

- the storage of hydrogen gas rather than natural gas, including consolidation of pipelines;
- changes to the Gas Processing Plant (GPP) area and hydrogen compatible equipment, including a 50m flare instead of a vent;
- moving non-hydrogen equipment to a utility compound adjacent to the GPP;
- the National Transmission System (NTS) for natural gas is being replaced by the Hydrogen Above Ground Infrastructure (HAGI) for connection to the HyNet Hydrogen Pipeline.

If the changes are approved, KGSP will store 1,300 gigawatt hours of hydrogen – more clean energy than any other facility.

DCO WORDING FOR CONSULTATION

The Material Change application will seek to amend the previously consented DCO by revising the wording of the Order.

The primary changes required are to change the gas to be stored from natural gas to hydrogen, and to amend the descriptions of the works to be carried out to reflect the changes to the design and equipment described above and in The Plans section of this document. To achieve this:

- In article 2, the definition of 'gas' will be amended to hydrogen
- In schedule 1, the descriptions of the works will be revised to reflect the changes sought

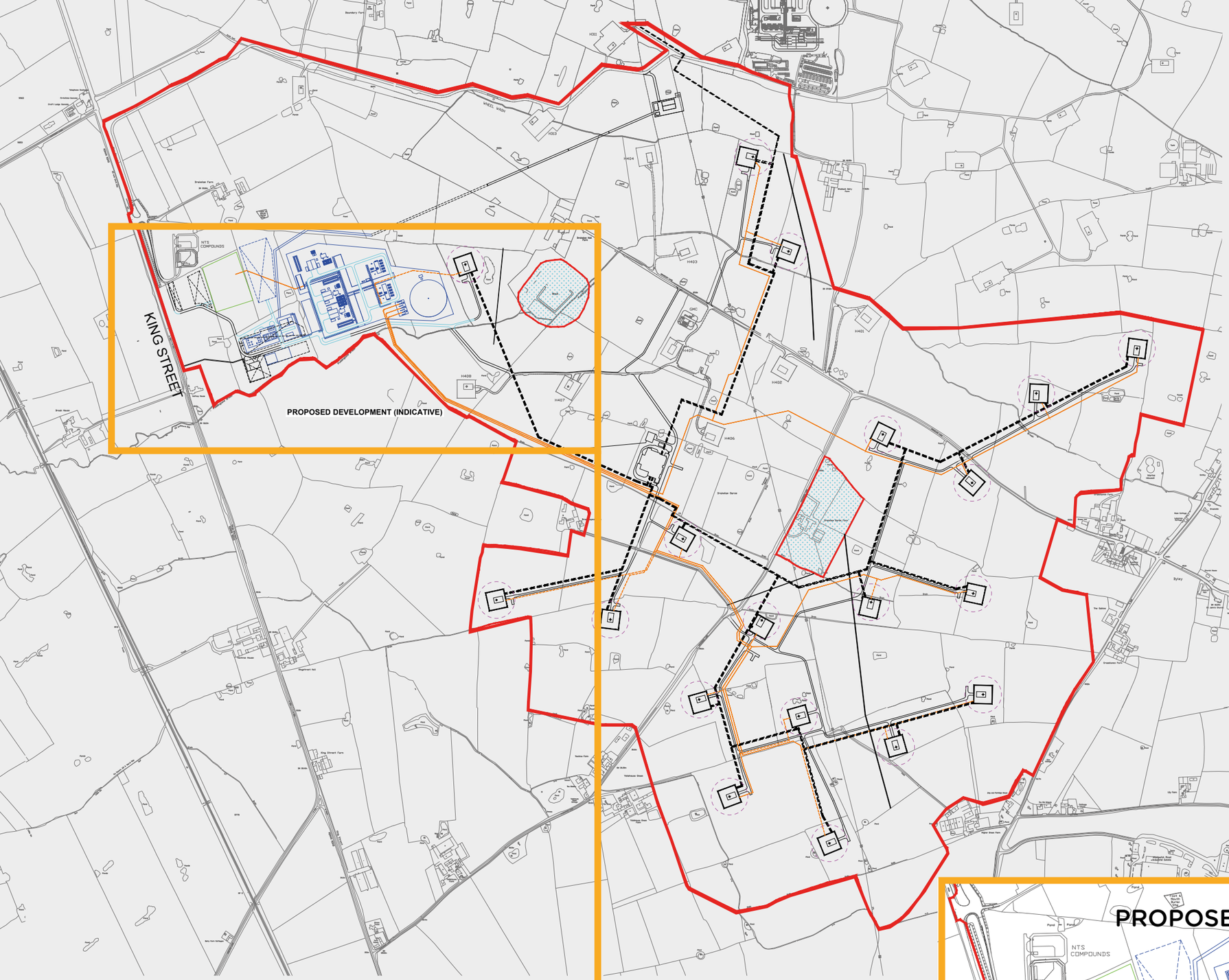
Some changes will also be sought to the requirements in schedule 2. These will include changes to the parameters set out in requirement 2 which provide for the maximum dimensions of individual structures.

