Halite Energy Group Limited

Section 47 Planning Act 2008
Publication of Statement of Community Consultation

This Statement of Community Consultation explains how Halite Energy Group Limited (Halite) intends to consult the community on its proposals for an application for a Development Consent Order (DCO) to develop and operate a proposed Underground Natural Gas Storage (UGS) Facility and associated brine pipeline and gas interconnector pipelines at Pressessal, Lancashire (the Project).

Infrastructure Planning Commission and Government Policy
The proposed GUGS Facility at Preessall falls within the Section 47 planning process for which a Development Consent Order (DCO) is required, Halite is proposing to make an application for a DCO which will be submitted to the Infrastructure Planning Commission (IPC). The IPC is currently at the pre-application consultation stage of the process in which it is seeking the views of the community on its proposals. Further information about the IPC and its procedures is available on its website: http://infrastructure.independent.gov.uk

Our Proposed Underground Natural Gas Storage Project
The UGS Facility would be located on land between the River Wyre and Pressessal, the brine pipeline runs to the west of the UGS Facility to the Gas Transmission System, the UK-wide network of gas pipelines that supplies gas to homes and businesses nationwide including all areas in the UK where underground gas storage can be created.

Creating the caverns
The proposed UGS Facility would consist of up to 10 underground caverns with a capacity to store up to 900 million cubic metres of natural gas, providing approximately 600 million cubic metres of ‘working gas’, created by solution mining (backfilling) of oil. The access tunnel, borates would be drilled from a network of wells which would be drilled from drilling pads. The solution mining process uses seawater to dissolve the salt in order to create the salt in the salt cavern. The seawater would then be pumped back, which would then be reused and the residual brine would be returned to the surface. The proposed salt caverns will be created from the existing salt layers in the sea area that have been untouched by previous brine mining operations in the locality.

Brine pipeline
In order to dissolve the salt and create the caverns, a supply of seawater is required, together with pumps and pipelines to deliver it to the caverns and from there into the brine disposal point. It is proposed to use state-of-the-art technology to convey the seawater through pipelines from the seawater intake point at Pressessal to the brine disposal point at the Centre for Environment Research, Preesall. The seawater will then be treated and conveyed to the UGS Facility for use in the mining process prior to being pumped to the various shaftwell locations. After the brine has been treated in the washing process, it would be returned to the IPC and pumped back under the River Wyre into a pipeline running to the sea at West Way, Fleetwood. From here the brine is conveyed through the pipeline to a pump station prior to discharge offshore at a suitable offshore discharge point at sea.

Environmental statement
The Project is an environmental impact assessment development for the purposes of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2008. Preliminary Environmental Information is available for our pre-application consultation community. This contains potential environmental impacts of the Project during construction, operation and decommissioning phases. These include potential impacts on air quality, water, and the marine environment, and socio-economic, noise and vibration. In particular, site selection, visual and urban amenity, traffic, air and transport and traffic and other relevant aspects.

When we will consult
Formal community consultation will commence on 4 April 2011 and continue until 27 May 2011. Following this phase of the consultation process, we will review all responses and consider any changes to the Project should be made. Following the consultation, we will also provide further information on the next steps in the process and the key timing for making an application to the IPC for a DCO.

What we will consult on
Indicative plans, Preliminary Environmental Information and other consultation documents will form the basis of the community consultation. Final technical consultation documents will be made available for review as well as the full technical reports. Further details of all consultation documents are contained on our website (details in this leaflet) and on our Project Overview (also available on our website).

Who we will consult
Our consultation zone will cover the area surrounding the proposed storage caverns, the Booster Pumping Station, the Gas Compressor Compound extending to the coastline at Knott End in the north and the village of Wyre in the south, which will be affected by the development of the brine discharge pipeline (comprising the town of Fleetwood in the north and south to the B5412 distribution pipelines and manifolds connecting the wellheads to the GCC; and a pipeline which links the GCC to the Green Energy Storage Facility at Preesall). The IPC will consult on its proposals. Further information about the IPC and its procedures is available on its website:

Communication with local community consultation – appointed July 2010
We will consult on the environmental impact assessment, our consultation strategy, our proposals, including our responses to the IPC consultation document. The Project team will consider and respond to comments received during the consultation period. Further information about the IPC and its procedures is available on its website. Further details of all consultation documents are contained on our website (details in this leaflet) and on our Project Overview (also available on our website).

Who we will consult
Our consultation zone will cover the area surrounding the proposed storage caverns, the Booster Pumping Station, the Gas Compressor Compound extending to the coastline at Knott End in the north and the village of Wyre in the south, which will be affected by the development of the brine discharge pipeline (comprising the town of Fleetwood in the north and south to the B5412 distribution pipelines and manifolds connecting the wellheads to the GCC; and a pipeline which links the GCC to the Green Energy Storage Facility at Preesall). The IPC will consult on its proposals. Further information about the IPC and its procedures is available on its website:

Consultation will be undertaken by the following means:
Published Documents
Consultation documents are available to download at www.halite-energy.co.uk. These include:

Further information and consultation documents
Consultation documents are available to download at www.halite-energy.co.uk and will be available to view free of charge at the locations listed from 4 April to 27 May 2011.

How to provide your comments
Please provide your consultation responses in the following weeks by 27 May 2011:

- Visit the website: www.halite-energy.co.uk
- Email: community@halite.net
- Call 01772 672 244
- Freephone: 0808 180 4141
- Write to us: Halite Energy Group

Further information on the IPC and the process is available on the IPC’s website: www.independent.gov.uk/ipc

Further information and consultation documents
Consultation documents are available to download at www.halite-energy.co.uk and will be available to view free of charge at the locations listed from 4 April to 27 May 2011.
We are listening – your views count

Project Overview

We are listening – your views count
We believe that an Underground Natural Gas Storage Facility at Preesall can be constructed and operated safely, reliably and securely. Extensive work has been carried out by a team of global experts on all aspects of our Project. Through our community consultation we want to demonstrate to you that we have listened to concerns raised in response to previous applications and get your views on these new proposals.

This Project Overview relates to the pre-application stage of the Infrastructure Planning Commission (IPC) process and is intended to give you an overview of our proposals and outline key topics of interest. It will also explain the consultation process that will be undertaken with community consultees. Following this stage of the process we will review all feedback and consider whether any changes to the Project should be made. Following this stage of the consultation we will also provide further information on the next steps in the process and the likely timing for making an application to the IPC for a Development Consent Order.

If you would like to know more there is a range of further information available to you, including the opportunity to attend one of our public exhibitions in May (details of the consultation are on page 16).

We are listening and your views really do count, so please let us know what you think.

Keith Budinger
Chief Executive
Halite Energy
Storage of gas in salt is not new or unusual – it is a well established practice across the world. Thick, deep rock salt has unique qualities which make it suitable for storing gas. Gas has been safely stored in underground caverns since the early 1960s and there are currently over 70 salt storage facilities in existence worldwide, with many more under construction.

The geology of the Preesall site is unique and it has been identified as one of the few known suitable sites in the UK that is able to accommodate natural gas storage in salt caverns. The geological features, such as the depth and thickness of the salt at Preesall make it ideal for fast cycle storage – this is where gas stored in caverns underground can be accessed quickly and fed into the NTS. We will connect to the NTS at Nateby when needed.

Natural gas stored at Preesall would be fed into the gas National Transmission System (NTS) when needed. The NTS is the UK-wide network of large gas pipelines that supplies gas to power stations and homes and is at Nateby, 12 kilometres to the east of the Preesall site.

Preesall, why salt?

Storage of gas in salt is not new or unusual – it is a well established practice across the world. Thick, deep rock salt has unique qualities which make it suitable for storing gas. Gas has been safely stored in underground caverns since the early 1960s and there are currently over 70 salt storage facilities in existence worldwide, with many more under construction.

The geology of the Preesall site is unique and it has been identified as one of the few known suitable sites in the UK that is able to accommodate natural gas storage in salt caverns. The geological features, such as the depth and thickness of the salt at Preesall make it ideal for fast cycle storage – this is where gas stored in caverns underground can be accessed quickly and fed into the NTS. We will connect to the NTS at Nateby when needed.
We are proposing to create an Underground Natural Gas Storage Facility in the salt body at Preesall.

Up to 19 caverns would be individually designed and constructed, deep underground and used for the storage of up to 900 million cubic metres* of natural gas. This is significantly less than the previous proposals promoted by Canatxx Gas Storage between 2005-2009. Gas distribution pipelines and manifolds connecting the wellheads and a pipeline that links the gas compound at Preesall to the NTS at Nateby would also be constructed.

The Project also requires a number of buildings to be built above ground:

Security and Support Facility – we are proposing to locate this in existing buildings at Higher Lickow Farm.

Booster Pump Station – this facility incorporates a de-brining facility needed to treat brine produced by the cavern creation process and will also house the control centre for the Project. We propose to locate this next to the Hackensall Sewage Treatment Works.

Wellhead Compounds – once operational these low structures would be screened by earth mounds and planting.

Gas Compressor Compound – this highly secure compound will be the starting point for the gas before it travels through the pipelines to the NTS at Nateby. Due to the strict health and safety regulations that apply to a facility of this nature, we consider that the main Preesall site to the east of the Wyre Estuary is the most suitable location.

Seawater Pump Station – this single-storey facility will enable us to take seawater from the Fleetwood Fish Dock to the Preesall site for use in the cavern creation process; we propose to locate this on the west bank of the Wyre Estuary.

Improvements to the road infrastructure in the area would be required – a new road is proposed from the A588 to the site, as well as tracks linking the access road to the main buildings and wellheads.

The main buildings and pipelines would be constructed over a three-year period with the cavern creation process taking up to eight years to complete.

* Total cavern capacity would be approximately 900 million cubic metres to give a working capacity of up to approximately 600 million cubic metres. These volumes are stated at standard temperature and pressure.

Two further pipelines are also required as part of the Project:

Brine Discharge Pipeline – after the seawater pumped from the Fleetwood Fish Dock to the Preesall site has been used in the cavern creation process, the brine is returned by pipeline under the River Wyre to the Booster Pump Station. It is proposed that the brine discharge is then conveyed through a pipeline to a point approximately 2.3 kilometres offshore where it would be discharged to the sea.

Electricity Pipeline – underground electricity cables from the United Utilities switchgear in the Stanah Switchyard to the proposed Gas Compressor Compound.
The locations of the areas to create each cavern have been identified following careful and extensive investigations by our geological team.

The process used to create caverns in salt is known as 'solution mining'. This technology has been used at locations across the world to construct underground storage caverns in areas where there is a thick, high quality layer of salt beneath the surface.

Water is pumped through a borehole and used to dissolve the salt in a process called cavern washing. A large supply of water is needed to do this which we propose to take from Fleetwood Fish Dock and then pipe it to our site. A typical natural gas storage cavern would be teardrop shaped and the top would be approximately 300 metres (1,000 ft) below ground. There would be up to 19 caverns at the Preesall site which, in total, would take up to eight years to complete.

The final design, size, location and construction of the caverns will comply with strict guidelines set by the Health & Safety Executive (HSE), which is an independent Government regulator, under the Control of Major Accident Hazards (COMAH) regulations.

Since the previous applications by Canatxx we have undertaken extensive work and testing to better understand and communicate the geology of the Preesall salt field and identify safe areas for the underground storing of natural gas. In order to safely construct our Project it is essential to demonstrate that the salt surrounding the caverns is of adequate strength, and that the permeability of the salt is low so that natural gas stored would not be able to escape.

The Preesall site covers a large area which includes old mine workings, brine wells and fault lines. Following detailed review of all geophysical data, drilling and surveying of boreholes and sonar surveys of existing caverns and seismic surveys of mine workings, we have a detailed understanding of the area below ground which is suitable for creating caverns and storing natural gas. Two areas have been defined as safe and suitable for cavern development, away from existing caverns, historical workings and faults.
Safety is paramount to Halite and has been given the highest priority in preparing our proposals – we are committed to developing a safe and secure Underground Natural Gas Storage Facility. The Health & Safety Executive recognises salt caverns as a secure and environmentally sound way to store gas. The UK guidelines around the design, construction and operation of projects of this nature are very stringent.

We have carried out a preliminary Quantitative Risk Assessment which looks at foreseeable major risks posed by the proposed Project. Using risk analysis we have identified all hazards with the potential to cause a significant accident, calculated the probability of them occurring and taken the necessary measures to reduce these risks so that they are as low as is reasonably practicable. The risk of a fatality to the public through our proposed Project has been calculated to be less than one in 100 million per year – five times less likely than the probability of fatality by lightning strike.
Environment

As owners of a 1,250-acre (500 hectare) estate at Preesall, we recognise our responsibility to maintain and enhance the site. We have prepared a Preliminary Environmental Information report for availability during the consultation to help us understand the potential positive and negative effects of the proposals on the local area and the environment. This considers the potential effects of the proposals on a number of issues, including landscape and visual impact, air quality, noise levels, water quality and archaeology. A full Environmental Impact Assessment will be prepared when the application is eventually made to the IPC.

In order to minimise the effects of the Project on the number of important habitats and species in the area, we would prepare an Ecological and Landscape Management Plan. This would be prepared in consultation with national bodies such as Natural England, the Environment Agency and the Royal Society for the Protection of Birds.

We have obtained permission from the Environment Agency to dispose of waste brine created by our Project to the Irish Sea. The outfall location has been chosen to minimise the effects of this activity and an assessment has concluded that there would be no significant effects on the marine ecology of the area.

Landscape & visual impact

The landscape and visual effects on the area would vary. At the main site in Preesall temporary effects would be experienced over a significant area but would be relatively short-term with the majority of work taking place in the first three years. The visual and landscaping effects associated with permanent features would be experienced over a longer timescale but we would take measures to reduce their impact as much as possible through earth mounding, planting and careful design and positioning of the built structures.

Our plans include enhancing the existing ecology and landscape of our site. Farmland that we own would be improved and managed mainly as arable land for growing crops and grazing land for animals. These areas are traditionally where waterfowl such as ducks and geese feed and our work would increase nesting and feeding opportunities for these birds.
We would emphasise that at this pre-application stage the consultation proposals are indicative. Comments made at all stages of the consultation process will be recorded and carefully considered by the Project team. Should other potentially viable options be raised during consultation, their relative merits will be considered and reported on. How feedback has been taken into account will be explained by direct communications, local meetings, media and Project updates. The Preliminary Environmental Information report (available on the website and at the locations shown on page 17) sets out further detail on alternatives that we have considered on issues which include:

- Cavern wellhead locations
- Siting of the Booster Pump Station
- Siting of the Gas Compressor Compound
- Route of the NTS pipeline to Nateby
- Route of the electricity pipeline to the Stanah Switchyard
- Brine discharge and works to the sea wall pipeline crossing at Fleetwood

We will publish a report and provide further information following the end of the consultation process setting out how we have responded to feedback and will also confirm the next steps in the process.

Alternatives considered

Primarily for the purpose of constructing and laying the various pipelines, we will need to acquire property rights and interests from certain landowners. The location of the proposed pipelines and working areas for construction purposes is shown on the indicative masterplan. We will seek to do this through negotiation and agreement and have a Land Agent appointed for this. In parallel, we also propose to apply to the IPC for compulsory purchase powers to enable rights to be obtained in those cases where agreement through negotiation cannot be reached.

We have already contacted landowners potentially affected by possible compulsory purchase through our Land Agents.

Property aspects & compulsory purchase
During our two-month long community consultation process we will share the details of our proposed Project with the local community and listen to your views and opinions. Your feedback is very important to us and there are a range of ways to find out more and let us know what you think:

Visit the website – A range of documents are available to view and download at our website: www.halite-energy.co.uk and also available to view free of charge at the inspection locations listed.

Come along to an exhibition – Our Project team will be available to explain the details of our proposals and answer any questions you may have at our public exhibitions which are taking place in May (see table opposite for venues and dates).

Email: community@halite.net
Call: us on 01772 672244
Write to us at: Freepost RSRC-UETY-CHSU
Halite Energy Group
Unit 5, St Georges Court
St Georges Park
Kirkham
Preston PR4 2EF

Complete a questionnaire and then either hand it back to us at one of our face-to-face events, or post it to us at our freepost address below.

A summary of all the consultation documents is set out on page 18. This Project Overview and the Preliminary Environmental Information will provide you with a good understanding of the Project. We have also prepared brief Project Information Sheets on specific issues which are written in non-technical terms for the community. There are also a number of technical documents on matters such as geology which are also provided for review if you wish to see the technical detail on particular issues. Non-technical summaries of the key reports are also available.

