

South Dorset Hydrogen Storage Project Overview



*Major UK
Energy
Hub*

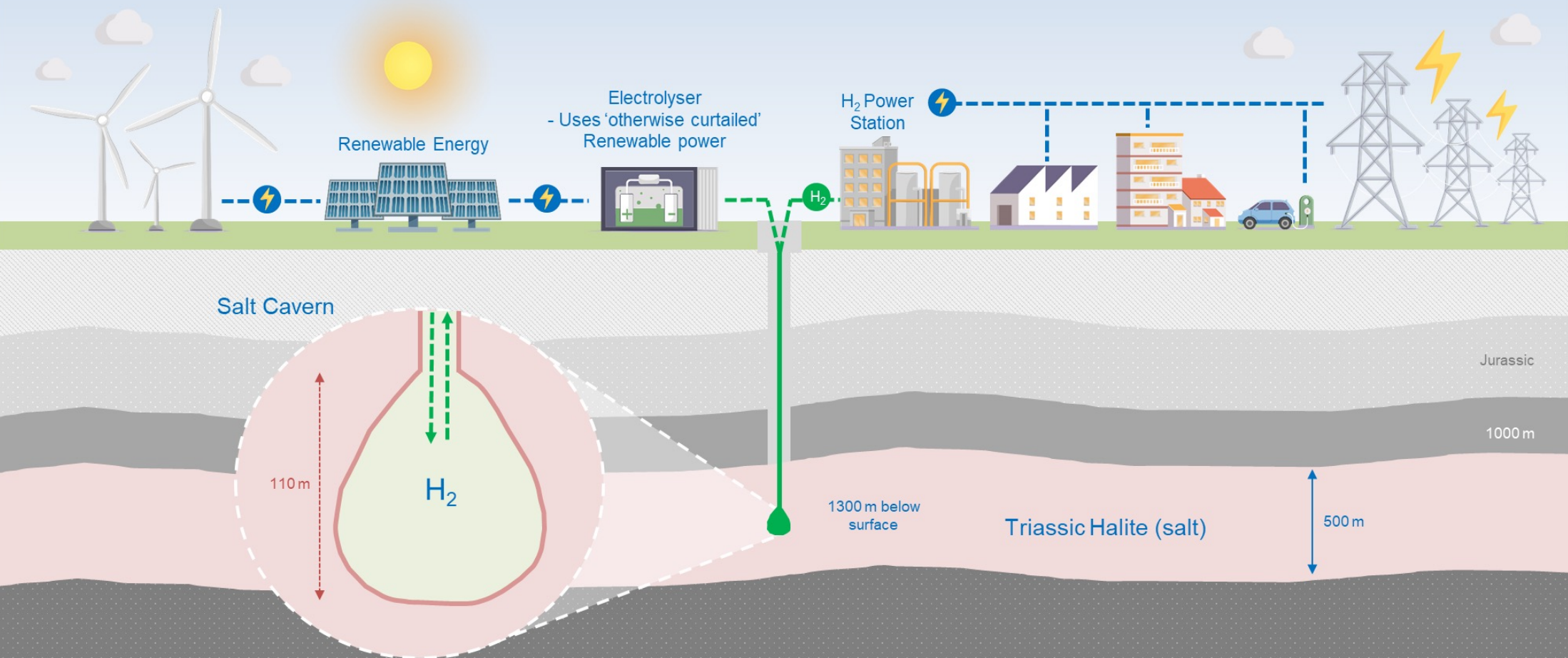


UK
March 2025



Why Hydrogen Storage & Salt Caverns?