Some changes are also proposed to the wording of requirements to improve consistency, for example some are expressed as applying to each part of the development, but others are not.

Updates will be required to the plans, drawings and other documents listed in the existing DCO as 'certified documents'. Those updates will allow substitution of the new documents which reflect the changes being sought and will require amendments to be made in various places within the DCO, primarily articles 2 (definitions) and 35 (certification of plans etc).

As the HAGI proposed as part of the Material Change will be operated by Cadent, a change may also be sought to articles 6 (benefit of the order) and 7 (consent to transfer benefit of order) to allow for Cadent to do works to that HAGI under this DCO. Whether this is required is subject to ongoing discussion with Cadent.

No new powers of compulsory acquisition or temporary possession over land are proposed to be sought as part of the Material Change. There are also no changes proposed to already consented works over streets, or to the lengths of streets affected by the works.



LEGEND

CONSENTED DEVELOPMENT

- = THE ORDER LIMITS
- = OUTSIDE OF ORDER LIMITS
- = CONSENTED DEVELOPMENT ACCESS ROADS (RETAINED WITHOUT CHANGE)
- = CONSENTED DEVELOPMENT INFRASTRUCTURE (RETAINED WITHOUT CHANGE)
- = CONSENTED DEVELOPMENT SOLUTION MINING PIPELINES (RETAINED WITHOUT CHANGE)
- = CONSENTED CAVITY OUTLINE (RETAINED WITHOUT CHANGE)

PROPOSED DEVELOPMENT (INDICATIVE)

- = HYDROGEN FLOWLINES
- = GAS PROCESSING PLANT (GPP) AREA INFRASTRUCTURE
- = ACCESS ROADS
- = CADENT INFRASTRUCTURE (SHOWN FOR INFORMATION)

DETAILED PLANS OF THE PROPOSED DEVELOPMENT ARE AVAILABLE ON THE PROJECT WEBSITE.

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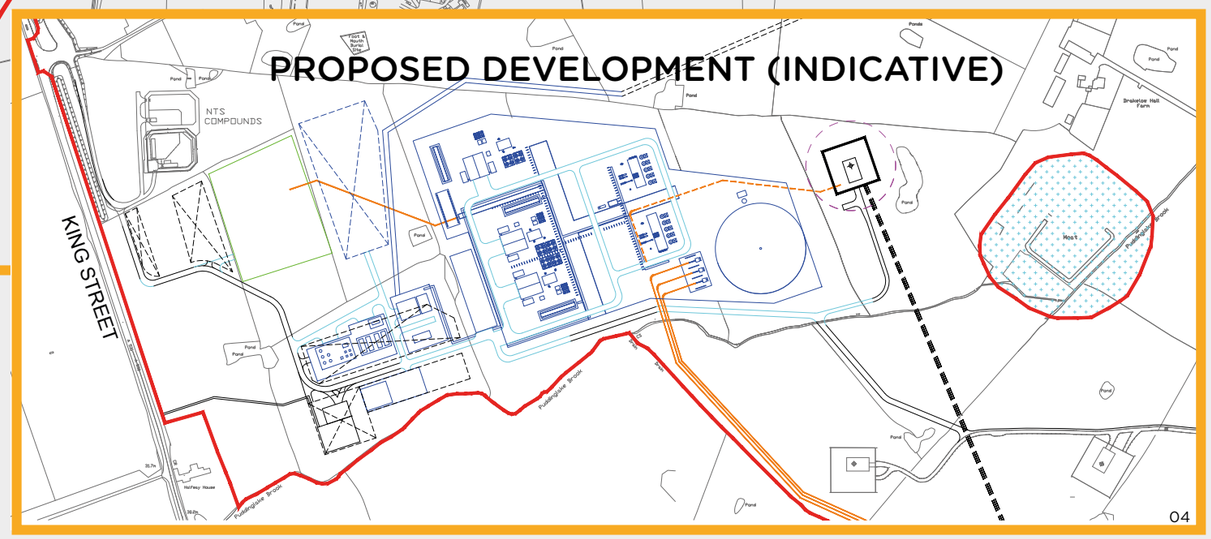


WHAT DID THE CONSENTED DCO INCLUDE?

In March 2017, the Keuper Gas Storage Project was given consent to store natural gas in 19 newly created underground salt cavities on the Holford Brinefield.