How you can get involved

We are listening – your views count

We need your feedback by 27th May 2011.
## Summary of consultation documents

<table>
<thead>
<tr>
<th>Document</th>
<th>What the document relates to</th>
<th>Non-technical summary available</th>
</tr>
</thead>
<tbody>
<tr>
<td>This Project Overview</td>
<td>Overview of the Project and consultation process</td>
<td>n/a</td>
</tr>
<tr>
<td>Preliminary Environmental Information (PEI)</td>
<td>Preliminary assessment of environmental effects of Project; also provides details of alternative Project designs, layouts and pipeline routes that have been considered</td>
<td>Yes</td>
</tr>
<tr>
<td>Preliminary Quantitative Risk Assessment (QRA)</td>
<td>Examines foreseeable risks posed by the Project</td>
<td>Yes</td>
</tr>
<tr>
<td>Summary Geology Report</td>
<td>Geological stability of area proposed for underground salt caverns for gas storage</td>
<td>Yes</td>
</tr>
<tr>
<td>Golder Report</td>
<td>Summarises findings of salt permeability tests</td>
<td>No</td>
</tr>
<tr>
<td>Drilling Report</td>
<td>Review and analysis of proposed drilling programme and techniques required to create caverns</td>
<td>No</td>
</tr>
<tr>
<td>Pipeline Subsidence Report</td>
<td>Analysis of pipeline route stability</td>
<td>No</td>
</tr>
<tr>
<td>NTS Pipeline Report</td>
<td>Analysis of the proposed route for the pipeline from Preeall to Nateby and alternative routes that have been considered</td>
<td>Yes</td>
</tr>
<tr>
<td>Preliminary Planning and Sustainability Statement</td>
<td>Overview of relevant planning policies and summary of how the Project has responded to reasons for refusal of previous planning applications made by Canatxx Gas Storage Limited</td>
<td>n/a</td>
</tr>
<tr>
<td>Preliminary Design &amp; Access Statement</td>
<td>Overview of design principles for above ground structures forming part of the Project</td>
<td>n/a</td>
</tr>
<tr>
<td>Drawings</td>
<td>Indicative drawings in respect of the proposed Project</td>
<td>n/a</td>
</tr>
<tr>
<td>Project Information Sheets</td>
<td>Summary information papers written in layman’s terms on safety; cavern creation; environment – overview; environment – discharge; national need for gas storage; project description; pipeline; drilling; why Preesall for gas storage?; testing summary</td>
<td>n/a</td>
</tr>
<tr>
<td>Statement of Community Consultation</td>
<td>Sets out the consultation programme, what we will consult on, who we will consult with, the proposed methods of consultation</td>
<td>No</td>
</tr>
</tbody>
</table>

All our consultation documents and information about the proposed Project can be found at [www.halite-energy.co.uk](http://www.halite-energy.co.uk)
Safety is paramount

We are listening - your views count
www.halite-energy.co.uk

Andy Saunders
Environmental Director, Hyder
Welcome and introduction

Welcome to our exhibition

This event forms part of the pre-application stage of the Infrastructure Planning Commission (IPC) process where we hope to demonstrate to you that we have listened to concerns raised in response to previous applications and hear your views on our new proposals for an Underground Natural Gas Storage Facility at Preesall.

The new management team at Halite has carefully reviewed previous plans and undertaken extensive geological tests to demonstrate the suitability of the Preesall salt to store gas. We believe that our proposed Project can be constructed and operated safely, reliably and securely and are pleased to be sharing with you our condensed proposals.

Your feedback on our proposed Project is very important. We are listening and would encourage you to let us know what you think – your views really do count.

Full details of our Project and consultation documents are available on our website www.halite-energy.co.uk

Keith Budinger
Chief Executive
Halite Energy

Why the proposed development is needed

Our proposed development is classified as a nationally significant infrastructure project under the IPC process and would play a key part in the future energy security of the UK. Gas stored at Preesall would be fed by pipelines into the Gas National Transmission System, known as the NTS for distribution throughout the country.

As well as providing security of supply during periods of high demand, such as winter cold-snap, gas storage will play an important role as dependency on renewable energy sources increases. For example, if weather conditions meant that wind farms were not able to generate power, gas stored at Preesall would be readily available to ensure that energy supplies were maintained until conditions improved.

We are listening – your views count
We are proposing to develop an Underground Natural Gas Storage Facility in the salt body at Preesall where we hope to create up to 19 purpose-built caverns. Individually designed and constructed, the caverns would be used for the storage of up to 900 million cubic metres of natural gas.*

Gas distribution pipelines and manifolds connecting the wellheads and a pipeline to the National Transmission System (NTS) at Nateby would also be constructed.

* This will provide approximately 600 million cubic metres of 'working gas'.

Booster Pump Station – this facility uses the seawater from Fleetwood for cavern washing, incorporates a de-brining facility and would also house the control centre.

Wellhead Compounds – this facility would house the wellheads in underground vaults. Once operational these low structures would be screened by earth mounds and planting.

Seawater Pump Station – this facility would enable us to take seawater from the Fleetwood Fish Dock to the Preesall site for use in the cavern creation process.

Gas Compressor Compound – this highly secure compound would be the starting point for the gas before it travels to the NTS at Nateby.
Understanding the geology of Preesall

We have carried out detailed investigations into the permeability of the salt field at Preesall so we can be sure that gas stored in the caverns cannot escape.

We have built up an in-depth bank of knowledge of the salt through tests that have been conducted down boreholes over a number of years, most recently in January of this year.

Creating Caverns in Salt

Salt caverns are widely recognised as a safe and environmentally friendly way to store gas and there are currently over 70 underground salt gas storage projects at locations across the world.

Our geological team has carefully identified suitable areas far away from any known hazards and left untouched by previous brine mining where we can create each cavern. The final design, location and construction of the caverns will comply with the strict guidelines set by the Health & Safety Executive (HSE) under the Control of Major Accident Hazards (COMAH) regulations.
Safety & risk

Safety is paramount to us and has been given the highest priority in preparing our proposals. We are absolutely committed to providing a safe and secure project and would continue to work closely with the Health & Safety Executive (HSE) throughout the construction and ongoing operation of our Project to ensure this happens.

We have carried out a preliminary Quantitative Risk Assessment (QRA) which looks at foreseeable major risks posed by the Project.

The risk of a fatality to the public through our proposed Project has been calculated to be less than one in 100 million per year.

In the UK there are four existing salt gas storage projects which have an excellent safety record. The longest established site used for natural gas storage was commissioned in 1979 at Hornsea, Yorkshire.

Emergency Planning

Even though the findings of our QRA show that the likelihood of an accident at our proposed Project is extremely low, we would still prepare a thorough onsite safety plan and work with the local authorities to support the development of an off-site plan.
We have prepared a Preliminary Environmental Information report which is available during our consultation to help us understand the potential positive and negative effects of the proposals on the local area and the environment.

We are committed to preserving the special features that are characteristic of the land at Preesall and recognise the significant opportunity for long-term ecological and landscape improvements across our 1,250-acre (500 hectare) estate.

An Ecological and Landscape Management Plan would be prepared in consultation with national bodies such as Natural England, the Environment Agency and the Royal Society for the Protection of Birds.

We have obtained permission from the Environment Agency to dispose of waste brine created by our Project during the cavern creation process to the Irish Sea. The outfall location has been chosen to minimise the impact of this activity and an assessment has concluded that there would be no significant effects on the marine ecology of the area.

We are listening – your views count
We have carried out a comprehensive review of previous proposals and their planning application history. Previous concerns raised have been addressed when preparing the details of this new Project. For example:

- Our Project is approximately 50% smaller than the scheme promoted by Canatxx Gas Storage
- We have undertaken extensive geology testing to prove that the salt at Preesall is gas-tight
- Above ground infrastructure locations have been reviewed and revised

Alternatives considered

At this pre-application stage our proposals are indicative. A range of alternatives have been considered on issues including pipeline routes, siting of above ground infrastructure and cavern wellhead locations.

Talk to us

Our Project team is on hand to answer any questions you may have

Let us know what you think

Fill in a consultation questionnaire so we have your feedback

Find out more

Visit www.halite-energy.co.uk for more information about our Project
Communtiy Consultation Questionnaire

Halite Energy is consulting on indicative plans for an Underground Natural Gas Storage Facility at Preesall. Following this stage of the process we will review all feedback and consider whether any changes to the Project should be made. We will also provide further information on the next steps.

Your views and opinions on the proposals are very valuable and we would welcome your feedback.

Personal details

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Address ......................................................................................................................................
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Postcode......................................................................................................................................
Email .......................................................................................................................................... 
Telephone ....................................................................................................................................

If there is not enough space on this questionnaire for all the comments that you would like to make, please continue on a separate piece of paper. Make sure you write your name and postcode on the top of the extra sheet/s and attach it/them to this form before submitting.

1. Where did you pick up this form?

☐ Local library (please give details)
☐ Given to me by a local resident
☐ Halite’s Community Liaison Co-ordinator
☐ At a public exhibition
☐ From the website
☐ Other (please specify) ..................................................................................................................

2. Which consultation documents have you examined before completing this questionnaire? (tick as many as applicable)

☐ Project Overview
☐ Project Documentary
☐ Preliminary Environmental Information Report
☐ Information Sheets (please specify)
☐ Other consultation material (please specify) ............................................................................

3. If you have attended a public exhibition event, please tell us which one:

☐ Stalmine Village Hall
☐ St Oswald’s Church, Knott End
☐ Pilling Memorial Hall
☐ North Euston Hotel, Fleetwood
☐ Thornton Little Theatre
☐ Didn’t attend an exhibition (please go to question 5)

4. How did you find out about the exhibition? (tick as many as applicable)

☐ Advertisement in a newspaper
☐ Radio advert
☐ Leaflet to home address
☐ Poster
☐ Other (please specify) ..................................................................................................................

5. Has the information available to you provided clear and helpful explanations on: (please score using a scale of 1 to 5 where 1 is unhelpful and 5 is very helpful, please tick as applicable)

(A) suitability of the geology in our proposed location for underground natural gas storage caverns 1 2 3 4 5
(B) safety of the proposed Project
(C) how gas will be stored in caverns
(D) proposed layout of the Project buildings

6. Please explain your answer to 5:

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7. Having considered the information available to you today, would you say you have a good understanding of the scope of the proposed gas storage scheme?

☐ Yes, I have a good understanding
☐ I have a limited understanding
☐ No, I do not understand the Project

8. If you did not answer ‘yes’, can you tell us what you would find helpful to gain a better understanding of the Project?

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

9. Have you attended previous consultation events/ reviewed previous application documents about a gas storage facility at Preesall promoted by Canatxx?

☐ YES  ☐ NO

If YES, please give details:
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

10. How well do you think Halite has listened to the feedback received to previous plans by Canatxx?

☐ Well – I can see that previous concerns raised have been addressed
☐ Adequately – some previous concerns have been taken into account
☐ Not well – I can’t see any changes to previous schemes
☐ Don’t know – I am not familiar with previous plans

11. If the Project was to go ahead, which of the statements below are most important to you? (please select no more than two)

☐ The environment and ecology surrounding the site should be improved
☐ Halite should keep in regular contact with the local community throughout the construction and operational life of the project
☐ The above ground buildings and facilities should be appropriate to the rural surroundings
☐ Other (please specify)

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

12. Do you have any suggestions for improving the proposals? Please tick the relevant subject area and tell us your suggestion. E.g. if you think we should use different sites for our building locations or different pipeline routes please tell us which ones and why.

☐ Location and design of the above ground buildings
  Give details:
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

☐ Looking after the local environment
  Give details:
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

☐ Access routes to the site
  Give details:
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

☐ Other
  Give details:
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

13. Please let us have any further comments on our proposals:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

14. Halite Energy is producing a regular newsletter to keep the community updated on the proposals. Would you like to receive a copy?

☐ Yes please – email the newsletter to me at the address on front page
☐ Yes please – post the newsletter to the address on front page
☐ No thank you

Thank you

Completed the questionnaire?
To make sure that we get your feedback either:

• Post this form in the marked box at one of our exhibitions or;
• Send it:
  Freepost RSRC-UETY-CHSU
  Halite Energy Group
  Unit 5, St Georges Court
  St Georges Park, Kirkham
  Preston PR4 2EF

t: 01772 672 244
e: community@halite.net
www.halite-energy.co.uk
Environment – Brine Discharge

Discharging brine waste water into the sea is a common world-wide practice when creating Underground Natural Gas Storage facilities. The Environment Agency has already granted a consent to discharge the brine that will be generated into the Irish Sea. We will carefully follow the required guidelines and regulations in order to minimise the impact of this activity on the marine environment.

Where will the brine water come from?
To create the underground natural gas storage caverns at our Preeass site we need a very large supply of water which we plan to pump from Fleetwood Fish Dock across the west bank of the Wyre Estuary to the Preeass site. This seawater will be fed into wells at carefully controlled rates to carry out the washing process which creates caverns out of the salt beds.

During the process, the seawater will absorb the salt and the resulting brine must be disposed of safely and carefully. The brine will be sent through pipes to a de-brining facility where insolubles and any gas will be removed before being returned to the sea via an outfall approximately 2.3 kilometres offshore into the Irish Sea. Once the construction of all the caverns is complete, the water washing infrastructure will only be used during periods of maintenance.

Map showing proposed outfall location.
Environment – Brine Discharge

Environmental Assessment
We have undertaken a detailed assessment of the impact that the collecting of seawater and discharge of brine would have on the local marine environment. The identified discharge site in the Irish Sea offers the best solution for disposal of the brine. Sites at Morecambe Bay and the Wyre Estuary, which are protected at European and national levels because of their valued wildlife habitats, will not be affected. Liverpool Bay, two kilometres to the west of the outfall, is designated as a Special Protection Area for birds and will not be impacted by our operations.

Measures we will take to protect marine life include:

- Using a filter to minimise the chance for small marine organisms to be taken from the sea into the cavern washing process
- Checking the brine used in the washing process to make sure that it doesn’t contain any dissolved gas or sediment that could have been picked up during the cavern washing process
- Carefully monitoring the quality of the brine before releasing it into the sea

We are committed to minimising the environmental impact of our proposed Project. We will work closely with all relevant bodies including the Environment Agency and Natural England – the main independent public bodies responsible for protecting the environment – to ensure this is the case across the lifetime of the Project.
We have hired experts to undertake a thorough and comprehensive review of the underground cavern design and provide a detailed report on the different drilling techniques that will be needed. We will be using drilling systems with a proven track record of securely making quality boreholes in the rock formations that exist at Preesall, and using the most accurate techniques and tools available.

Our Project will store natural gas in caverns approximately 300 metres below sea level. Because significant amounts of the salt body lie under the Wyre Estuary, in some cases we will need to drill at an angle and use slanted boreholes to reach the right area, rather than drilling straight, vertical boreholes.

**Types of Drilling**

There are four different types of wells that will be required to complete the drilling programme. These have all been performed successfully in many locations throughout the world:

- **Vertical wells** involve drilling a well straight down into the earth until the drill reaches the area being developed.
- **S-shaped wells** begin by drilling vertically, then drill on an angle before returning to vertical drilling to reach the salt. This type of well can be used to create a cavern that is up to 100 metres away from the wellhead at the surface.

- **Slant wells** are used to create caverns that are between 100 and 250 metres away from the wellhead. Creating access to caverns on a slant means that more wellheads can be grouped together in one location on the surface. Therefore fewer drilling rigs are needed and less above ground disturbance is caused.
- **Extended-reach slant wells** are used where caverns will be located between 250 and 600 metres from the wellhead. A specially designed rig is used to drill at angles between 67 and 80 degrees.

**Safety First**

There are strict safety guidelines and regulations that must be followed across all aspects of our Project. Our drilling activity will be carried out in accordance with Health & Safety Executive guidelines and the Control of Major Accident Hazards (COMAH) regulations. They are in place to prevent accidents involving dangerous substances and to limit the impact on people and the environment in the unlikely event that an incident does occur.
Creating Caverns in Salt

The storage of natural gas in specially constructed salt caverns is a mature industry, with the first underground facilities becoming operational in the early 1960s. Salt caverns are widely recognised as a safe and environmentally friendly way to store natural gas.

There are currently over 70 underground salt gas storage projects globally, with many more under construction. In the UK there are four existing facilities. The longest established site used for natural gas storage was commissioned in 1979 at Hornsea, Yorkshire. Other facilities in operation are at Hole House Farm and Holford, Cheshire and at Seal Sands, Teesside. Further projects are under construction or proposed in Dorset, Yorkshire and Cheshire.

Solution Mining

The process for creating a cavern is known as 'solution mining' and it is a proven technology worldwide.

The caverns will be purpose-built for the project in areas of the salt that have been left untouched by previous brine mining in the Preesall area.

The process involves creating a series of specially constructed underground caverns in locations, such as Preesall, where there is a thick, high quality layer of salt underground. Salt is impervious to gas and is therefore uniquely suitable for storing gas.

To create the cavern, water is pumped through a borehole to dissolve the underground salt. It is proposed that we will take seawater from Fleetwood Fish Dock via a pump station from the west bank of the Wyre Estuary to the Preesall site via pipes below the bed of the River Wyre into the Irish Sea. The Environment Agency has approved this process and this method is a well-established practice around the world.

This water is then extracted via the borehole in the form of a concentrated brine solution and pumped back beneath the River Wyre to the Pump Station at the Fish Dock.

