INOVYN HYDROGEN PROJECTS

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INOVYN Hydrogen Projects

Dr Frank Rourke
Safety is the number 1 priority at INOVYN

**Sustainability** and **innovation** are at the heart of INOVYN’s success and strategy

The hydrogen economy is an ideal fit ...
Long history of hydrogen production at Runcorn Site
Hydrogen production

At INOVYN’s Runcorn Site we already produce enough hydrogen for about:

- 1000 buses
- 10,000 taxis
- 100 trains
HySecure Project - salt cavity hydrogen storage

• As with any fuel you must have a storage solution to balance supply with demand
• INOVYN with partners Storengy UK and Element Energy are studying the feasibility of creating a purpose built salt cavity for the storage of pure hydrogen gas
• With further support we could go on to develop a bespoke cavity for the storage of a significant quantity of hydrogen as a back up supply to any of the North West hydrogen projects
HySecure Project - Stublach Site on the Holford Brinefield

• The Holford Brinefield in mid Cheshire is already home to the UK’s largest onshore natural gas storage facility
• Building on the existing solution mining infrastructure and the key skills of the partners, HySecure could be developed in a cost competitive manner to prove the concept of salt cavity hydrogen storage
• Providing a real benefit to the North West economy and helping secure a low C future
HySecure Project - the solution mining process

- Salt is impervious to gas
- The UK and Europe have a long history of safe operation of salt cavities for natural gas storage
- The technology will now be proven for hydrogen gas storage
Centurion Project – ‘Power to Gas’

- ‘Power to Gas’ is a way of capturing surplus electricity, transforming it to hydrogen and storing or using the energy in the gas grid
- Project Centurion is a feasibility study for a potential 100MW water electrolysis cellroom at INOVYN’s Runcorn Site. Equivalent to 40tes/day $\text{H}_2$ or another 2000 buses
Hydrogen projects - joined up thinking

**HYDROGEN GENERATION**
- Offshore wind
- Mersey tidal
- Solar

Existing cellroom at INOVYN’s Runcorn Site

Project Centurion - water electrolysis cellroom

**HYDROGEN CUSTOMERS**
- St Helens hydrogen buses
- Liverpool hydrogen buses
- Mersey Ferries
- HGVs
- Trains
- ULEMCo

**STORAGE**

- HySecure - storage in salt cavities

- HyNet NW
- HyMotion
- Powerhouse Energy DMG

- CF Fertilisers
- BOC

**RENEWABLE ENERGY**
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**STORAGE**

- Liverpool hydrogen buses
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- ULEMCo
- HGVs
- Trains
- Alstom Breeze

**POWERHOUSE ENERGY DMG**

**HyNet NW**

**HyMotion**