Due to the project's importance in helping the UK meet its increasing energy needs, it was classified as a (NSIP). This means that rather than going through the local authority like most planning applications, it required a DCO from the Secretary of State for the Department of Energy Security and Net Zero (DESNZ).

In 2022, an application to amend the development was submitted, elements within the request have been consented through the planning process. Together these approved planning applications make up the Consented Development.

The main aspects of the consented project are:

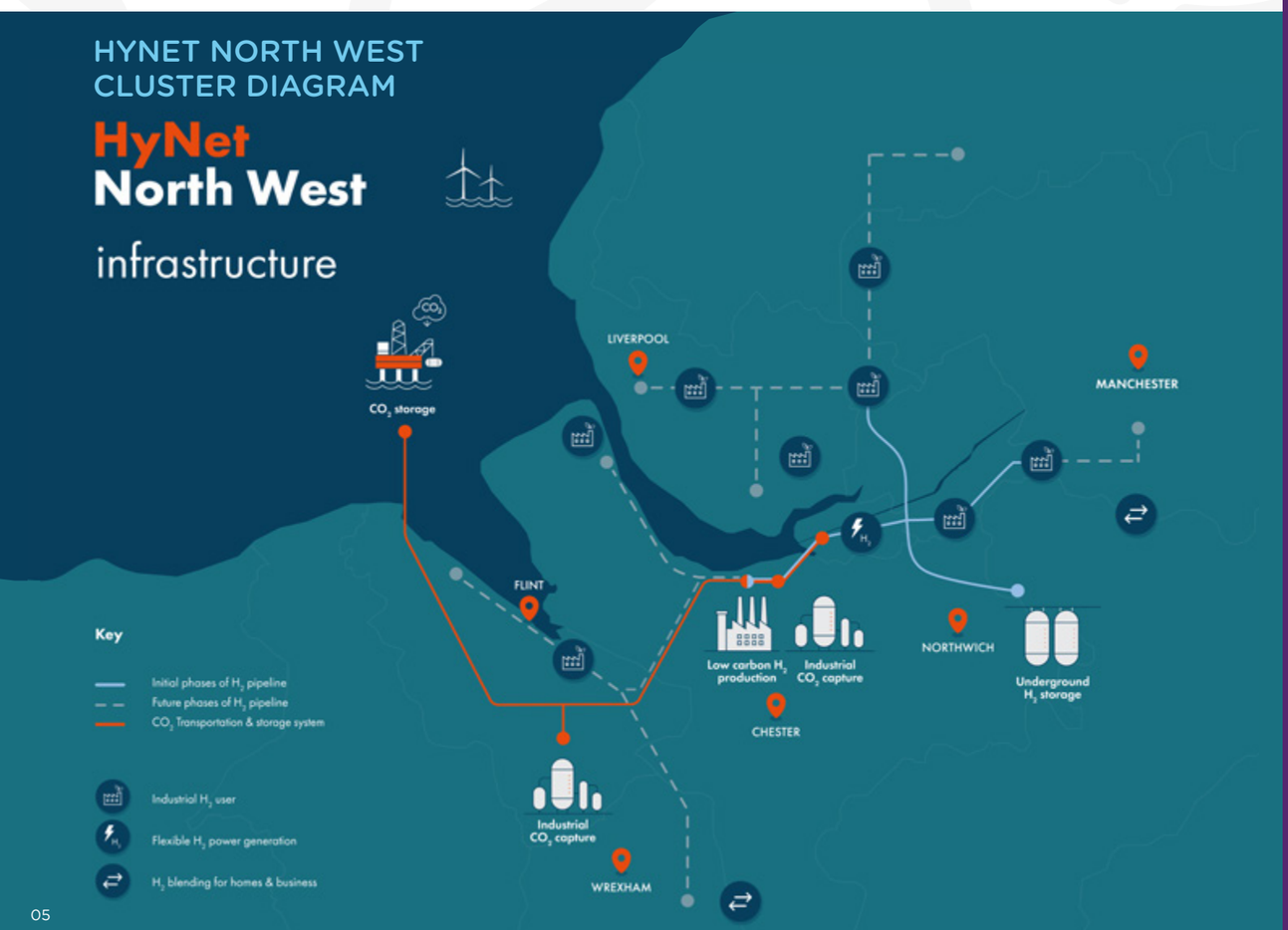
- The construction and operation of up to 19 underground cavities with capacity to store up to 500 million standard cubic meters (mcm) of natural gas, having an import and export capability of up to 34 mcm per day. capability of up to 34 mcm per day

There are also some smaller construction works to be delivered as part of the Project:

- Two new brine tanks on the Lostock Works site, off Griffiths Road, Northwich
- The refurbishment of the existing Whitley Pumping Station in Whitley
- The extension of an existing brine outfall pipeline, located at the main INOVYN ChorVinyls site in Runcorn

The existing brine pipeline (which runs from the Lostock Brine Purification Plant in Northwich to Runcorn) will continue to be used to transport brine to INOVYN operations in Runcorn. This pipeline will not be used to transport gas.