After the solution mining process is completed, a typical gas storage cavern in the Preesall salt would be a teardrop shaped cavern that lies within the 250 to 500 metre thick salt. Each cavern is approximately 300 metres (1,000 feet) below ground surface.

Depending on its size, it will take between 12 and 24 months to complete. However, after the initial 3-4 weeks of drilling, the process is carried out underground so will not be seen or heard nearby.

The caverns will be connected by pipeline to the National Transmission System (NTS) at Nateby, 12 kilometres to the east of the Preesall site, which, as part of the National Grid, will ensure that gas is distributed throughout the UK. Natural gas will be stored in the caverns until it is required.
Creating Caverns in Salt

The Importance of Well Design
We realise that incidents that have happened elsewhere in the world have had an impact on responses to our Project. Statistics from the Health & Safety Executive (HSE) show that the least strong part of any underground gas storage facility is the wellhead. However, our proposed Project has been designed in such a way that means that it is extremely unlikely for there to be a well failure. Measures that will be taken to prevent such a failure include:

- Using the latest industry drilling technologies to create new caverns – no use will be made of existing caverns
- Preventing any gas escaping by cementing the casing of the wells
- Monitoring the pressure of every wellhead to allow for early detection of any anomalies, a well-established practice around the world

Safety First
The proposed location of the caverns has been identified as suitable for natural gas storage following intensive investigations by our geological team. Further testing will be carried out when we begin developing the individual caverns.

The exact size and location of each cavern is carefully controlled and must be approved by the Health & Safety Executive before construction begins.

The construction of the caverns will comply with strict guidelines set out by the HSE under the Control of Major Accidents Hazards (COMAH) regulations.

The caverns are monitored continuously during construction and are tested by the HSE prior to commissioning before operations can commence.

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Creating Caverns in Salt

Key

- Salt Top fault
- Salt Base fault
- Area of Cavern Development
- Project Boundary

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Freepost RSRC-UYET-CHSU
Halite Energy Group
Unit 5, St Georges Court
St Georges Park, Kirkham
Preston PR4 2EF

t: 01772 672 244
e: community@halite.net
www.halite-energy.co.uk

We are listening – your views count
To view all our consultation documents you can visit our website, or get in touch by phone, email or post
Environment

We are committed to preserving the special features that are characteristic of the land at Preesall and recognise the significant opportunity for long-term ecological and landscape improvements across the 1,250-acre (500 hectare) estate.

The consultation proposals are not fixed. The design of the Project will not be finalised until we have considered the feedback from the local community and other stakeholders. We have produced a Preliminary Environmental Information report available during the consultation which sets out in detail the alternatives that have been considered for the location of the above ground infrastructure and pipeline routes. This report also helps us understand and explain the potential effects of the proposals on the local area and the environment. It considers a number of issues including landscape and visual impact, air quality, noise levels, water quality and archaeology.

Environmental Impact Assessment

Following our consultation we will carry out a full Environmental Impact Assessment to make sure that we identify the potential for positive and negative effects of our Project. The report will be independent, use best practice guidance and will be prepared in consultation with a range of bodies. Environmental issues and potential mitigation measures already identified in our preliminary work will be further assessed. The results of this work, which will accompany the application to the Infrastructure Planning Commission in the form of an Environmental Statement, will enable us to ensure that our Project is as sustainable as possible and reduce its effects on the environment.

For example, we would put in place measures to minimise noise levels and limit the damage caused by construction work. In addition to this we have detailed plans to enhance the landscape and have made a commitment to maintain and monitor the development area and its surroundings.

Ecology and Landscape

In order to minimise the effects of the Project on the number of important species in the area, which include bats, badgers and barn owls, we would prepare an Ecological and Landscape Management plan. This would be devised in consultation with a range of relevant national bodies including Natural England, the Environment Agency and the Royal Society for the Protection of Birds. Our plans include enhancing the existing ecology and landscape of our site. Farmland that we own would be improved and managed mainly as arable land for growing crops and grazing land for animals. These areas are traditionally where waterfowl such as ducks and geese feed and our work would increase nesting and feeding opportunities for these birds.

The Environment Agency has granted us a licence to dispose of waste brine that will be created by our Project during the cavern creation process, into the Irish Sea. The outfall location has been chosen in order to minimise the effects of this activity on the local marine ecology.
Environment

Environmental Management
We will implement an agreed Construction Environmental Management plan which will ensure that the utmost importance is placed on protecting the environment and the local community from the impact of construction works. The workforce would be aware of specific environmental requirements, all work would take place in accordance with agreed standards and licence conditions and traffic would be effectively managed.

Noise
The effects of construction noise and vibration would also be addressed in the Construction and Environmental Management plan. We would work with the local planning authorities at Lancashire County Council and Wyre Borough Council to agree further measures to limit the impact of construction noise and vibration effects on the surrounding area. The main area to be affected by noise during the construction phase would be the proposed gas storage area as a result of the cavern creation process.

In order to minimise noise levels we will house machinery needed to operate the Project in buildings which have been designed with appropriate acoustics and use earth mounding to act as a screen.

Air Quality
The main potential effect on the air quality would be as a result of dust created during the construction phase. The Construction Environmental Management Plan will detail measures to limit the dust created onsite during this period, as well as setting out requirements for the ongoing maintenance and operation of the Project when dust emissions are not expected to be significant.
Storing Natural Gas in Salt and the Geology of Preesall

Storing natural gas in salt is well established across the world, with over 70 underground gas storage facilities in operation and many more under construction.

It is the unique characteristics of rock salt (halite) that make it suitable for storing natural gas. Salt is impervious, which means that gas cannot escape through it, therefore salt caverns can be created which are both stable and impervious to gas. Furthermore, due to the unique properties of salt, it behaves very much like a very thick fluid. This means that any fractures in the salt are ‘self healing’.

The Geology of Preesall

The Preesall site is one of the few known suitable sites remaining in the UK that can accommodate natural gas storage in salt caverns.

Storage of natural gas within salt is restricted to areas like Preesall where the salt is sufficiently thick to create caverns. The Preesall salt has been extensively investigated and geological surveys have found it to be suitable for storing gas. This work has included seismic surveys of the salt bed, drilling and detailed surveying of deep boreholes, testing of rock formations and sonar surveys of existing caverns, so that we understand both the geology of the site and historic salt abstraction activities.

The extensive geological work that has been undertaken since previous applications by Canatxx has enabled us to identify suitable areas for underground natural gas storage in the Preesall salt. These include two polygons, or specific areas, on which our proposed project has been developed, away from existing caverns, historical workings and faults.

The depth of the Preesall salt bed is around 300 metres (1,000 feet) and the salt body is 200-300 metres (660-1,000 feet) thick. Gas stored at this depth is approximately at the same pressure as the National Transmission System (NTS), a network of gas pipelines across the UK. The facility will provide a fast and efficient flow of gas between the caverns and the NTS.

We have carried out extensive work to understand the geology of the Preesall salt field. All aspects of the facility must comply with appropriate regulations and guidance from the Health & Safety Executive (HSE) on Underground Gas Storage.

A large database of information on the Preesall salt has been collated which includes:

- Over 15 kilometres of seismic data
- Four boreholes with full geological data
- 17 boreholes with geophysical logs
- 3-D model of the salt field
- In-situ testing of the rock formations
- Laboratory testing on rock samples
- Sonar surveys of existing caverns
# Storing Natural Gas in Salt and the Geology of Preesall

## HSE guidance on required geological information for site characterisation

<table>
<thead>
<tr>
<th>HSE : Recommendations for knowledge required</th>
<th>How Halite Energy has addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>The thickness and extent of salt beds</td>
<td>We have incorporated drilling and maintenance record information for historical brinewell and mine workings from the ICI information library, British Geological Survey (BGS) exploration borehole records and seismic survey records. A 3-D geological model has been constructed.</td>
</tr>
<tr>
<td>The presence/distribution/thickness of non-salt interbeds</td>
<td>Non-salt interbeds are present within the Preesall site. We have assessed these via detailed geophysical tests and through scheme specific commissioned core logging and testing. Insitu pressure and permeability tests have been undertaken at Preesall and show that both the salt and non-salt interbeds are suitable for underground gas storage.</td>
</tr>
<tr>
<td>The presence and nature of higher permeability layers</td>
<td>The presence of areas of higher permeability within the Preesall salt and overlying mudstone bedrock has been extensively assessed through historical drilling records, geophysical tests, detailed core logging and mineral analysis. No high permeability layers are evident within the proposed gas storage areas.</td>
</tr>
<tr>
<td>Geological structure including the presence of faults</td>
<td>We have analysed seismic survey data and detailed core logging by the BGS. Analysis of existing historical workings has been undertaken including detailed sonar scans of existing brinewells.</td>
</tr>
</tbody>
</table>

## Summary

We have a very good understanding of the Preesall salt having undertaken extensive work since the previous application made by Canatxx.

- We have identified the top and bottom of the salt body and have located the non-salt interbeds that exist.
- Testing has been carried out to understand the behaviour of the Preesall salt.
- Detailed assessment and monitoring of historical workings has been undertaken and a programme of maintenance and ongoing surveying put in place.
- Natural and man-made hazards have been researched and identified, such as faults, seismic activity and historical workings and conservative buffer zones have been applied to derive proposed safe development areas.

This extensive programme of work has allowed the identification of safe areas for underground natural gas storage by Halite Energy.
Underground Gas Storage Incidents

We are committed to developing a safe and reliable Project. As part of this commitment we have undertaken a rigorous risk assessment which has looked at all areas of the Project, with a view to demonstrating that the risks posed to the community are no higher than those risks that we live with every day (see our information sheet entitled Safety & Risk).

Throughout the construction and operation of our proposed Project we will comply with the strict guidelines set by the Health & Safety Executive (HSE). In over thirty years of operation, there has never been a major incident at a UK-based underground gas storage facility.

However, we recognise that incidents have been recorded in other areas of the world. These incidents have been studied by industry experts so that the reasons for failure are understood and learned from. The HSE states: “Underground gas storage, oil and gas production can be conducted safely if proper procedures are followed...proper safe operating procedures can be easily developed”. * We have been mindful of the problems that have caused the recorded incidents when designing our Project and will follow HSE guidelines during the construction and operation of our Underground Natural Gas Storage Facility. * HSE Research Report RR605

The Hutchinson incident
In January 2001 a sequence of events led to numerous explosions and several gas geysers occurring through the city of Hutchinson, Kansas, USA. The incident resulted in two deaths and the evacuation of hundreds of people.

Subsequent investigations found the explosions were caused by leakage three days earlier of stored natural gas from the Yaggy Underground Gas Storage Facility, located seven miles to the north west of Hutchinson.

Several design and operational errors were identified as the cause of the initial gas leakage; existing geological conditions then allowed gas migration under pressure from Yaggy to Hutchinson, whereupon gas migrated to the surface via old uncapped brinewells and boreholes.

<table>
<thead>
<tr>
<th>Why did the incident happen?</th>
<th>Our response</th>
</tr>
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<tbody>
<tr>
<td>The Yaggy facility re-used caverns originally designed and operated for propane storage but decommissioned during the late 1980s. Re-commissioning of wells for gas storage required drilling out and re-using of the concrete plugged single casings. Subsequent investigation found that re-drilling had damaged the casings, allowing gas to escape.</td>
<td>The Preesall facility will be designed and constructed with caverns for the sole purpose of gas storage utilising the latest design and technology. There will be no re-use of historical workings for the storage of gas. All installations will be double-cased with cement and the casings will incorporate welded couplings.</td>
</tr>
<tr>
<td>Operational errors occurred. The wells were operated at gas pressures greater than the licensed agreements; individual wellhead pressure monitoring was not carried out, hence pressure loss was not detected and periodic well leak tests were not carried out to established procedures.</td>
<td>The Preesall facility will be operated and managed in accordance with strict UK regulations and standards, which will include testing the caverns for integrity and monitoring of gas pressures during operation.</td>
</tr>
<tr>
<td>Once gas escaped from the well casing, it migrated to Hutchinson through a highly permeable rock layer within the overlying rock.</td>
<td>We have carried out a detailed geological analysis to identify potential hazards. No such high permeability zones have been encountered. Conservative industry standard hazard-exclusion zones have been applied around recognised hazards such as faulting, historical workings and wet rockhead.</td>
</tr>
</tbody>
</table>

Summary
The leak at Hutchinson was a result of design faults and operational errors. Preesall will be designed and operated to UK industry standards (BS EN 1918-3:1998). Management of risk will be assessed by the HSE, taking into account lessons learned at Hutchinson and other facilities.
Moss Bluff incident

The Moss Bluff salt dome is located in Liberty County, about 64 kilometres (40 miles) north east of Houston, Texas. The salt dome was first identified in 1926 and has led to the region being dotted with man-made caverns and represents one of the world's largest storage sites for hydrocarbons.

The Moss Bluff Underground Gas Storage Facility comprises three separate underground caverns and is operated by Duke Energy Gas Transmission.

In August 2004, an incident occurred at Cavern no 1. For several days prior to the incident, this cavern was operating in ‘de-brining mode’ when brine was being brought to the surface and pumped to a surface holding pond. At the same time, compressed gas was being injected into the cavern. On 19 August a leak in a pipe led to a sudden gas release from the cavern. The resulting explosion and fire caused the closure of roads and dozens of residents within a 1.6 kilometre (1 mile) radius were evacuated from their homes, although no-one was reported injured. A valve that could have been used to turn off the flow of gas was inaccessible due to the heat of the fire.

A second explosion occurred the following day and the evacuation zone extended to 4.8 kilometres (3 miles). The fire remained above ground throughout the incident and was allowed to burn itself out. During this incident the safety and integrity of the two other caverns at the facility was never threatened.

Why did the incident happen?  Our response

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<td>A casing inside the cavern corroded and failed. When the brine level dropped below the failed section, high pressure gas was able to escape, reach the surface and flow into the above ground brine pipework. The emergency shutdown system in place on the pipework was designed to close on the detection of a change in pressure, however the sudden surge of flow acted like a ‘water hammer’ and caused the pipework between the wellhead and the emergency valve to rupture.</td>
<td>The caverns at Preesall will be operated in a different manner. The casings will be sealed in the salt roof and will not be immersed in brine for long periods.</td>
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<td>The incident was prolonged when the extreme heat of the fire blew off the entire wellhead on 20 August. For about 28 seconds the fire appeared to have been extinguished, but gas escaping through the casing re-ignited and burned until it was extinguished finally on 25 August.</td>
<td>Wellheads are housed in individual concrete bunkers providing shielding against a fire at an adjacent well. Shut-off valves would automatically cut off the gas supply.</td>
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Summary

The investigations concluded that the failure at Moss Bluff occurred because casing was installed to the cavern base and was left for periods of time immersed in highly corrosive brine. A similar situation will not occur at Preesall because the operating method is entirely different.

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**Underground Gas Storage Incidents**

**Moss Bluff incident**

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**Summary**

The investigations concluded that the failure at Moss Bluff occurred because casing was installed to the cavern base and was left for periods of time immersed in highly corrosive brine. A similar situation will not occur at Preesall because the operating method is entirely different.
Natural Gas Pipeline from Preesall to National Gas Transmission System at Nateby

The natural gas stored at Preesall will be supplied to the National Transmission System, commonly known as the NTS, 12 kilometres to the east of the Preesall site. The NTS is the UK-wide network of large gas pipelines that supplies gas to over 40 power stations and our homes via lower pressure local area supply networks. In order for gas to be available at periods of high demand, such as during cold snaps experienced this winter, it is essential that it can be supplied to the NTS as soon as it is required.
Natural Gas Pipeline from Preesall to National Gas Transmission System at Nateby

Our Project would connect up to 19 gas storage caverns to the NTS pipelines. The gas from our site would first travel to an onsite Gas Compressor Compound – this is the facility that makes sure the gas is at the right pressure and meets other specifications to be transported through an inter-connector pipeline which would carry the gas to the NTS at Nateby.

We have looked carefully at the concerns raised in response to previous planning applications by Canatox concerning the pipeline route from the proposed Gas Compressor Compound at Preesall to the NTS pipelines at Nateby. We have extensively reviewed a number of alternative routes and undertaken a range of safety and other studies in considering the proposed route.

Routing
Four different routes from the Gas Compressor Compound to the A588 have been examined and extensive geological surveys and studies conducted so we are confident that the proposed pipeline route can be shown to be safe and secure throughout the lifetime of the Project. This work included drilling boreholes to determine the depth and nature of glacial layers immediately beneath the ground, sonar surveys of existing brine wells to assess their stability and seismic surveys to confirm the location of old mine workings and assess any deterioration in the area.

We have therefore been able to collect data that enables us to accurately map potential hazards and predict and avoid areas where subsidence might occur in the future.

The proposed route of the pipeline has been located to avoid all brine wells which exist at intervals across our proposed development area.

A further three routes have also been considered for the inter-connector route from the A588 at Preesall to the NTS at Nateby. Our proposed route avoids populated areas and is consistent with NTS routing practices.