HYNET NORTH WEST CLUSTER DIAGRAM



WHY HYDROGEN?

Hydrogen is a game-changing source of energy that can be used as both a raw material for industry and as a clean power source for transport, industry, business and electricity generation when the wind isn't blowing and the sun isn't shining.

The North West is seen as a key location for hydrogen production and carbon capture, due to its natural assets and established, energy intensive industries that need to cut their carbon emissions.

The KGSP will connect to HyNet North West – the regional hydrogen and carbon capture project planned to produce, store and transport hydrogen around the North West of England and North East Wales – helping to decarbonise our industries from the mid-2020s. Cadent's HyNet North West Hydrogen Pipeline will deliver the infrastructure needed to provide 100 per cent low carbon hydrogen to industry. By 2030, HyNet will reduce carbon dioxide emissions by 10 million tonnes every year, the equivalent of taking 4 million cars off the road.

For more information visit **www.hynet.co.uk**

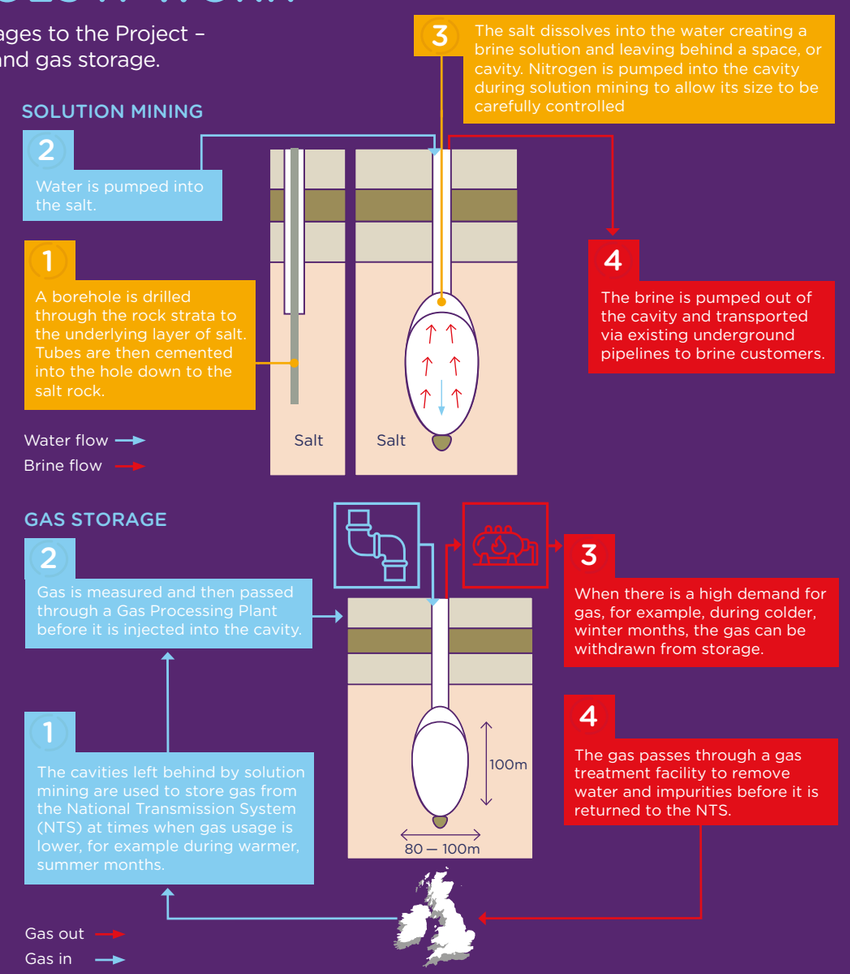
SUITABILITY TO STORE HYDROGEN

KGSL has assessed the suitability of the site for hydrogen storage through detailed modelling, global experience, and pilot projects like HyPSTER. Findings show hydrogen poses no greater risk to cavern integrity than natural gas.

The KGSP is designed to meet As Low As Reasonably Practicable (ALARP) safety standards, with features like double-barrier wells, rigorous testing, and robust safety systems. Ongoing data from other projects will support safe and effective operation.

HOW DOES IT WORK

There are two stages to the Project – solution mining and gas storage.