Design, Construction and Maintenance
There are strict safety guidelines and regulations that must be followed across all aspects of our Project. At all stages in the development of the pipeline, including design, construction, operation and maintenance, we will comply with appropriate guidelines and regulations set out by the Health & Safety Executive (HSE) on underground gas storage including the Control of Major Accident Hazards (COMAH) regulations, which are in place to prevent accidents involving dangerous substances and to limit the impact on people and the environment in the unlikely event that an incident does occur. We will also comply with the Pipeline Safety, Pressure System Safety and Gas Safety regulations.

Pipeline Monitoring
The pipeline will be protected from corrosion across its full length and this will be monitored throughout the life of the Project. The brine well and mine workings along the pipeline route from the Gas Compressor Compound to the A588 will be monitored and inspected regularly, and the land surveyed for any subsidence.
**Project Description**

Our proposal incorporates the creation of new underground natural gas storage caverns in the salt body at Preesall. Each cavern would be individually designed and constructed according to industry best practice and approved by the Health & Safety Executive. The natural gas from our site would be supplied by pipeline to the gas National Transmission System (NTS) at Nateby, 12 kilometres to the east of the Preesall site. When created, up to 19 caverns will be used for the storage of up to 900 million cubic metres of natural gas.*

The majority of our development would be deep underground but a number of above ground buildings and roads would need to be developed in order to run the proposed facility. Some of these structures are temporary and will be removed when the cavern development process is complete. We have taken care with the design of these buildings so that, where possible, they reflect the rural character of the area and cause limited environmental and visual impact.

**How Our Proposals Differ to Previous Applications**

The main difference between our current proposals and those submitted previously by Canatxx Gas Storage between 2005 and 2009, is that our gas storage cavern development area has been reduced in size and scale by approximately 50%. The reduction in the gas storage capacity has also reduced the number and size of buildings needed on the surface, as well as the area required to construct and operate the scheme. We have also listened to concerns raised about the location of the above ground infrastructure.

The main above ground buildings needed to operate our Project are:

**Security and Support Facility** – we propose to use existing farmhouse and outbuildings at Higher Lickow Farm, which are currently vacant and provide the ideal location for this facility because they are close to the route of the main access road into the site.

**Booster Pump Station** – this is a relatively small facility made up of a compound and a building of approximately 500 square metres. It incorporates a de-brining facility needed to treat the brine from the cavern washing process before it is pumped under the Wyre Estuary and out to the Irish Sea. The number of booster pumping stations has been reduced compared to the previous Canatxx applications. Our proposals require only one rather than the two included in the Canatxx scheme.

We have also taken the opportunity to re-consider the location and design of the building so that it will fit in better to the surrounding rural environment. We now propose to locate the compound adjacent to the Hackensall Sewage Treatment Works.

* Total cavern capacity would be approximately 900 million cubic metres to give a working capacity of up to approximately 600 million cubic metres. These volumes are stated at standard temperature and pressure.
Wellhead Compounds – during the drilling of the boreholes needed to create caverns on the Preesall site, onsite drilling rigs will be accommodated in wellhead compounds. Once operational they are low structures and we will be able to hide them behind earth mounds and planting.

Gas Compressor Compound – in terms of scale this is the largest compound that will be constructed on the Preesall site. When it is transported natural gas needs to be pressured at certain intervals along the pipeline. This work is carried out in a Gas Compressor Station. In response to feedback to the previous Canatxx applications we reviewed three sites for the relocation of this building from the east to the west bank of the Wyre Estuary. Due to the strict health and safety regulations that apply to a facility of this nature, these sites have been judged unsuitable for development so we consider it is only acceptable for it to be located on the east side. The building will be highly secure, surrounded by robust fencing and CCTV cameras.

Seawater Pump Station – we propose to locate this single-storey facility at the Fish Dock on the west bank of the Wyre Estuary. It will enable us to take seawater from the dock which will be carried to the Preesall site and used in the cavern creation process.

Access Routes
In order to gain access for the construction and operation of the Project, improvements will be required to the road infrastructure in the area. It is proposed that a new road will be built from the A588 to the site, alongside haul roads within the site linking the access road to the main permanent buildings and wellheads.

Construction Programme
Following receipt of all of the necessary consents and licences and the appointment of a contractor, construction of the development will take place in phases. The main buildings and pipelines will be constructed over a three-year period with the cavern creation process taking up to eight years to complete.

Proposed designs: 02. Wellhead Compounds 03. Seawater Pump Station 04. Gas Compressor Compound

halite
energy group

Freepost RSRC-UETY-CHSU
Halite Energy Group
Unit 5, St Georges Court
St Georges Park, Kirkham
Preston PR4 2EF
t: 01772 672 244
e: community@halite.net
www.halite-energy.co.uk

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To view all our consultation documents you can visit our website, or get in touch by phone, email or post
Safety and Risk of Underground Gas Storage

We are committed to developing a safe Underground Natural Gas Storage Facility at Preesall (the Project) and addressing the concerns that have been raised in response to previous applications. Safety is paramount and has been given the highest priority in the development of these new proposals. We have undertaken geological investigations and safety analysis to identify the foreseeable risks and the measures needed to reduce them.

What is Risk Analysis?
Risk analysis is a tool for identifying potential accidental events, working out how likely it is that they would happen and what the results would be if they did occur. Quantitative Risk Analysis allows risks to be measured and compared against defined limits of acceptability. The process also enables design options to be assessed so that the appropriate risk option can be selected. Every stage of the Project, including its design, construction and operation will undergo thorough analysis in safety management and risk control.

A Quantitative Risk Assessment examines all foreseeable risks posed by a project or development and is part of the overall risk analysis.

Quantitative Risk Assessment
We have undertaken a Quantitative Risk Assessment (QRA) for the Project. The key findings of our QRA show that the risk of a fatality to the public from above ground equipment which includes wellhead valves, metering and monitoring instrumentation and interconnecting pipe work, is less than one in 100 million per year, five times less likely than the probability of fatality by lightning strike. The risk of a fatality from below ground infrastructure, which includes the storage caverns and pipelines, is one in 120 million per year.

We have to provide evidence to national bodies, including the Health & Safety Executive – the national independent regulator for work-related health, safety and illness, that:

• all hazards with the potential to cause a significant accident have been identified
• risks have been evaluated and the probability of them occurring has been calculated
• all necessary measures have been taken to reduce the risks so they are as low as reasonably practicable

UK Guidelines and the Health & Safety Executive (HSE)
The UK guidelines around the construction of projects of this nature are stringent. Every aspect of the development is scrutinised by the Health & Safety Executive. It recognises that salt caverns can provide a secure and environmentally sound way to store gas and has laid out robust guidance which covers the safety of gas storage sites.

At all stages in the construction and operation of our Project we will comply with the HSE guidance and the Control of Major Accident Hazards (COMAH) regulations. They are in place to minimise the risk of accidents involving dangerous substances and to limit the impact on people and the environment in the unlikely event that an incident does occur.
Pre-construction Safety Plan
Before beginning work on a gas storage project the HSE and the Environment Agency must assess a pre-construction safety plan. This requires us to demonstrate in detail our response to specific requirements, summarised below:

- **The site must be able to safely store gas at the right pressure** – our rock mechanics experts have undertaken work to show that the site should provide salt that is deep and thick enough for safe and economically viable gas storage

- **Sufficient knowledge about the geological site conditions need to be obtained to determine the geological feasibility of the project through geological and geophysical surveys and drilling operations** – following detailed geological investigations, a 3-D model of the Preesall site’s geology has been produced which has identified two areas suitable for development of safe gas storage caverns

- **The scheme should be designed and operated with safety measures to ensure that its pressure cannot get too high** – the design of the scheme will follow industry best practice and will incorporate safety features that will monitor and control the pressure of the stored gas

- **Design, construction, monitoring and maintenance must be undertaken properly** – we are working to modern gas industry standards and site maintenance will be detailed in a management plan

- **Any old wells or workings on the site must be located and assessed** – we have already identified the locations of abandoned wells which are now surveyed on a regular basis – they will not be used for gas storage

We are absolutely committed to providing a safe and secure project and will work closely with the HSE throughout the construction and ongoing operation of our Project to ensure this happens.
In order to determine the suitability of the salt field at Preesall to store gas in underground caverns extensive tests and surveys have been undertaken.

In particular we have investigated the permeability of the salt field, so that we can be sure gas stored in the caverns that we create cannot escape. Permeability measures the ability of a gas or liquid to travel through a porous material.

How the Tests are Carried Out
The geology of the Preesall salt field consists of deposits of halite (rock salt), with layers of mudstone.

The permeability and other rock properties which are required to design caverns can be measured either from core samples taken from boreholes which are then tested in a specialist laboratory or from tests conducted in the ground. There are some advantages to carrying out laboratory tests as very accurate measurements can be made but the disadvantage is that the sample tested is small and may not be fully representative. In some cases the sample may have been altered by taking it out of the ground.

On the other hand, tests carried out down boreholes test the rock in its natural position and test a much larger area of rock. If fractures and other weaknesses are present these are included in the test results which make the tests in the ground more representative. The disadvantage is that these tests are difficult and time consuming.

To measure the permeability of the rock for the proposed Preesall Project, tests in the ground have been used as they are more reliable. The tests have been carried out in the mudstone above the salt, within the salt beds and also on the mudstone interbeds which occur within the salt formation. A good aspect of salt basin geology is that salt has similar properties over large areas because of the nature in which it is formed, so the tests can be representative of a wide area.

Permeability tests have been carried out over a number of years – in 2004, 2009 and 2011 – resulting in an in-depth bank of knowledge. In 2004 the tests were carried out in the Arm Hill No 1 borehole and in 2009 and 2011 the tests were carried out in the Hay Nook borehole.

The permeability tests detect any drop in pressure which would indicate that water or gas is escaping from the borehole into the rock. The rock permeability can be calculated from the speed with which the pressure drops in the test.
Testing and Permeability

Test Results
The permeability tests have shown that the salt and mudstone rocks have a low permeability. One of the permeability tests carried in 2009 measured permeability for the mudstone over the salt, the salt itself and the mudstone interbeds within the salt separately. All but one of these tests was successful. One test however, gave an unexpected result which was reported as being inconsistent. One interpretation for the inconsistent result was that the salt might allow gas to seep away at lower pressures than expected. It was considered likely that the result still showed the rocks to have a low permeability but it was recommended that the test be repeated to confirm the result.

The test results show that the rock in which the caverns will be constructed is of very low permeability and, in the opinion of one of the most experienced academics in Europe, is suitable for storing natural gas.

In 2011 the test was repeated and the results have shown that the salt does have a very low permeability which means that gas cannot seep out. The latest test was carried out over a much longer period, 50 hours, whereas the 2009 test was only conducted for five hours. The longer test gives a more reliable result.

Conclusion
The permeability test results have been assessed by a number of world experts in this field including Professor Rokahr. Professor Rokahr was present during the latest tests and has reviewed the results of all the tests over the years. He has stated:

“To construct safe caverns in salt formations it is essential that the salt rock surrounding the caverns is of sufficient strength and that the permeability of the salt is so low that the rock is effectively gas-tight. The laboratory tests conducted to date on rock samples from the Preesall salt formation and the additional tests in two boreholes, show without any doubt that the salt rock is adequately strong and that the Preesall salt formation can be classified as gas-tight.

“On the strength of my 30 years’ experience in salt mechanics and salt cavern construction, I can therefore confirm that stable, gas-tight salt caverns can be constructed in the Preesall salt formation for the storage of natural gas.”

Prof. Dr.-Ing. R. B. Rokahr
Over the past decade the UK’s energy market has changed dramatically. There is a growing need for flexibility in our natural gas supplies and, at the same time, traditional sources of flexibility are decreasing. Flexibility means the ability to alter the supply of gas in the system to meet fluctuations in demand. This flexibility allows gas suppliers to match their supply and demand on a daily basis, and in particular, ensure that there is sufficient gas to meet peaks in demand, for example, during the recent winter cold snaps.

Historically flexibility was provided by the ability of production on the UK Continental Shelf (UKCS) to adjust its output up or down at the wellhead. As this production was relatively close to demand, the system would be kept in balance. As UKCS production has decreased considerably over the years, this has meant a fall in the provision of flexibility.

The Need for Flexibility
The decline in UKCS production has meant that the UK is now a major importer of gas, either by pipe or by liquefied natural gas (LNG) which is natural gas that has been converted temporarily to liquid form for the ease of storage or transport. These new sources of production are a considerable distance from the UK and therefore do not bring large degrees of flexibility.

In addition to the above, the UK Government is striving to meet EU targets for renewable energy by 2020, requiring a large programme of offshore wind generation. Due to the intermittency of wind generation, power is only generated around 25% of the time. As a result it is necessary to have flexible, gas fired power generation to fill in when the wind is not blowing. ‘Green Generation’, that is nuclear and renewable generation, is always used first. Flexible gas fired generation needs flexible gas supplies. This new demand for flexible gas requires not only the ability to put gas into the system quickly as the generation powers up but also, just as importantly, absorb gas from the system as the gas fired generation is turned off as the wind generation returns. Natural gas storage is the only source of flexibility that can provide this two-way process of injection and absorption. An illustration of how the system is changing against say four years ago is shown in the chart below, produced by energy consultancy, ‘Poyry’, for a group of energy companies including National Grid and Centrica. The study looked at the impact of intermittent generation to support the increase in renewable energy.
The Need for Natural Gas Storage at Preesall

Flexibility from Natural Gas Storage Facilities
The Health & Safety Executive report of 2008 (RR605) on gas storage states that in the UK underground gas storage is of two main types:

- Depleted oil/gas field storage, pore storage – this is where gas is stored in natural gas/oil fields which have produced all their economically recoverable oil or gas
- Salt cavity storage, man-made void storage – this is where naturally occurring salt deposits, such as those at Preesall, are used to store gas in solution mined voids

Depleted field storage requires considerable pressure and therefore energy to fill. As a result these types of facility tend to be used for what is called ‘seasonal storage’, where gas is injected over a long period of time, typically the summer, and is then supplied to the market in the winter when demand and therefore prices are higher.

Due to geology there are only a small number of depleted onshore gas/oil fields and they tend to be relatively small in size. Offshore, the UK has far more opportunities, however costs of construction, as with anything built offshore, rise considerably.

The opportunity to build salt cavity storage is limited both on and offshore by geology as the UK has only limited salt deposits. Of these deposits the shallower ones, those in Cheshire and Lancashire, benefit over the deeper deposits in that the pressure of the gas they are capable of holding tends to mirror the pressure of the main UK gas transmission system, the NTS. Combine this with the fact that salt caverns are capable of moving large quantities of gas, either in or out, and it is evident that they lend themselves to providing flexibility in an energy efficient manner and thereby considerably improving security of supply to the UK energy market.

Preesall
Preesall as a salt cavern storage facility is therefore ideally suited to provide the flexibility that the UK needs going forward, but it also benefits from its location. Any natural gas system benefits from having gas injected into it around its centre and gas from the proposed Preesall facility would enter the NTS at Nateby. This is around the centre of the UK system and is the main western leg of the NTS that was originally designed to move gas from Scotland to England. It currently has considerable spare capacity, thus reducing the need for significant investment by National Grid in the NTS to accommodate Preesall’s gas flows. This makes it attractive to UK customers by reducing the need to pass on these potential costs to them. In addition, slightly north of the Preesall connection point, there is a new cross country pipe that links the main western leg of the NTS with the eastern leg, thereby extending the influence Preesall storage can bring to the UK gas system.

The proposed Preesall facility will be increasingly important in the provision of electricity if the UK is to meet its climate change targets by 2020.

In Summary
The Preesall gas storage facility is capable of bringing the flexibility that the UK energy system needs to ensure security of supply. It could also assist in contributing to the UK being able to meet its renewable energy targets set for 2020 and beyond.

Halite Energy Group
Unit 5, St Georges Court
St Georges Park, Kirkham
Preston PR4 2EF

t: 01772 672 244
e: community@halite.net
www.halite-energy.co.uk

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Website Screen Grabs

Our Consultation

Our community consultation will run from 4 April to 27 May 2011. We are committed to carrying out an extensive consultation and welcome feedback from local people on our proposals.

Comments made at all stages of the consultation process will be recorded and carefully considered by the Project team. Should other potentially viable options be raised during consultation, we will consider their relative merits and report on them. How feedback has been taken into account will be explained by direct communications, local meetings, media and Project updates.

Ultimately, how comments received have shaped and influenced our proposals will be reported to the Infrastructure Planning Commission in a Consultation Report prepared by us which will be made available. Any comments received may, therefore, be submitted either in part or in their entirety to the Infrastructure Planning Commission, including names and addresses supplied.

For more information click here to read our Statement of Community Consultation.

We are listening - your views count

A message from Keith Bidger, Chief Executive of Hailie Energy. We are very pleased to now be sharing our plans for an Underground Natural Gas Storage Facility with the local community and welcome all feedback on our proposed Project.

“We have carried out extensive geological tests to determine the suitability of the physical site to store new and balance that it facilities.