THE PLANNING PROCESS

The principle of underground gas storage at the Site has already been established through the approval of the Consented DCO in 2017. A Non-Material Change to allow the storage of hydrogen gas at the Site was prepared and submitted in 2022 with Secretary of State notification in May 2024 that the change could not be determined through that process. However, the process identified significant national and regional need for a hydrogen gas storage site of this size to meet established goals to decarbonise the UK's energy supply.

We are now preparing a Material Change to allow the change from gas to hydrogen storage. The planning process started early in 2025 and the stages progressed to date include environmental scoping, environmental survey and assessment stages alongside ongoing engagement with stakeholders and the KGSP Local Liaison Group. The next stage includes public consultation on the proposed changes to the DCO consented in 2017 and on a range of updated environmental information (For further information refer to the Environmental Information Updates).

The original DCO consent states that the cavities will be used to store natural gas. The main change is proposing that hydrogen storage is allowed in the cavities. The location, amount, size and construction method of the 19 cavities is not planned to change.

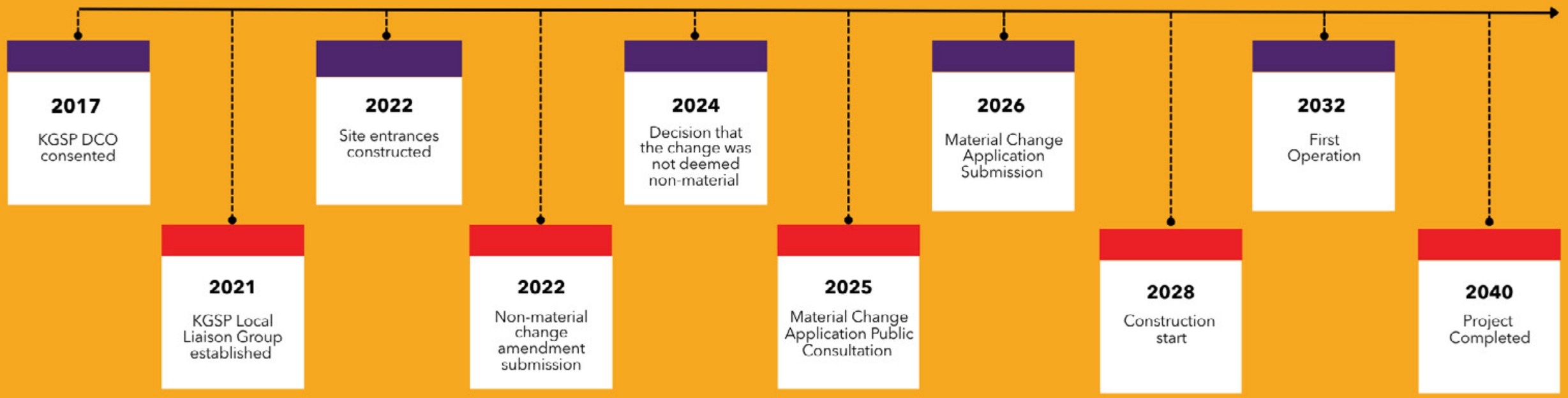
All other aspects of the project including the site entrance on King Street, the site road network, the location of gas processing plant, and electricity supply infrastructure would remain the same. No changes are proposed at the locations beyond the main Holford Brinefield site at Whitley, Lostock and Runcorn.

WHAT IS A DEVELOPMENT CONSENT ORDER?

A DCO is a type of planning permission under the Planning Act 2008 for certain large infrastructure projects, called **Nationally Significant Infrastructure Projects (NSIP)** such as major roads, railways, ports, airports, power stations, and wind farms.

WHY IS KGSP A NSIP?

KGSP is a NSIP because of the project's importance in helping the UK meet its increasing energy needs. This means that rather than going through the local authority like most planning applications, the material change will be submitted to the Planning Inspectorate or PINS who will administer the application before the Secretary of State for the Department of, Energy Security and Net Zero makes the final decision after examination.



WHAT ARE THE WIDER SCHEME BENEFITS?

Providing a flexible and secure supply of clean energy to underpin the UK's energy security and transition to net zero emissions

Provide resilience and flexibility to the HyNet network to support the energy supply to North West manufacturing industries

Up to 300 construction jobs and 30 operational jobs

A community benefit fund similar to the funds previously in place for the other existing gas storage projects at the Holford Brinefield, where a total investment of over £400,000 across 10 years of construction, will be available.

ABOUT KEUPER GAS STORAGE LIMITED

The KGSP is being developed in a partnership between INEOS Inovyn and Storengy UK Limited. Both partners bring extensive experience in the development of gas storage projects, salt cavern creation and operation, hydrogen and natural gas systems.

Storengy UK is a subsidiary of ENGIE, who developed and now operate the Stublach Natural Gas Storage site in Cheshire. Now fully completed, the scheme is the largest on shore gas storage facility in the country, enhancing the security of supply to the UK gas market. Storengy UK are actively participating in the energy transition and supporting the UK government strategy to reach net zero by 2050 and have set their own carbon neutral target of 2025. For over 5 years Storengy have had in place a responsible business board which focuses on how they contribute to the local community and impact the economy.

Additionally, Storengy sponsor the Green Jobs Expo, supports local projects through Cheshire Community Foundation, and encourages biodiversity on the Stublach site. A strategy to develop biomethane production in the UK and an ambition to progress hydrogen storage further support these targets.

INOVYN Enterprises Limited is the landowner and its Brine & Water Business would be responsible for the solution mining of brine to facilitate this proposed development. INEOS has strong ties to the region and employs over 1,000 people in Runcorn and Northwich. The Company produces a range of essential chemicals for use by industry and the public. INEOS, through its subsidiary INOVYN, is already Europe's largest existing operator of electrolysis, the critical technology to produce hydrogen. At our existing site in Runcorn, we've been producing hydrogen gas for more than 125 years.

ENVIRONMENTAL INFORMATION UPDATES

The consented DCO application was accompanied by an Environmental Statement (ES). The scope of this was agreed with consultees, considered in the examination of the DCO and led to various mitigation measures being identified within the DCO. Those measures will remain in place. The Material Change will only examine new or changed effects associated with the changes to the scheme now being brought forward.

KGSP is engaging with industry experts to provide targeted ecology and environmental surveys in the local area. Topics for consideration in the Preliminary Environmental Information Report (PEIR) and ES are summarised in the table below. These topics have been considered with consultees and technical specialists when assessing the Environmental Impacts of the Material Change. Full details of the assessments are available on the project website at **www.kgsp.co.uk**

Environmental Topic	Is this topic considered in the Environmental Statement?	New survey completed?	Why is the topic included in the Material Change? What are the key conclusions?
Geology & Ground Conditions	✓	✓	*Included due to changes sought for the Proposed Development and comments from Non-Material Change (NMC) decision.* Updated Agricultural Land Classification Surveys (will be available for the ES) and Phase 1 Site Assessment completed. Assessment scope included changes to loss of agricultural soils, loss of soil function, compaction and drainage, sterilisation of mineral resources and groundwater quality. Effects all deemed **"Not Significant"** in EIA terms for all project phases.
Hydrology and Flood Risk	✓	✓	*Included due to updated guidance and changes sought for the Proposed Development.* Guidance changes include flood classification of certain hydrological receptors (i.e., Puddinglake Brook which runs through the Site) and Topographical Surveys, Flood Risk Assessment and Hydraulic Modelling. Potential effects of the Proposed Development on sedimentation, runoff + flood risk and water usage all **"Not Significant"** in EIA terms for all phases.
Air Quality	✓	✗	*Included due to updated guidance and changes sought for the Proposed Development (flares).* Both flares were modelled for air quality to estimate emissions for Operation (Construction Scoped Out). Emissions from flaring during operation considered **"Not Significant"** in EIA terms following assessment and modelling.
Noise + Vibration	✓	✓	*Included due to updated guidance, comments from the NMC decision and changes sought for the Proposed Development.* Noise guidance changes include British Standards (i.e., BS4142 and BS 5228-1). Updated Baseline Noise Surveys completed. Construction Noise effects deemed **"Not Significant"**. However, Operational Noise effects will be **Major / Moderate (Significant)** without mitigation, however, will be **Minor (Not Significant)** with mitigation. Further assessment to be included in the Environmental Statement.
Ecology + Nature Conservation	✓	✓	*Included due to updated guidance, comments from the NMC decision and changes sought for the Proposed Development.* Key change is from the removal of two Site ponds and change in other ponds, and requirement for new surveys for bats, badgers, Great Crested Newts, birds + Lesser silver water beetles + Mud Snails. Effects on all the ecology receptors above deemed **"Not Significant" with mitigation** in EIA terms across all phases.
Landscape + Visual Impact	✓	✓	*Included due to changes sought for the Proposed Development.* Landscape walkover and visualisations included in the PEIR and two viewpoints are provided on page 13. 12 landscape receptors identified, all have been assessed as **Not Significant** for construction and operation with the exception of the Site itself. **Significant landscape effects (moderate adverse)** have been identified on the Site, localised to the north-west corner at the location of the Gas Processing Plant and 50m flare, at both construction and operation.