News

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Public Enquiry New Site on Hailie’s Natural Gas Storage Proposals

The chief executive of the company behind plans for a condensed Underground Nature... 

Hailie Energy Invites Public to Share Views at Series of Public Exhibitions

Hailie Energy, the company behind plans for an Underground Natural Gas Storage..., 

Hailie Energy Group Consultation on Underground Natural Gas Storage Project Commences

Hailie Energy Group is calling for the views of the local community as it unfolds...
Our Project

The proposed Pressal Underground natural Gas Storage Facility will make a significant difference to the UK's gas storage infrastructure, and therefore to the security of future energy sources across the country.

Halite Energy intends to seek permission for a modified scheme through a new application to the Infrastructure Planning Commission (IPC) or the body that replaces it, as required by the Planning Act 2008. This process will entail significant community consultation prior to the ring of the formal application, in accordance with the IPC's guidelines.

Did you know?
The UK currently only has 14 days of gas storage, compared to 100 days in France and Germany.

Environment & Benefits

Stewardship of the site

Halite Energy has made a long-term commitment to being a good steward of the Pressal site.

We have developed and are implementing a new long-term maintenance programme as a responsible owner of the land. This programme includes the ongoing inspection and maintenance of existing cavern walkthroughs and recurring ground level monitoring surveys.

Did you know?
Cold snaps in the UK, such as January 2010 and 2011, are putting increasing pressure on UK gas supplies.
Contents

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2. Introduction from Keith Budinger
3. Background to our proposed Project
4. What we consulted on
7. How we consulted
9. Feedback from the local community
23. Feedback from statutory consultees
35. Changes to the proposed Project as a result of the consultation feedback
36. Next steps
1. Executive summary

1.1 This document provides interim feedback to the local community on the consultation process that commenced on 4 April 2011 in advance of the publication of a detailed consultation report later this year. The consultation report will be submitted to the Infrastructure Planning Commission (IPC) as part of the proposed application for a Development Consent Order (DCO) for an Underground Natural Gas Storage Facility at Preesall, Lancashire (the Project).

1.2 This document reports on the way in which Halite conducted its consultation with the local community and statutory consultees and outlines the responses received during the consultation period.

1.3 It explains the changes that Halite has made to the proposed Project as a result of the feedback received. This report is a non-statutory document and includes responses received up until 31 July 2011. Any further consultation responses or comments received after this date will also be taken into account in our shaping of the Project.

1.4 The formal consultation period took place in April and May 2011, although consultation activities have extended beyond this period. Our consultation programme included the publication of consultation documents, including non-technical summaries of key technical reports, a series of public exhibitions, the launch of a consultation website, meetings with local groups and organisations and the setting up of a Community Liaison Panel.

1.5 The key changes and additional work being undertaken to address consultation responses received includes:

- Moving of wellhead compound no 3
- Changing the external appearance of the Seawater Pump Station
- Redesigning the Gas Metering Station
- Increase in the height of the bund screening the Gas Compressor Compound
- Ongoing consultation with Lancashire Resilience Forum in relation to the addition of an emergency access route
- Undertaking a further seismic assessment in response to concerns around earthquakes
- Producing a community investment programme of activities in conjunction with local people

1.6 More detailed information on the consultation programme undertaken will be included in our consultation report which it is currently intended will be available to the local community and all consultees later this year.
2. Introduction from Keith Budinger

This Report provides interim feedback on the recent consultation exercise relating to our proposals for an Underground Natural Gas Storage (UGS) Facility in Preesall (the Project).

We are confident that a UGS Facility can be constructed and operated safely at Preesall and our team has undertaken extensive work on all aspects of our Project to develop proposals for a new, condensed facility.

Under the Planning Act 2008, our Project is defined as nationally significant, for which a Development Consent Order (DCO) is required. We are therefore preparing an application for a DCO which we intend to submit to the Infrastructure Planning Commission (IPC) later this year.

A crucial part of our application is a thorough and effective consultation with the local community, so that our plans are well understood, enabling local people and statutory consultees to make informed feedback on our proposals.

This consultation commenced in April 2011 and we very much appreciate the time people have taken to meet with our team and share their views and opinions with us. This feedback will help us shape our proposal prior to submission to the IPC. Any further comments on the Project received from consultees who we are still consulting with after the date of this feedback report will also be considered and taken into account in the shaping of our Project.

This Feedback Report provides an overview of the key issues, concerns and suggestions that have been put forward to us during the consultation. It also outlines our responses to those views and describes the resulting changes that have been made to our plans. This document is non-statutory and precedes the more detailed statutory Consultation Report which will be published later this year and will form an important part of our application to the IPC.

Throughout the consultation we have stressed that we are listening to the community’s opinions and concerns and we hope that you will see as a result of reading this Report that your views really are important to us.
3. Background to our proposed Project

3.1 We are proposing to create a UGS Facility in the salt body at Presall.

3.2 Up to 19 caverns would be designed and constructed, deep underground and used for the storage of up to 900 million cubic metres of natural gas, to give a working capacity of up to 600 million cubic metres. Gas distribution pipelines and manifolds connecting the wellheads and a pipeline that links the Gas Compressor Compound to the National Transmission System (NTS) at Nateby would also be constructed.

3.3 This is significantly less gas storage capacity than previous proposals promoted by Canatxx Gas Storage Limited (CGSL) between 2005 and 2009.

3.4 The Project also requires a number of buildings to be built above ground:

- Security and Support Facility
- Booster Pump Station
- Wellhead Compounds
- Gas Compressor Compound
- Seawater Pump Station
- Metering Station

3.5 Improvements to the road infrastructure in the area would also be required – a new road is proposed from the A588 to the site, as well as tracks linking the access road to the main buildings and wellheads.

3.6 A brine discharge pipeline extending into the Irish Sea from Fleetwood and electricity cables would also be required.

3.7 The main buildings and pipelines would be constructed over a three-year period, with the cavern creation process taking up to eight years to complete.
4. What we consulted on

4.1 There has been a long history of unsuccessful planning applications made by CGSL for a UGS Facility at Preesall. This planning history was considered carefully by Halite in progressing its design for the new proposed Project which was consulted on. The starting point was a review of the Secretary of State and Inspector’s issues and decision to dismiss CGSL’s appeal against non-determination in 2007 and also the refusal by Lancashire County Council (LCC) of CGSL’s most recent planning application early in 2010. The issues raised by the Secretary of State included:

- Lack of robust geological modelling
- Inadequate understanding of the risk of the implications of a failure in the scheme and the impact on the amenity of residents
- Visual impact of the build environment on the open countryside
- Proposed means of access
- Uncertainty regarding noise impact

4.2 The reasons for refusal stated by LCC for the most recent planning application included:

- Geology, with particular reference to:
  - Capability to accommodate development
  - Proximity of infrastructure to old workings
  - Migration of gas
- Visual impact and landscape
- Safety and security
- Perceived fear

4.3 How Halite responded to the previous CGSL applications

Geology is a most important issue as both the Secretary of State and LCC considered that the geological assessments that had been submitted with past planning applications were insufficient. Concerns about the safety of the proposals led to the local community raising issues of fear.

4.3.1 Having regard to the reasons why the two previous CGSL planning applications were not approved, Halite appointed the British Geological Survey, Dr Everett Rutherford of the University of Tennessee and international engineering and development consulting firm, Mott MacDonald to review the geological information and undertake a critical review of the previous planning submissions. A significant amount of geological work has been undertaken and a Geological Summary Report has been produced reviewing the sources of the base data, details of the salt presence, its quality and potential hazards. This assessment led to the development of ‘hazard exclusion zones’ where, based on available data, the risks of cavern construction were considered too high. Two polygon shaped areas were identified where the development of the caverns could take place. These two areas are significantly smaller than the areas contemplated by CGSL for its cavern creation in earlier planning applications and, as a result, the revised Halite proposals include fewer caverns and a smaller gas storage capacity (see diagram opposite). The Geological Summary Report was available as part of the consultation exercise.
Below ground caverns

4.3.2 Visual and landscape impact has also been a concern on the East Bank of the Wyre Estuary as the development of the Gas Compressor Compound (GCC), in particular, is stated to be of an industrial nature which is out of character with the predominantly rural character of the area. A Surface Infrastructure: Alternative Site Assessment has been undertaken that examines the feasibility of re-locating the plant and buildings to the West Bank of the Wyre Estuary. The Assessment concludes that, whilst physically there are alternative sites available for the GCC on the West Bank, the health and safety assessment shows that none of the locations are suitable. The GCC has, however, been re-located to the northern part of the Preesall site and sited in the lee of a hill. Additional earth mounding and landscaping is proposed to assist in assimilating the development into the landscape. The Surface Infrastructure: Alternative Sites Assessment Report was available as part of the consultation exercise.

4.3.3 The reduction in size of the gas storage capacity has meant that the amount of surface infrastructure on the East Bank can be reduced and made more compact. Development is proposed to be concentrated in the northern part of the site and, compared with the last CGSL scheme, a Booster Pump Station, the Warehouse and separate Control Building are no longer required.

4.3.4 Those parts of the previous CGSL proposals associated with the brine pipeline route, the sea water pumphouse and the gas interconnector which were deemed acceptable by the Local Planning Authorities (LPAs) have been retained in the Halite scheme.
4.3.5 The additional geological work that has been undertaken should assist in understanding the issues of safety, security and perceived fear. Notwithstanding this fact, Halite has carried out a Quantitative Risk Assessment (QRA) setting out the level of risk and demonstrating that all material impacts or other factors that lead to loss or damage to amenity which would adversely affect people, can be eliminated or reduced to acceptable levels. The Preliminary Quantitative Risk Assessment Report was available as part of the consultation exercise.

4.3.6 In order to provide an overview of the planning and environmental issues, a Preliminary Planning and Sustainability Assessment, a Preliminary Design Statement and a Preliminary Environmental Information Report were also made available as part of the consultation exercise. These reports and the due diligence exercise influenced the layout and siting of the proposals as set out on the indicative masterplan and drawings. The design was deliberately ‘indicative’ to allow for changes to be made as a consequence of the feedback from the statutory consultees and the local community.

4.4 The Preliminary Environmental Information Report (available during the consultation) sets out detail on alternatives we have considered on issues which include:

- Cavern wellhead locations
- Siting of booster pump station
- Siting of the NTS pipeline to Nateby
- Route of the electricity pipeline to the Stanah Switchyard
- Brine discharge and works to the seawall pipeline crossing at Fleetwood

All of the consultation documents referred to above remain available on Halite’s website at www.halite-energy.co.uk
5. How we consulted

5.1 Our approach to community consultation was outlined in our Statement of Community Consultation (SOCC) which was submitted in draft format to the Local Planning Authorities (LPAs), Lancashire County Council and Wyre Borough Council in October 2010.

5.2 Feedback from the LPAs was incorporated into our final SOCC which was published in April 2011, along with all our consultation documents. The SOCC outlined the extent of our consultation zone which incorporated the area surrounding the cavern development area and extended to the coastline at Knott End at its northern boundary and encompassed the village of Hambleton in the south. It also included the area affected by the development of the brine discharge pipeline corridor and the area affected by the NTS interconnector pipeline.

5.3 We are committed to consulting with the local community in its broadest sense and also consulted with parish councils within the vicinity of the Project, local area forums and community groups with an interest in the Project, including the Wyre Community Group and Protect Wyre Group. We also consulted with statutory consultees including local authorities, technical bodies such as the Health & Safety Executive, Natural England and the Environment Agency as well as all those with an interest in land that may be affected by the proposed Project.

5.4 Launched on 4 April 2011, the formal consultation incorporated a wide range of activity summarised as:

- Website – the Halite website was launched in July 2010 and has been constantly updated during our consultation period. The full range of consultation documents has been available to download from the site since 4 April 2011 along with the opportunity to post questions through an interactive forum

- Consultation documents and information – these were available from 4 April 2011 in a wide range of locations including local libraries, Lancashire County Council, Wyre Borough Council, two of the exhibition venues and Halite’s own offices

- Project information – we recognise that the nature of our consultation documents means that much of the information is of a technical nature. We therefore produced a Project Overview and project information sheets written in non-technical language on all aspects of the Project. Non-technical summaries of key technical documents were also produced

- Project documentary – we produced a short film to highlight key elements of the Project in a visual, easy-to-understand format. This was also available on the website

- Questionnaire – we produced a questionnaire to enable the local community to feedback their comments to us easily. This was available at the exhibitions, at the host venues for the consultation documents and from our website. 84 questionnaires have been returned to Halite for consideration

- Appointment of a Community Liaison Coordinator to act as a conduit between the local community and Halite. During the consultation period she held a series of nine drop-in events in local church halls, village halls and other local venues

- Public exhibitions – we held a series of six public exhibitions during May 2011, attended by 359 people

- The public exhibitions were promoted through a range of channels including advertising in local newspapers, on the local radio station (Radio Wave) and by circulating approximately 14,000 postcards to households across the consultation zone. We also circulated posters to local libraries, shops and community centres
- Attendance and presentations at Local Area Forum meetings (Rural West, Fleetwood, Poulton, Thornton and Cleveleys)
- Setting up a Community Liaison Panel, led by an independent facilitator, to act as a platform for discussion between Halite and the local community. Meetings have taken place during the consultation period and will continue throughout the application process.
- Tenants’ group – we have liaised with tenant farmers living adjacent to the cavern development area on a regular basis to update them on our proposed Project.
- Meetings with a number of key stakeholders including Lancashire County Council, Wyre Borough Council, local MPs and Wyre Community Group were held to discuss the consultation proposals.

Consultation zone for Preesall gas storage development
6. Feedback from the local community

6.1 Means of feedback

<table>
<thead>
<tr>
<th>Method</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire</td>
<td>84</td>
</tr>
<tr>
<td>Letters/emails</td>
<td>41</td>
</tr>
</tbody>
</table>

6.2 Within the questionnaire respondents could tick multiple options within each question. The responses are summarised in the following diagrams.

In relation to the consultation process:

**Why did you pick up this questionnaire?**

The chart shows that the majority of respondents returned the questionnaire as a result of attending one of the public exhibitions (72.2%), followed by 15.2% who collected the questionnaire from their local library where the consultation documents were hosted.

**Which consultation documents have you examined before completing this questionnaire?**

A wide range of materials were viewed by the local community, with almost 80% of people reading the Project Overview brochure and 44.4% reading the project information sheets which were non-technical summaries of each aspect of the Project, including safety, geology and the environment.

**If you attended a public exhibition, please tell us which**

This chart shows that the highest number of questionnaires was returned from people that attended the public exhibition in Knott End. This correlates with the number of people attending each exhibition as follows:

- Stalmine Village Hall: 66
- St Oswald’s Church, Knott End: 103
- Pilling Memorial Hall: 99
- North Euston Hotel, Fleetwood: 32
- Thornton Little Theatre: 59
How did you find out about the exhibition?

The exhibitions were promoted in a number of ways to ensure that the community had every chance to find out about the events and attend if they wished to do so. The feedback shows that the newspaper advertising and mail drop to people’s homes were most successful in promoting the exhibitions.

Has the information available to you provided clear and helpful explanations on: (please score 1-5 where 1 is helpful and 5 is very unhelpful)

Have you attended previous consultation events/reviewed previous application documents about a gas storage facility at Preesall promoted by Canatxx?

Almost two-thirds of respondents (62.5%) had previously attended an event or reviewed information regarding the Project, with 37.5% never having engaged with the Project before.
Having considered the information available to you today, would you say you have a good understanding of the scope of the proposed gas storage scheme?

Based on the respondents’ feedback almost three-quarters said they felt they now had a good understanding of the proposed Project (73.6%), with 22.2% still saying they only had limited knowledge.

How well do you think Halite has listened to the feedback received to previous plans by Canatxx?

Whilst almost 40% of respondents said that they could see that Halite had listened to the feedback received in previous applications by Canatxx, 47.9% said they could not see any changes to the previous scheme.

If the Project was to go ahead, which of the statements below are most important to you?