Environmental Topic	Is this topic considered in the Environmental Statement?	New survey completed?	Why is the topic included in the Material Change? What are the key conclusions?
Cultural Heritage	✓	✓	*Included due to updated policy and changes sought for the Proposed Development.* Changes being sought for the Proposed Development will require changes to the cultural heritage baseline and surrounding assets (namely the closer proximity to Drakelow Hall Scheduled Monument). Updated Geophysical surveys and desk-based assessment also completed. Heritage assets identified (designated and non-designated) in the PEIR are expected to experience adverse effects ranging from **Minor (Not Significant) to Negligible (Not Significant)** during all project phases.
Traffic and Transport	✗	✗	There is no change proposed to traffic and transport and therefore not considered further with this PEIR. Refer to page 6 for more information.
Socioeconomics	✓	✗	*Included due to updated guidance.* Guidance now requires socio-economic assessments to assess more receptors, change in the baseline and changes in employment and gross value added (GVA) effects due to the change for hydrogen storage. Effects on employment, GVA and wider socio-economic aspects anticipated to be **Not Significant** across all project phases.
Population and Human Health	✓	✗	*Included due to updated guidance (new EIA chapter) requiring assessment of the Proposed Development.* There was no standalone chapter for the Consented Development for population and human health, changes in guidance and to the baseline due to the changes to the hydrogen above ground infrastructure. Effects on the Social, Biophysical and Economic environment deemed **"Not Significant"** and effects on health also **"Not Significant"**.
Major Accidents and Disasters	✓	✗	*Included due to updated guidance (new EIA chapter) requiring assessment of the Proposed Development and comments from the NMC decision.* There was no standalone chapter for the Consented Development for Major Accidents and Disasters. Changes to guidance namely the Control of Major Accidents and Hazards (COMAH) Regulations which require any new developments to assess major accidents and disasters. The assessment concluded with mitigation construction and operation hazards can be assessed as 'Tolerable if As Low as Reasonably Possible' or 'Broadly Acceptable' + therefore, **'Not Significant'** in EIA terms.
Waste	✓	✗	Included due to updated guidance (new EIA chapter) equiring assessment of the Proposed Development. There was no standalone chapter for the Consented Development for Waste, it is anticipated that waste effects will be **Not Significant** during both construction and operation.
Climate Change and GHG	✓	✗	*Included due to updated guidance (new EIA chapter) equiring assessment of the Proposed Development, and comments from the NMC decision.* There was no standalone chapter for the Consented Development for Climate Change, further information on climate and GHG effects and inclusion of carbon calculations to model emissions associated with the hydrogen above ground infrastructure. A full scale Climate and GHG assessment will be included in the Environmental Statement.

VISUALISATIONS OF THE PROPOSED CHANGES (TAKEN FROM THE LANDSCAPE AND VISUAL IMPACT ASSESSMENT CHAPTER FROM THE PEIR)

Figure A.1 - View from Lach Dennis (Wire Line)

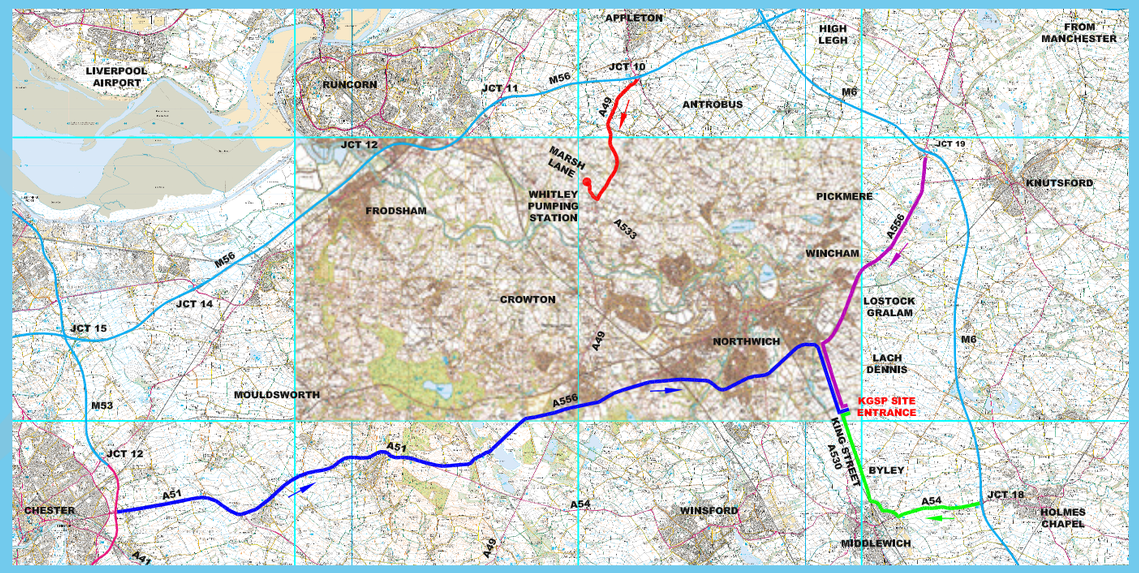
Figure A.2 - View from Lach Dennis (Photomontage)