The local community is clear that it wishes to be kept ahead of developments in the proposed Project, with 45.6% saying that they would like Halite to keep in touch with them during the application process and beyond should the Project go ahead. 35.3% of respondents believe that Halite should place a strong emphasis on the local environment and ecology should the Project get permission.
### 6.3 Comments from questionnaires and other correspondence (letters /emails /phone calls /website)

#### 6.3.1 In summary the key issues/comments raised by local people were:

<table>
<thead>
<tr>
<th>Issue</th>
<th>Number of people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>51</td>
</tr>
<tr>
<td>Do not want the Project (no specific reason given)</td>
<td>33</td>
</tr>
<tr>
<td>Geology</td>
<td>18</td>
</tr>
<tr>
<td>Environment</td>
<td>10</td>
</tr>
<tr>
<td>No need for Project (in this location)</td>
<td>10</td>
</tr>
<tr>
<td>Traffic</td>
<td>9</td>
</tr>
<tr>
<td>Impact on housing prices and/or insurance costs</td>
<td>8</td>
</tr>
<tr>
<td>Scheme is unsuitable for area</td>
<td>7</td>
</tr>
<tr>
<td>Community benefits</td>
<td>6</td>
</tr>
<tr>
<td>Concerns about impact of above ground infrastructure</td>
<td>5</td>
</tr>
<tr>
<td>Supportive of scheme</td>
<td>5</td>
</tr>
<tr>
<td>My concerns were fully answered</td>
<td>5</td>
</tr>
<tr>
<td>Local job opportunities</td>
<td>3</td>
</tr>
<tr>
<td>Concerns about scale of Project</td>
<td>2</td>
</tr>
</tbody>
</table>

#### 6.3.2 In terms of the geographical spread of the comments received this is summarised as*:

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleetwood</td>
<td>26</td>
</tr>
<tr>
<td>Preesall</td>
<td>23</td>
</tr>
<tr>
<td>Thornton Cleveleys/Little Thornton</td>
<td>20</td>
</tr>
<tr>
<td>Knott End</td>
<td>20</td>
</tr>
<tr>
<td>Poulton-le-Fylde</td>
<td>6</td>
</tr>
<tr>
<td>Pilling</td>
<td>6</td>
</tr>
<tr>
<td>Stalmine with Staynall</td>
<td>5</td>
</tr>
<tr>
<td>Hambleton</td>
<td>3</td>
</tr>
<tr>
<td>Garstang</td>
<td>2</td>
</tr>
</tbody>
</table>

* Some consultees chose to respond anonymously therefore we do not have their address details.
6.4 More specific questions and concerns raised during consultation with the local community were:

<table>
<thead>
<tr>
<th>Issue</th>
<th>Feedback</th>
<th>Our response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>We’re still not convinced that the project is safe</td>
<td>Safety is paramount to Halite and we have undertaken extensive and detailed work to ensure our Project is safe. Our Preliminary Quantitative Risk Assessment highlights that the risk of fatality from our Project is less than one in 100 million per year. Every aspect of the construction and operation of our Project would comply with strict Health &amp; Safety Executive (HSE) guidance.</td>
</tr>
<tr>
<td>If there was an incident how would the roads cope with large-scale evacuation?</td>
<td></td>
<td>Our Quantitative Risk Assessment is a highly specific and detailed report which highlights that there is no risk of gas leaking from caverns into the outlying villages, so there would be no need for large-scale evacuation from our Project. In the event that a surface incident should occur, the Quantitative Risk Assessment has shown that Cote Walls Farm is the only existing property that would be affected.</td>
</tr>
<tr>
<td>How will you safeguard against a terrorist attack?</td>
<td></td>
<td>We have taken the advice of security consultants who state that there is a low risk of terrorism associated with this Project. However, we would ensure that our facility was secure – all areas would be fenced off, infra red cameras and motion monitors would be installed and the site would be manned 24/7. We would comply with all national requirements regarding safety around terrorism attacks.</td>
</tr>
<tr>
<td>This project does not meet UK standards regarding safety</td>
<td></td>
<td>The UK guidelines around the construction of projects of this nature are stringent. At all stages of construction and operation we will comply with HSE guidance and the Control of Major Accident Hazards (COMAH) regulations.</td>
</tr>
<tr>
<td>Issue</td>
<td>Feedback</td>
<td>Our response</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Safety</td>
<td>How can it be safe to store gas in caverns that have been there for decades?</td>
<td>We will create purpose-built caverns in areas of the salt that have been left untouched by previous brine mining in the Preesall area. The storage of gas in specially created salt caverns is a mature industry, with the first underground facilities becoming operational in the early 1950s.</td>
</tr>
<tr>
<td>Do you have a coordinated plan with emergency services if there was an incident?</td>
<td>We have held a number of meetings with the emergency services. In consultation with the Lancashire Resilience Forum we are adding an emergency access route to the proposed Project.</td>
<td></td>
</tr>
<tr>
<td>There has been no mention of 24 hour fire/gas safety monitoring at any time</td>
<td>There will be fire and gas detection at the wellhead compounds and the Gas Compressor Compound.</td>
<td></td>
</tr>
<tr>
<td>I am still concerned about safety and discharge close to shore. What happens after caverns are complete? Will the pumping stop?</td>
<td>When the caverns are complete, washing will stop but the infrastructure remains in place for maintenance. The discharge is limited in volume and brine concentration as we will not be washing salt during this period.</td>
<td></td>
</tr>
<tr>
<td>There is insufficient information about the pressure monitoring – the report states it will be complete in the design stage – after approval. This needs completing before approval</td>
<td>Pressure monitoring can finally be determined at the detailed design stage and is not necessary at this time. We will design, construct and operate the Project in line with HSE guidance and the Control of Major Accident Hazards (COMAH) regulations.</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Feedback</td>
<td>Our response</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Geology</td>
<td>The area has been subject to earthquakes and tremors recently – it’s clearly not suitable for creating caverns to store gas</td>
<td>The recent earthquakes in Poulton and Blackpool were within a typical magnitude and frequency expected in the area and would not have an impact at the depths at which we would be developing caverns. Nevertheless, whilst it is not a requirement at this time, we have engaged a further seismic assessment in order to reassure the community that the caverns and the above ground infrastructure can be designed in order to meet the required standard</td>
</tr>
<tr>
<td></td>
<td>The area is littered with faults and historical workings, how can this possibly be safe?</td>
<td>The extensive work that has been undertaken has enabled us to identify suitable areas for underground gas storage in the Preesall salt. These include two zones, or specific areas, on which our proposed Project has been developed, away from existing caverns, historical workings and faults</td>
</tr>
<tr>
<td></td>
<td>The suitability of geology is not proven 100%. There are too many assumptions and guesswork in geology</td>
<td>In all projects of this kind the interpretation of the geology relies on interpolation between survey points. Should permission be granted the presence and quality of the salt at each proposed cavern location would have to be demonstrated to the satisfaction of the regulatory authorities</td>
</tr>
<tr>
<td></td>
<td>More boreholes and clear evidence are needed to establish safe areas and faults</td>
<td>Our recent geological investigations demonstrate the suitability of the proposed areas of the Preesall salt field for gas storage. Should authorisation be granted for the Project, further boreholes would be drilled. No cavern will be allowed to be operated until stringent acceptance criteria have been demonstrated to the regulatory authorities</td>
</tr>
<tr>
<td></td>
<td>Directional and long drills are vulnerable</td>
<td>Directional drilling has advanced significantly in recent years. The lengths and depths proposed are relatively modest compared to many production scenarios</td>
</tr>
<tr>
<td>Issue</td>
<td>Feedback</td>
<td>Our response</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Geology</td>
<td>In respect to geology it is almost impossible for a lay person to appreciate the implications and detail</td>
<td>Inevitably the geology involves technical detail. The primary objective is to demonstrate the principles of the scheme to the technical specialists who represent the planning authorities and regulators who will expect to see a technical explanation. We have prepared non technical summaries which try to explain the principal issues in non technical terms.</td>
</tr>
<tr>
<td></td>
<td>The positions of the caverns, which are now condensed to the north, will leave some residents within 1km of the caverns. I suggest moving the caverns to the south by 1km</td>
<td>The proposed caverns are located within zones (polygons) which take account of the natural and man made hazards. Moving the caverns to the south would impinge within the known hazard zones.</td>
</tr>
<tr>
<td>Traffic</td>
<td>The existing road infrastructure is not suitable for a development on this scale. The development would cause large scale disruption in the local area</td>
<td>The impact of traffic as a result of our Project, including noise and pollution, has been examined in our Preliminary Environmental Information. Adherence to Travel Plans (restricting construction traffic at peak times such as rush hour and the school run) will reduce traffic volumes. During the construction phase a range of additional measures would be put in place including an HGV routing strategy which would seek to avoid areas of highest pedestrian and cycling activity and existing settlements where possible. The Environmental Impact Assessment, which will be submitted as part of our application to the IPC, will contain full details of traffic management plans.</td>
</tr>
<tr>
<td>Issue</td>
<td>Feedback</td>
<td>Our response</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Environment</td>
<td>We’re concerned that the development will harm the existing wildlife and landscape</td>
<td>We are committed to limiting the impact of our proposed Project on the existing wildlife and landscape. The Project would not directly affect any European or nationally designated protection sites and any direct impacts are unlikely to be significant. An Ecological and Landscape Management Plan will set out the opportunities for us to improve the existing biodiversity of the site. Enhancements to ponds and habitat creation, food supply through selection and planting of the right species and ditch improvements will help improve conditions for native wildlife. We are carrying out a full Environmental Impact Assessment to ensure that we identify the potential for positive and negative effects of our Project. The findings of this assessment will be documented in an Environmental Statement. The Environmental Statement will be independent and is being prepared in consultation with a range of bodies including Lancashire County Council, Wyre Borough Council, the Environment Agency, the Royal Society for the Protection of Birds and Natural England. We will also be producing an Ecological and Landscape Management Plan for the Preesall area.</td>
</tr>
<tr>
<td></td>
<td>The construction period is too long and will bring wide-scale disruption and noise to the area</td>
<td>The majority of the Project construction will be of fairly short duration. The main construction area, where work will be carried out for a longer period is fairly self-contained and remote from residential areas. A Construction Environmental Management Plan will be produced to ensure that working practices are adopted to minimise any such disruption to the local and wider community. For the construction phase this Plan would include methods of limiting emissions, routing of traffic, training of the workforce and adherence to commitments made in the Environmental Statement.</td>
</tr>
</tbody>
</table>
### Issue

**Environment**

Could you provide a footpath from The Heads to Hackensall treatment centre? This would open up the route from Hambleton to Knott End and beyond to Pilling for the use of cycles and wheelchairs

The Wyre Way exists between The Heads and Hackensall and this is an established rambler’s route across the Wyre Estuary. If there was a weight of opinion in support of a more conventional footpath we would consider this.

Please maintain the footpaths, bridleways and cycle ways during the project

We will maintain footpaths, bridleways and cycle ways during construction. There will be temporary diversions in place when required. Paths will be fully available during the operational life of the facility.

Negative impact to the equestrian community could be mitigated if Halite opened up new bridleways

We are open to suggestions that enhance the environment and improve public access, subject to compliance with health and safety recommendations.

Can you remove the old unsightly ICI mine signs?

We have taken this comment on board and are currently removing the old signage.

---

**Need for gas storage**

There’s no need for a project like this

The UK is now a major importer of gas. There is a growing need for flexibility in our natural gas supplies, particularly in cold snaps such as those experienced in recent winters. The UK has only 15 days of gas stored compared to around 100 in France and Germany, which puts pressure on supply in periods of peak demand.

In addition, gas will play a crucial role as the UK increases its dependency on renewable energy as wind and solar energy are intermittent and unreliable. The proposed facility at Preesall would increase the UK’s storage capacity by 20%, equating to three days’ storage.

The need for nationally significant projects of the kind we are proposing at Preesall is recognised by the Government in the designated National Policy Statements EN-1 and EN-4.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Feedback</th>
<th>Our response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for gas storage</td>
<td>Why can’t you go offshore?</td>
<td>Flexibility of supply is critical to the future of UK gas supplies. Gas stored in offshore facilities is not as accessible as that stored at projects such as Preesall, meaning that it cannot be accessed quickly in times of peak demand. The unique salt deposits at Preesall offer the opportunity to strengthen the security of the UK’s energy supplies and importantly, offer flexible, fast cycle storage. Gas will play a crucial role as the UK increases its dependency on renewable energy. Natural gas stored at Preesall would be fed quickly into the NTS – the NTS is the UK-wide network of large pipelines that supplies gas to power stations and homes and is at Nateby, 12 km to the east of the Preesall site.</td>
</tr>
<tr>
<td>Brine discharge</td>
<td>Concerns around impact of brine discharge at Fleetwood</td>
<td>Discharging brine waste water into the sea is a common practice. The Environment Agency has already granted a consent to discharge the brine that will be generated by the creation and monitoring of the caverns at Preesall. We will carefully follow the required guidelines and regulations to minimise the impact of this activity on the marine environment.</td>
</tr>
<tr>
<td></td>
<td>Is there a possibility to capture and then re-use some of the salt from the brine used in the cavern washing process?</td>
<td>The re-use of brine has been investigated and found not to be viable due to the large quantities involved.</td>
</tr>
<tr>
<td></td>
<td>Will brine discharge be limited on a daily basis so that the sea quality in the outfall is not compromised?</td>
<td>The brine discharge will be limited to 80 mega litres per day in accordance with the Environment Agency discharge consent. This will limit the impact on the seawater.</td>
</tr>
<tr>
<td>Issue</td>
<td>Feedback</td>
<td>Our response</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Brine discharge</td>
<td>Could the brine discharge be re-routed so it does not have to come across country to Rossall Point having to cross main roads?</td>
<td>The brine has to be discharged into the Irish Sea to avoid the sensitive ecology areas of the Wyre Estuary and Morecambe Bay. In crossing the Fleetwood Peninsula, the brine discharge pipeline will use trenchless technology beneath Fleetwood Road, Amounderness Way and Broadway to minimise disruption to traffic flows.</td>
</tr>
<tr>
<td>Company</td>
<td>Halite is just Canatxx under another name</td>
<td>This is not the case. Halite is under new leadership, new management and a new approach. This team is led by chief executive Keith Budinger and chairman Dr John Roberts CBE, both UK based and with vast experience of the energy sector. Certain members of the previous Canatxx team have been retained by Halite as they have specialist knowledge of the Project</td>
</tr>
<tr>
<td>Previous refusals</td>
<td>The project has been refused three times before. Thousands of people have objected – we just don’t want it. What is different about the Halite application from that of Canatxx that would warrant a successful outcome on this occasion?</td>
<td>We have reviewed the feedback from previous applications and this new proposal for a condensed project has taken into account many of the concerns raised previously.</td>
</tr>
<tr>
<td>Impact on housing prices</td>
<td>If it went ahead the project would have a negative effect on property prices</td>
<td>We have consulted with a member of the Royal Institution of Chartered Surveyors who practices in Hornsea, North Yorkshire which has had an underground gas storage facility nearby for 30 years. He says: “Over the years I have dealt with many properties in the village and have never found the proximity of the gas storage caverns to be a problem. I can see no reason why the proposed development at Preesall should have any real effect on the value of properties in the surrounding area.”</td>
</tr>
</tbody>
</table>
Will Halite pay any increased insurance premiums which might result to householders?

The British Association of Insurers has stated: “The existence or otherwise of a gas storage facility in the locality would not be taken into account by household insurers when deciding whether to offer to customers and what terms, conditions and premiums they would charge. Experience to date in the UK suggests that underground gas storage facilities do not generate household insurance claims.”

Will a fair price be paid to those landowners facing compulsory purchase?

Every effort will be made by Halite to reach agreement with landowners. Halite has appointed a land agent to progress negotiations and we will ensure that compensation paid would be fair and reasonable.

What’s in it for the local community?

200-300 jobs would be created during the construction phase of this development, with a further 35-40 jobs once operational. The Project would bring wider economic benefits to local businesses, such as hotels, bars, shops and restaurants.

As a responsible business, and in response to feedback from the community, we will develop a community investment programme of activities in conjunction with local people. Our approach will be broad, innovative and meaningful, investing in employment, the environment and the local community. We will start providing jobs for local people and managing our supply chain in a way that makes best use of local resources.

We will engage with environmental partners, and use our community tenants’ expertise to examine how we can make improvements to the land, flora and fauna under our stewardship. Our programme will adopt internationally recognised standards and be fully transparent, measured and reported.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Feedback</th>
<th>Our response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future development</td>
<td>How can you guarantee that this project won’t escalate once you’ve got planning permission?</td>
<td>Our focus is on our current proposed application which is based on the indicative Project that we have consulted on. Any future development would have to be subject to further applications.</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>I don’t believe any of the consultation material – it’s all one sided</td>
<td>The consultation material has been developed by a team of experts in the fields of geology, environment, planning and safety. All the documentation has been scrutinised by a wide range of statutory consultees, such as the Environment Agency, Lancashire County Council and the Health &amp; Safety Executive. It is therefore imperative that all the technical reports are accurate. We have taken into account comments from all consultees in relation to our materials.</td>
</tr>
<tr>
<td></td>
<td>I do not consider it to be right to return the questionnaire to Halite. It’s like giving the defence the prosecutor’s files in a court of law</td>
<td>Consultation with the local community is an integral part of the IPC application process. This requires Halite to listen to the views of the community and where possible incorporate changes into our proposed Project. During this consultation we have listened to many views from local people and we hope that we have demonstrated that feedback received has been listened to and acted on.</td>
</tr>
<tr>
<td></td>
<td>Why don’t you hold a community meeting like Canatxx did?</td>
<td>During the consultation the local community had a number of opportunities to meet with our team and put their views forward. This has included six public exhibitions. Also the Halite team has attended five Local Area Forum meetings where the local community had the opportunity to hear presentations from Halite and ask questions in an open forum.</td>
</tr>
</tbody>
</table>
7. Feedback from statutory consultees

7.1 We have also consulted with a wide range of statutory consultees. A full list of these organisations is included in our SOCC, but broadly includes local authorities, parish councils, landowners potentially affected by the Project and a range of statutory bodies such as the Environment Agency, emergency services and Health & Safety Executive.

7.2 Feedback to the consultation received from each consultee is listed below along with Halite’s response.

<table>
<thead>
<tr>
<th>Name of consultee</th>
<th>Summary of comments</th>
<th>Our response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lancashire County Council (preliminary response)</td>
<td>Informal advice provided on ecology, archaeology, landscape and highway matters that should be addressed as part of the Environmental Impact Assessment</td>
<td>Noted and Halite confirms that the identified matters will be dealt with in the Environmental Impact Assessment</td>
</tr>
<tr>
<td>Wyre Borough Council (preliminary response)</td>
<td>Request more detailed assessment of Planning Policies, particularly in relation to those relating to the environment</td>
<td>Halite is preparing a Statement of Common Ground (SOCG) with the local planning authorities on planning policy. Regard will be had to the contents of the Environmental Impact Assessment when assessing the planning and environmental policies</td>
</tr>
<tr>
<td></td>
<td>Brine pipeline may affect the track of the former Poulton to Fleetwood Railway which the Council is considering re-introducing</td>
<td>Halite has consulted the Railway Society to ensure that the brine pipeline does not affect the future construction of the rail line</td>
</tr>
<tr>
<td></td>
<td>The external appearance of the Seawater Pumping Station is too “industrial” for the mixed use site and is not appropriate</td>
<td>Halite to redesign building to be of a “domestic” character</td>
</tr>
<tr>
<td></td>
<td>Design of Gas Metering Station follows the design of the previous Canatxx Scheme and is not appropriate</td>
<td>Halite to redesign building to reflect the character of the location</td>
</tr>
</tbody>
</table>
### Plan of the Seawater Pumping Station

Plan of the Seawater Pumping Station needs to be updated to have regard to the permitted housing development that is currently under construction adjacent to the site.

Permitted development plans on adjoining land to be added to the OS Base Plan.

### Brine Pipeline

Brine Pipeline may affect bridleway and Biological Heritage Site.

A temporary diversion is proposed behind United Utilities’ Fleetwood Treatment Works. The brine pipeline running along the old branch railway line from the Treatment Works is now a designated Biological Heritage Site and procedures will be agreed with LCC and WBC to minimise impact upon the area.

### Temporary Construction Compound

Temporary Construction Compound may interfere with proposals to extend the footpath link at the UU Facility and Jameson Road.

Halite has confirmed that the Temporary Construction Compound will not impact on the plans for the extended footpath link.

### Further Details

Further details are required of the landscaping around the Booster Pumping Station and Gas Compressor Compound.

Halite has agreed to prepare an Ecological and Landscape Management Plan in consultation with the LPAs and nature conservation groups to ensure the long term landscaping of the Preesall site.

### Development Impact

Development will affect various areas protected for the nature conservation importance and a plan showing all sites in the locality should be provided.

The Environmental Impact Assessment will provide a plan showing all nature conservation sites and the impact of the proposals on them. This will include a plan showing all statutory and non-statutory nature conservation sites within the application site boundary and adjacent areas.
### Name of consultee | Summary of comments | Our response
--- | --- | ---
Wigan Council | Confirmed no comments | No action required
West Lancashire Borough Council | Confirmed no comments | No action required
Bolton Council | Confirmed no comments | No action required
Sefton Council | Confirmed no comments | No action required
Craven District Council | No objection | No action required
Cumbria County Council | Confirmed no comments | No action required
Hyndburn Borough Council | Oppose the development on the basis that the proposals have already been refused by the Secretary of State and that there is significant local opposition to the proposals | Each application needs to be determined on its own merits. In designing the new proposals Halite has reviewed the issues raised by previous applications. The new proposals are different to those previously refused in that they are smaller and more compact. They also involve a reduction in the number of caverns to be constructed, the amount of gas to be stored and the amount of above ground infrastructure
Preston City Council | Confirmed no comments | No action required
North Yorkshire County Council | Confirmed no comments | No action required
Fleetwood Town Council | Raised concerns about the consultation material and consultation process, geology, brine wells, emergency surveys, evacuation and potential impact on the development of a Barrage across the Wyre | A significant range of consultation material has been provided including full scheme drawings, Preliminary Environmental Information, Planning and Sustainability Statement, Design Statement and a range of technical reports covering such matters as geology and drilling. The consultation process was agreed with the LPA in the published Statement of Community Consultation. The Geology Summary Report provides details of the geology of the area and confirms that gas storage caverns can be safely constructed at Preesall. The new caverns are not located close to existing brine wells nor is it the intention to use existing caverns for the storage of gas. Halite is investigating the possible route of an emergency access. Finally, there are no detailed proposals for a Barrage across the Wyre and until such a scheme is promoted it is difficult to ascertain the impact of the Halite proposals on them
Preesall Town Council

Raised concerns about geology, impact on the environment, human rights, flood risk, impact on wildlife, traffic, fear and safety

Our response

In relation to geology, extensive testing has been carried out in order to determine the suitability of the salt field at Preesall. This work has indentified two locations on which our proposed Project has been developed, away from existing caverns, historical workings and faults. Testing carried out both in the ground and in the laboratory by our geological experts has proved that the salt, the mudstone interbeds and the mudstone caprock have very low permeability along with high fracture breakdown points which are well in excess of those required for the storage pressure we are proposing.

The impact on the environment is set out in the Preliminary Environmental Information and the topics raised are reviewed below.

In respect of human rights, the comprehensive set of documents and the consultation process provides information to allow the public to understand the details and affects of the Project. It provides sufficient information to properly assess whether Preesall is an acceptable location for this type of development and provides justification for affecting the rights of others.

In respect of flood risk, the initial Flood Risk Assessment has confirmed that with the exception of the Stanah Substation, all critical infrastructure required for the operation of the Project is located within Flood Zone 1 which is classified in PPS 25 as land having a low probability of flooding. Some infrastructure, such as the proposed wellheads, is located within Flood Zone 3 which is classified in PPS 25 as land having a high probability of flooding. However, the majority of these facilities are able to accommodate floodwater and are also located behind existing flood defences.

In respect of the impact on wildlife, the Preliminary Environmental Information includes the results of ecological surveys, assesses impact and proposes mitigation measures. The Project would not directly affect any European or nationally designated sites and any indirect impacts are unlikely to be significant. The Project would however affect some locally designated sites (known as Biological Heritage Sites) and affect other habitats and species. There are a number of important species in the area including water voles, great crested newts and wintering birds together with certain scarce marine species in the vicinity of the brine discharge outfall. A number of surveys have been undertaken and more are planned. In order to reduce the effects on important habitats and species, an Ecological and Landscape Management Plan would be prepared for the main site area.

The Ecological and Landscape Management Plan would be devised in consultation with Natural England, the Environment Agency, Royal Society for the Protection of Birds (RSPB), Lancashire County Council and reference would also be made to the guidance contained within *Biodiversity by Design: A Guide for Sustainable Communities* (Town and County Planning Association, 2004). The purpose of the Plan would be to ensure that the visual impact of the Project (during operation) is minimised, as well as creating opportunities for maintaining and enhancing the area for wildlife.

In respect of traffic, during the construction phase traffic will be generated by the deliveries of materials and equipment and also by construction staff. It is anticipated that approximately 250 construction workers could be employed at the site during peak times. During the operation phase, the Project would require far fewer staff. A range of measures would be put in place for the construction phase, including an HGV routing strategy which would seek to avoid areas of highest pedestrian and cycle activity and existing settlements wherever possible. Travel Plans would be prepared for the construction and operation phases aimed at reducing the volume of traffic.

In respect of fear and safety, the Preliminary Quantitative Risk Assessment has demonstrated that only in the very worst case accidents could members of the public, including users of the Wyre Way, be at risk. The risk of fatality to the general public, even in the worst case accidents, is extremely low, and by comparison is five times lower than the risk of being struck by lightning. The risk is well within HSE guidance levels. Risks have been assessed for an escape from caverns, well casings, wellheads, infrastructure and pipelines. The highest potential risk from underground sources was found to be from a cavern which is formed through an old borehole which is currently plugged, remains undetected during cavern construction and testing and completely fails during cavern operation. The risk associated with this scenario is considered to be extremely low with other scenarios having even lower risks associated with them. Events at the surface that could result in the release of gas are mainly associated with a failure of the wellhead, or of the surface pipework from the wellhead to the Gas Compressor Compound. Results of the assessment have been assessed based on guidance issued by the UK HSE. The HSE land use planning guidance is based on assessing the risk of fatality rather than just the potential consequences of accidents.
Object with serious concerns over safety and the environmental and ecological impact of gas storage

The issues raised are similar to those raised by Preesall Town Council and the Halite response is as summarised opposite.

Concern expressed about geology, safety, environmental impact and human rights

Again, the issues raised are similar to those raised by Preesall Town Council and the Halite response is as summarised opposite.

Objects strongly to the proposals and has particular concerns about traffic, impact on property prices and insurance premiums, evacuation, terrorism, effect on tourism, safety, possible future extension of the UGS facility, disruption, economic benefits and community support

Our response

Some of the concerns that are raised are dealt with in the Halite response opposite.

In respect of property prices the experience of Hornsea, North Yorkshire, where there has been an underground gas storage project for 30 years, and is similar in surroundings to Preesall, Stalmine and Knott End, would indicate no long-term impact on property prices as a result of such a development.

In respect of impact on insurance, the British Association of Insurers has stated that "the existence or otherwise of a gas storage facility in the locality would not be taken into account by household insurers when deciding whether to offer to customers and what terms, conditions and premiums they would charge. Experience to date in the UK suggests that underground gas storage facilities do not generate household insurance claims".

In respect of evacuation and terrorism, the Risk Assessment confirms that, even in the worst case scenario, there would not be a need to evacuate surrounding towns and villages. To mitigate against terrorism, the facility would be secure with 24 hour security. Halite would comply with national requirements regarding safety around terrorism attacks.

In respect of impact on the tourism economy, the effects are uncertain, although it is considered unlikely that there would be significant effects on tourism revenue and economy at a borough level.

In respect of future extension of the UGS facility any proposal would need to be subject to a new application. In respect of disruption, the main impact will be during construction. Traffic, noise and dust may be an issue and mitigation measures are suggested to deal with these issues.

In respect of economic benefits and community support positive effects on the local economy are anticipated during construction and operation as a result of the direct and indirect employment created by the Project. There would be positive effects for the regional and national economy as a result of enhanced security of gas supply infrastructure. National objectives relating to security of supply cannot be achieved without new infrastructure.
<table>
<thead>
<tr>
<th>Name of consultee</th>
<th>Summary of comments</th>
<th>Our response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Protection Agency</td>
<td>Awaiting completion of Environmental Statement</td>
<td>Noted</td>
</tr>
<tr>
<td>Joint Nature Conservation Committee</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>The Office of Rail Regulation</td>
<td>No objection</td>
<td>No action required</td>
</tr>
<tr>
<td>GTC</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>OFWAT</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>SSE Pipelines</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>ESP Networks Ltd</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>ESP Pipelines</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>ESP Electricity</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>ESP Connections</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>Coal Authority</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>Trinity House (Navigation Directorate)</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>Environment Agency</td>
<td>Comments on waste, operations, biodiversity, flood risk and pollution control issues and consents that may be required</td>
<td>Halite is in consultation with the EA to ensure that its requirements are met. An application for an Environmental Permit would be made to deal with the emissions to land, air and water at the appropriate time</td>
</tr>
<tr>
<td>Lancashire Fire &amp; Rescue</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>North Western Inshore Fisheries and Conservation Authority</td>
<td>Concerns on potential damage to sensitive marine and estuarine habitats from brine discharge</td>
<td>Following detailed examination of the impact of the discharge on ecology, the EA has issued a Discharge Consent for the brine outfall. The discharge will have an impact on marine organisms in the vicinity of the outfall. However, the assessment has demonstrated that it would not be significant.</td>
</tr>
<tr>
<td>Name of consultee</td>
<td>Summary of comments</td>
<td>Our response</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>English Heritage</td>
<td>A full Archaeological Assessment is required</td>
<td>A programme of geophysical archaeological surveys has been agreed with the County Archaeologist. The findings of this survey, together with the findings of a desk based assessment, will be presented in the Environmental Statement.</td>
</tr>
<tr>
<td>Marine Management Organisation</td>
<td>A number of comments made regarding the Preliminary Environmental Information Report and the need to provide more detailed environmental information particularly in respect of brine discharge, marine surveys and impact on the marine ecology.</td>
<td>Following detailed examination of the impact of the discharge on ecology, the EA has issued a Discharge Consent for the brine outfall. The discharge will have an impact on marine organisms in the vicinity of the outfall. However, the assessment has demonstrated that it would not be significant. The Environmental Impact Assessment will contain further details of marine surveys and assessment of the impact of the proposed Project on the marine ecology.</td>
</tr>
<tr>
<td>Ribble Fisheries Consultative Association</td>
<td>Referred to previous objections and have serious concerns about the discharge and its impact upon spawning habitats and the migration routes of endangered species</td>
<td>Following detailed examination of the impact of the discharge on ecology, the EA has issued a Discharge Consent for the brine outfall. The discharge will have an impact on marine organisms in the vicinity of the outfall. However, the assessment has demonstrated that it would not be significant.</td>
</tr>
<tr>
<td>English Heritage Marine Planning Unit</td>
<td>A number of comments made regarding the Preliminary Environmental Information Report and the need to provide more detailed environmental information particularly in respect of brine discharge, marine surveys and impact on the marine ecology.</td>
<td>The issues raised are the same as those raised by the Marine Management Organisation and are addressed in Halite’s response above.</td>
</tr>
<tr>
<td>Protect Wyre Group</td>
<td>Requested further geological information</td>
<td>Halite is providing requested information.</td>
</tr>
<tr>
<td>National Grid</td>
<td>Request that the potential impact of the proposed gas pipeline on existing electricity transmission assets is considered in the Environmental Statement</td>
<td>The proposal would have an impact on the Stanah Switchyard where new electricity cables would link to the Gas Compressor Compound. The construction of the Compound may also affect the re-routing of an overhead line. Discussions are continuing with the relevant Utility Company.</td>
</tr>
<tr>
<td>Name of consultee</td>
<td>Summary of comments</td>
<td>Our response</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>National Grid Plant Protection</td>
<td>Existing apparatus within the area has been identified and further consultation is requested</td>
<td>Noted</td>
</tr>
<tr>
<td>Health &amp; Safety Executive</td>
<td>Advised the need for hazardous substances consent and that no part of the proposal falls within any of the HSE’s consultation distances</td>
<td>Noted</td>
</tr>
<tr>
<td>Wyre Power</td>
<td>Concerned about connection into the electrical infrastructure at the Stanah Substation and requesting further information</td>
<td>Halite has an agreement with United Utilities for connection to the Substation. Further discussions will be held with United Utilities and Wyre Power to ensure that connection is not an issue</td>
</tr>
<tr>
<td>Blackpool Teaching Hospitals</td>
<td>Raised concerns about the impact of the proposed works on Rossall Hospital, particularly in respect of access, noise, vibration, dust and odour</td>
<td>The hospital has been identified as a sensitive receptor. Construction noise and vibration effects would occur and be managed through the Construction Environmental Management Plan and through other measures to be agreed with the Local Planning Authority. There are no proposals to affect the access to the hospital and the construction should not involve the creation of dust and odour in the vicinity of the hospital</td>
</tr>
<tr>
<td>Maritime and Coastguard Agency</td>
<td>Unlikely to have an adverse impact provided specified conditions are applied</td>
<td>Noted</td>
</tr>
<tr>
<td>Lancashire Care NHS Foundation Trust</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>Water Services Regulation Authority</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>Wales &amp; West Utilities</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>Fulcrum Pipelines</td>
<td>Requested more information on red line masterplan</td>
<td>Information provided, awaiting further response</td>
</tr>
<tr>
<td>Name of consultee</td>
<td>Summary of comments</td>
<td>Our response</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lancaster Port Commission</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>National Park Authority</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>North West Ambulance Service NHS Trust</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>Riversway Control Centre</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>UK Power Networks</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
<tr>
<td>United Utilities</td>
<td>Object on the basis that the proposal would impact on existing assets and the disposal of waste water to the Irish Sea. Concern about leakage of gas and the need to protect assets such as the existing WWTW and pipelines</td>
<td>The EA has had regard to the existing situation and following detailed examination of the impact of the brine discharge has issued a Discharge Consent. In respect of the leakage of gas, the Geology Summary Report concludes that underground gas storage caverns can be safely constructed at Preesall.</td>
</tr>
<tr>
<td>Wildlife Trust</td>
<td>Concern about the cumulative effect of proposed Project with other known developments in the area</td>
<td>Relevant projects have been agreed with the Local Planning Authority and will be assessed as part of the Environmental Impact Assessment for the Project.</td>
</tr>
<tr>
<td>Lancashire Resilience Forum</td>
<td>Comments relating to need to ensure that adequate secondary emergency routes are made available</td>
<td>Halite is in ongoing consultation with the Forum in relation to an additional access route.</td>
</tr>
<tr>
<td>Name of consultee</td>
<td>Summary of comments</td>
<td>Our response</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>NHS Blackpool</td>
<td>No facilities in area covered by proposals but would like to discuss the Health Impact Assessment report</td>
<td>Noted</td>
</tr>
<tr>
<td>Highways Agency</td>
<td>Comments relating to approach to pipeline crossing via a licence</td>
<td>Noted</td>
</tr>
<tr>
<td>The Homes and Communities Agency</td>
<td>No observations to make at this time</td>
<td>No action required</td>
</tr>
<tr>
<td>Natural England</td>
<td>Recommendation to develop a soil management strategy, concerns about lack of survey information and displacement of SPA birds</td>
<td>In relation to soil management Halite is developing a strategy. In respect of survey information Halite is progressing with work to access all areas needed to produce a full and accurate Environmental Assessment. In relation to possible displacement of birds Halite is consulting further with Natural England’s landscaping team and the RSPB</td>
</tr>
<tr>
<td>The Crown Estate</td>
<td>Confirmed no comments</td>
<td>No action required</td>
</tr>
</tbody>
</table>
### 7.3 Responses from landowners, tenants and occupiers