Figure B.1 - View from King Street (Wire Line)

Figure B.2 - View from King Street (Photomontage)

TRAFFIC AND TRANSPORT

KGSL carefully considered traffic and transport associated with the consented development. Experience of construction of other gas storage projects in the area and feedback from the consultation was taken into account when developing the proposal, in particular the road layout and traffic routing. Drawing on this feedback, it has been consented to use the existing access point on King Street to access the development area, meaning HGVs will not travel through Byley village. An internal, one-way construction routing system has been agreed for the main development site. Although the impact is considered negligible based on the existing traffic levels, a Construction Traffic Management Plan will be produced to support the construction phases to ensure that vehicles adhere to the proposed routes. The HGV routing drawing which shows offsite routes to the main entrance is appended to the Section 106 Agreement (a legal obligation) and shown in the Plan below. There are no plans to change the current Agreement as part of the Material Change.



MANAGING CONSTRUCTION IMPACTS

Measures will be put in place during construction to minimise disruption to local people. A Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) will be agreed with Cheshire West & Chester Council in advance of construction starting. This will set out agreed working hours and how potential issues such as noise, lighting and dust will be managed.

Construction hours would be between 0700hrs and 1900hrs Monday to Friday, 0700hrs to 1300hrs on Saturdays, and no working on Sundays or bank holidays. There may be times when construction is 24hrs as some construction activities are required to be continuous, such as cavern creation. However as assessed within the Noise chapter of the Consented Development ES, construction noise from drilling with mitigation would be negligible at all receptors, which would be Not Significant.

SAFETY

The construction of a GPP and solution mining process of producing underground cavities is almost exactly the same whether it be for hydrogen or natural gas. KGSL will utilise the previous experience and expertise from the neighbouring Storengy Stublach facility to construct the project safely.

The construction and operation of a gas storage facility is heavily regulated by the Health and Safety Executive whose primary function is to ensure workplaces are safe for workers and the public as well as Cheshire West and Chester Council. Hydrogen is already safely stored in salt caverns in Teesside in the UK.

Once operational, the hydrogen storage facility would be staffed 24 hours a day and controlled using modern computer control systems. Operation of the proposed facility would be regulated under the Control of Major Accident Hazards (COMAH) Regulations by the Health & Safety Executive, which requires regular monitoring and review.

PUBLIC CONSULTATION

Pre-application consultation is essential in allowing KGSL to understand and respond to any questions or concerns. Extensive engagement and pre-application consultation was undertaken as part of the original DCO application and the Non-Material Change Application in 2022.

We are holding a public consultation on the proposed Material Changes to the DCO consented in 2017 and on a range of updated environmental information. This will provide the project team with feedback from stakeholders and the community with a further opportunity to speak to the project team and submit feedback.

The public consultation period commences on **Thursday 9 October 2025** and closes at 23.59pm on **Thursday 20 November 2025**. There are several ways you can find out more and have your say:

- Attend our Project Information Event. **De Vere Cranage Estate, Byley Lane, Holmes Chapel, CW4 8EW on Wednesday 15 October, 3pm - 7pm**
- Attend our online Q&A taking place on **Wednesday 22 October, 6.30pm** (details to register are on our website)

You can have your say on our plans to amend the existing KGSP consent by:

Email: **kgsp@fontcomms.com**

Visit: **www.kgsp.co.uk**

Write to: **Freepost HAVE YOUR SAY**
No further information or stamp required

Call: **Freephone 0800 689 1095**
(Monday to Friday 9.00am to 5.30pm)

Please scan this QR code to take you directly to our website.

WHERE TO FIND INFORMATION?

All information about the consultation and the PEIR documents can be found online at **www.kgsp.co.uk** Documents can be viewed on the 'Consultation' page of the site.

Hard copies of the project documentation are also available for public inspection at the Storengy site at Storengy UK Stublach Site (Gatehouse), King Street, Northwich, Cheshire. CW9 7SE. Opening hours: Monday to Friday: 9:00am-4:00pm.

NEXT STEPS

Following consultation, KGSL will prepare and submit a Consultation Report as part of the DCO application, which will include details of all feedback received and how KGSL has responded. The Material Change Amendment will be submitted to the Planning Inspectorate where there will be a further, 28-day period of consultation when comments can be made directly to the Planning Inspectorate.

A recommendation will then be made by the Planning Inspectorate. The ultimate decision will be made by the Secretary of State for the Department of Energy Security and Net Zero (DESNZ).

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