<table>
<thead>
<tr>
<th>Consultee</th>
<th>Summary of comments</th>
<th>Our response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landowner</td>
<td>Detailed concerns raised around a number of issues including location and extent of salt deposits, suitability of Preesall salt field for gas storage, safety, monitoring &amp; maintenance of brinefield, location of faults, subsidence, the electrical infrastructure and running the gas pipeline through peat</td>
<td>Shared detailed information around new geological data received since last public enquiry, shared letter from Professor RB Rokahr re: suitability of Preesall salt field, shared information around survey work undertaken, agreed to investigate most efficient methods for monitoring existing brinewells, provided detailed information around subsidence issues relating to gas interconnector and built environment, outlined rationale for preferred route to the Substation and provided reassurance around practice of running pipelines through peat in relation to the gas interconnector to Nateby</td>
</tr>
<tr>
<td>Landowner</td>
<td>Move the position of no 3 wellhead compound due to proximity to residence</td>
<td>We have agreed to move no 3 compound 50 metres away from the property</td>
</tr>
<tr>
<td>Landowner</td>
<td>Move the Project red line boundary to avoid the landscaped area adjacent to pond on landholding. Concerned about work on their land disrupting business in spring and summer</td>
<td>We have revised the red line accordingly Halite has confirmed that this work will be carried out in the winter months to reduce impact</td>
</tr>
<tr>
<td>Landowner</td>
<td>Concerned about location of reception pit for auger bore under the adjacent road</td>
<td>We are considering the relocation of the reception pit in line with this request</td>
</tr>
<tr>
<td>School</td>
<td>Concerned about location of proposed brine pipeline on the School site and disruption this may cause</td>
<td>We are meeting with the School to discuss their concerns further</td>
</tr>
<tr>
<td>Consultee</td>
<td>Summary of comments</td>
<td>Our response</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Landowner</td>
<td>Consider it a breach of natural justice to be requested to provide opinions to Halite. Opposed to the proposed project on safety grounds and need, references to Abbeystead and Fukishma</td>
<td>Consultation is part of the IPC process and Halite is consulting in line with the IPC’s guidelines. The proposed project is different to Abbeystead and a similar accident could not occur at Preesall. We take safety very seriously and incidents like Fukushima highlight the importance of effective risk management. The need for a Project such as the one we are proposing at Preesall is highlighted in the government’s National Policy Statement as being crucial to future energy supplies in the UK</td>
</tr>
<tr>
<td>Landowner</td>
<td>Concern about adequate access to retained land</td>
<td>We will provide alternative access off our road, adjacent to the A588</td>
</tr>
</tbody>
</table>
8. Changes to the proposed Project as a result of the consultation feedback

8.1 The consultation process has given Halite the opportunity to hear an extensive range of views and comments on our proposed Project.

8.2 As a result of feedback from the local community and statutory consultees we will be making the following changes and undertaking more work to allay concerns. This includes:

- Moving of wellhead compound no 3 – we have agreed to move this compound 50 metres away from the nearby property
- External appearance of Seawater Pump Station – we will redesign this building to be more domestic in character
- Design of Gas Metering Station – we will redesign this building to reflect the character of the location
- Emergency planning and evacuation – we are in ongoing consultation with emergency services and Lancashire Resilience Forum and are adding an emergency access route
- Impact of earthquakes – we are undertaking a further seismic assessment in order to reassure the community that the caverns and above ground infrastructure can be designed to meet the required standard
- Community benefits – we will develop a community investment programme of activities in conjunction with local people. This will look at how we invest in employment, the environment and the local community
9. Next steps

9.1 This Report is intended as an interim feedback to the community in advance of the publication of our Consultation Report later this year. It incorporates responses received by Halite up until 31 July 2011. Any feedback received after this date will be considered and taken into account.

9.2 Between now and the submission of the application for a Development Consent Order to the IPC, we will be reviewing all the consultation feedback and comments received and updating our Project proposals to take into account, where appropriate, the views and suggestions made during the consultation.

9.3 In the meantime, if you would like to find out more about our proposed Project, you can get in touch with us in a number of ways:

   Website: www.halite-energy.co.uk
   Email: community@halite.net
   By post: Halite Energy Group
            Freepost RSRC-UNET-CHSU
            Unit 5, St Georges Court
            St Georges Park
            Kirkham
            Preston PR4 2EF
   Call us: 01772 672244
General application for Hazardous Substances Consent

The Planning (Hazardous Substances) Act 1990 - Section 7(1)
The Planning (Hazardous Substances) Regulations 1992 (Regulation 5)
Three completed copies of this form and plans should be sent to the City, Borough, District or County Council.

Question 1
Name and Address of Applicant
Halite Energy Group Ltd
Unit 5 St George's Court St George's Park
Kirkham, Lancashire
Postcode PR4 2EF
Tel. No 01772 672244

Question 1a
Name and Address of Agent (if any)

Question 2
Address or Location of Application Site
Preesall Saltfield
Stalmine
Wyre Estuary
Lancashire
Grid Reference: 335500 446000
Refer to accompanying Drawing No A.00100.P00 for location details of the proposed scheme

Question 3
Substance(s) covered by application

<table>
<thead>
<tr>
<th>Name</th>
<th>Entry number in Schedule 1 to the 1992 Regulations (see back of form)</th>
<th>Maximum quantity proposed to be present (in tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas or any mixture of gases which is flammable in air, when held as a gas</td>
<td>Part C No. 68 (Part A No. 16 under the Planning Control of Major Hazards Regulations 1999)</td>
<td>630,000 Tonnes (Max. capacity of an individual gas storage cavern 140MCM)</td>
</tr>
</tbody>
</table>

† or kilograms in the case of substances with entry numbers 21, 26 or 34
Question 4
Manner in which substance(s) to be kept and used

Provide the following information for each substance covered by the application (referring to the substance location plan where appropriate)

(a) Tick one box below to show whether the substance will be present for storage only or will be stored and involved in a manufacturing treatment or other industrial process:

<table>
<thead>
<tr>
<th>Substance Entry number</th>
<th>Storage only</th>
<th>Stored and involved in industrial process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part C No. 68 (Part A No. 16 under the Planning Control of Major Hazards Regulations 1999)</td>
<td>Storage Only</td>
<td></td>
</tr>
</tbody>
</table>

(b) For each vessel to be used for storing the substance(s) give the following information:

<table>
<thead>
<tr>
<th>Vessel No</th>
<th>Entry No of substance(s) to be stored in vessel</th>
<th>Installed above ground (yes/no)</th>
<th>Buried (yes/no)</th>
<th>Mounded (yes/no)</th>
<th>Max capacity (cubic meters)</th>
<th>Max. capacity of individual cavern</th>
<th>Highest vessel design temperature (°C)</th>
<th>Highest vessel design pressure (bar absolute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Caverns</td>
<td>Part C No. 68 (Part A No. 16 under the Planning Control of Major Hazards Regulations 1999)</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>140MCM cubic meters</td>
<td>Max. capacity of individual cavern</td>
<td>50</td>
<td>95 bar</td>
</tr>
</tbody>
</table>

*Identify by reference to substance location plan

1. If "yes", specify whether or not it will be provided with full secondary containment

(c) State for each substance the largest size (capacity in cubic metres) of any moveable container to be used for that substance:

(d) Where the substance is to be used in a manufacturing, treatment or other industrial process(es), give a general description of the process(es), describe the major items of plant which will contain the substance; and state the maximum quantity (in tonnes) which is liable to be present in the major items of the plant, and the maximum temperature (°C) and pressure (bar absolute) at which the substance is liable to be present:

<table>
<thead>
<tr>
<th>Substance entry No</th>
<th>Description of process(es)</th>
<th>Major items of plant*</th>
<th>Max quantity (tonnes)</th>
<th>Max temp (°C)</th>
<th>Max pressure (bar absolute)</th>
</tr>
</thead>
</table>

*Identify by reference to substance location plan
Question 5
Additional Information
(a) Has any application for hazardous substance consent or planning permission relating to the application site been made which has not yet been determined?  NO

(b) Will any such application be submitted at the same time as this application? YES

If you have answered "Yes" to either of the preceding questions, give sufficient details to enable the application(s) to be identified.

Application: To the Infrastructure Planning Commission (IPC)
Proposal: Creation of an Underground Gas Storage Facility
Location: Preesall Saltfield, Saltmine Wyre Estuary, Lancashire

(c) Plans. Please list the maps or plans or any explanatory scale drawings of plant/buildings submitted with this application.

1) The accompanying Drawing No A-00100-P00 at 1:2500, defines the location of each multiple wellhead site and pipeline corridors connecting the wellheads to the Gas Compressor Compound, plus a Location Plan @ 1:20000 identifying the location of the application site

(d) Give any further information which you consider to be relevant to the determination of the application.

To access the salt beneath the Wyre Estuary, which is a designated SSSI & Ramsar site, it is necessary to employ slant drilling techniques, together with conventional vertical borehole wells for some caverns created outside the estuary.

The angle of slant drilled wells may vary but will not be less than 15 degrees to the horizontal.

All wells will use 219mm internal diameter wellhead production risers and a maximum operating pressure of 95 bar has been used for the modeling, albeit the operating pressure on each cavern will be dependant upon the geology but will not exceed 95 bar. Wellheads have been sited to avoid the thermal radiation zones impinging on private residences.

The site will be registered as a COMAH Site with the Health & Safety Executive and a Pre-construction Safety Report for the sub-surface infrastructure will be submitted in due course.

In addition to natural gas it is envisaged that the following substances will also be stored on site:

1) Maximum on site methanol storage 12Te
2) Grease & oil lubricants - 20 cartridges
3) Engine Oil - 2 drums 100 to 150 litres
4) Transformer Oil for electricity sub station 1 tonne to meet the requirements of Bs148 Cl. I & II

Maximum design pressure for all surface gas infrastructure - 100 bar

we hereby apply for hazardous substances consent in accordance with the proposals described in the application

(delete where inappropriate)

Signed

On behalf of Halite Energy Group Limited

(insert applicant's name if signed by agent)
# The Planning (Hazardous Substances) Regulations 1992 – Regulation 3
## Schedule 1 – Hazardous Substances and Controlled Quantities

### PART A
#### TOXIC SUBSTANCES

<table>
<thead>
<tr>
<th>Column 1: Hazardous substances</th>
<th>Column 2: Controlled quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acetone Cyanohydrin (2-Cyanopropan-2-ol)</td>
<td>(in tonnes, unless otherwise stated)</td>
</tr>
<tr>
<td>2. Acetone (2 Propyl)</td>
<td>200</td>
</tr>
<tr>
<td>3. Acrylonitrile</td>
<td>20</td>
</tr>
<tr>
<td>4. Allyl alcohol (2-Propanol-1-ol)</td>
<td>200</td>
</tr>
<tr>
<td>5. Amines (aminoxy or as solution containing more than 50% by weight of amines)</td>
<td>100</td>
</tr>
<tr>
<td>6. Aromatic compounds: Arsenic (III) acid and salts</td>
<td>1</td>
</tr>
<tr>
<td>7. Arsenic (Arsenic hydride)</td>
<td>1</td>
</tr>
<tr>
<td>8. Arsenic</td>
<td>10</td>
</tr>
<tr>
<td>9. Beryllium</td>
<td>20</td>
</tr>
<tr>
<td>10. Carbon disulfide</td>
<td>20</td>
</tr>
<tr>
<td>11. Chlorine</td>
<td>10</td>
</tr>
<tr>
<td>12. Ethylene dibromide (1,2-Dibromoethane)</td>
<td>50</td>
</tr>
<tr>
<td>13. Ethyleneimine (99%)</td>
<td>50</td>
</tr>
<tr>
<td>14. Formic acid (95%)</td>
<td>50</td>
</tr>
<tr>
<td>15. Hydrogen chloride (liquid/cold gas)</td>
<td>250</td>
</tr>
<tr>
<td>16. Hydrogen cyanide</td>
<td>20</td>
</tr>
<tr>
<td>17. Hydrogen fluoride</td>
<td>10</td>
</tr>
<tr>
<td>18. Hydrogen selenide</td>
<td>1</td>
</tr>
</tbody>
</table>

### PART B
#### HIGHLY REACTIVE SUBSTANCES AND EXPLOSIVE SUBSTANCES

<table>
<thead>
<tr>
<th>Column 1: Hazardous substances</th>
<th>Column 2: Controlled quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>37. Acetone (Ethene) when a gas at a pressure not exceeding 500 millibars above that of the atmosphere, and not otherwise declared to be an explosive by virtue of Orders in Council No. 5196 (2) as amended by the Compressed Acetylene Order 1947(1), or when contained in a homogenous opaque substance in cylinders in accordance with Order of Secretary of State No. 16(1), made under the Explosives Act 1875(2)</td>
<td>(in tonnes, unless otherwise stated)</td>
</tr>
<tr>
<td>38. Ammonium nitrate and mixtures containing ammonium nitrate where the nitrogen content derived from the ammonium nitrate exceeds 28% of the mixture by weight or other substances to which the Explosives Act 1875 applies</td>
<td>500</td>
</tr>
<tr>
<td>39. Aqueous solutions containing more than 50% by weight of ammonium nitrate per 100 parts by weight of solution</td>
<td>500</td>
</tr>
<tr>
<td>40. Ammonium nitrate based products manufactured chemically for use as fertilisers which comply with Council Directive 80/766/EEC and compound fertilisers from which the nitrogen content derived from the ammonium nitrate exceeds 28% of the mixture by weight</td>
<td>1000</td>
</tr>
<tr>
<td>41. 2,2-Bis(butoxy)peroxybutane (80%)</td>
<td>5</td>
</tr>
<tr>
<td>42. 2,2-Bis(butoxy)peroxycyclohexane (80%)</td>
<td>5</td>
</tr>
<tr>
<td>43. tert-Butyl peroxyacetate (70%)</td>
<td>5</td>
</tr>
<tr>
<td>44. tert-Butyl peroxybenzoate (80%)</td>
<td>5</td>
</tr>
<tr>
<td>45. tert-Butyl peroxyisopropylcarbonate (80%)</td>
<td>5</td>
</tr>
</tbody>
</table>

### PART C
#### FLAMMABLE SUBSTANCES (UNLESS SPECIFICALLY NAMED IN PARTS A AND B)

<table>
<thead>
<tr>
<th>Column 1: Hazardous substances</th>
<th>Column 2: Controlled quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>66. Liquefied petroleum gas, such as commercial propane and commercial butane, and any mixture thereof, when held at a pressure greater than 1.4 bar absolute</td>
<td>(in tonnes, unless otherwise stated)</td>
</tr>
<tr>
<td>67. Liquefied petroleum gas, such as commercial propane and commercial butane, and any mixture thereof, when held under refrigeration at a pressure of 1.4 bar absolute or less</td>
<td>50</td>
</tr>
<tr>
<td>68. Gas or any mixture of gases which is flammable in air, when held under refrigeration at a pressure of 1.4 bar absolute or less</td>
<td>15</td>
</tr>
<tr>
<td>69. A substance or any mixture of substances which is flammable in air, when held above its boiling point (measured at 1 bar absolute) as a liquid or as a mixture of liquid and gas at a pressure of more than 1.4 bar absolute</td>
<td>25</td>
</tr>
</tbody>
</table>

### PART D
#### INTERPRETATION

In this Schedule:
- (a) references to percentages are references to parts by weight of the substance per 100 parts by weight of the solution;
- (b) "compound fertiliser" means a fertiliser containing ammonium nitrate and phosphate or potash;
- (c) Part C does not include a substance which is within Part A or Part B;
Development of Salt Caverns for storage of up to 630,000 Tonnes of Natural Gas