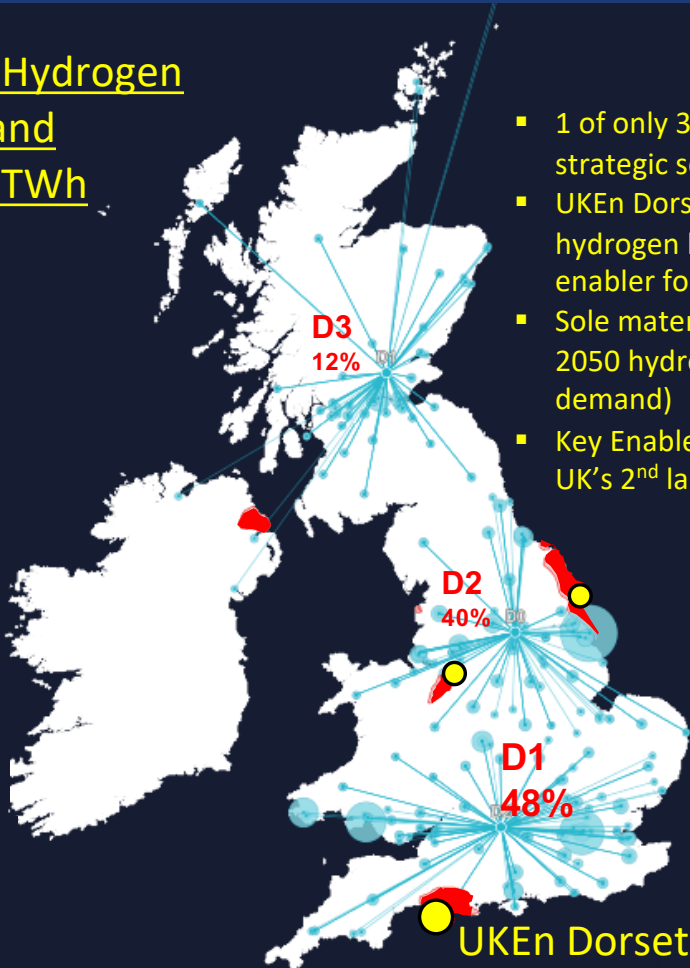
1. Hydrogen Battery: solve renewable intermittency 2. Balance supply & demand 3. Maintain pipeline pressure/fill



Why Dorset H₂ Storage: Strategic enabler for UK hydrogen

2050 Hydrogen Demand ~452 TWh

- Salt (halite) deposit with 100+m effective thickness
- 2050 H₂ demand
- D1 Cluster ID, 48% % UK 2050 demand
- Planned National Scale Hydrogen Storage
- 2023 CO₂ emissions (Million tonnes /year)
- Hydrogen Backbone Pipeline

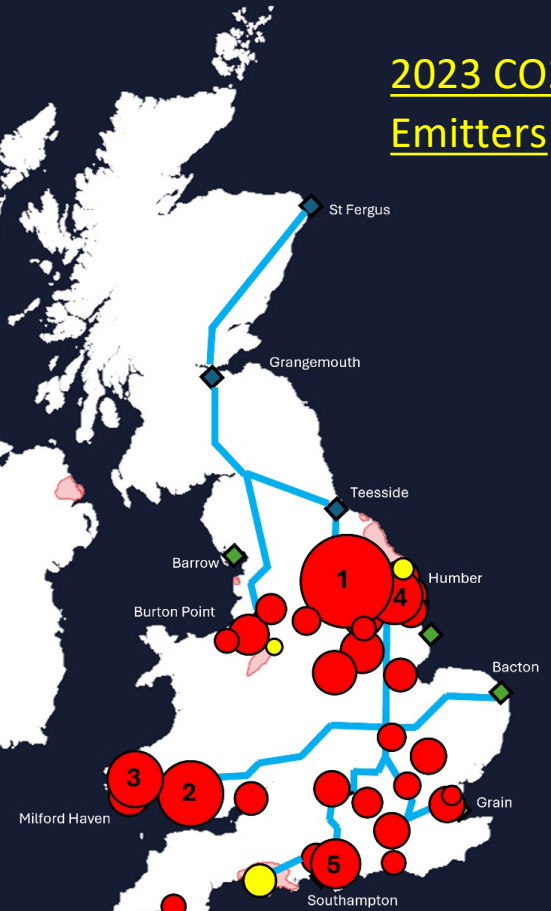


- 1 of only 3 GB salt deposits suitable for strategic scale salt caverns
- UKEn Dorset critical for extension of national hydrogen backbone pipeline into S. UK – key enabler for UK hydrogen network
- Sole material scale storage within largest 2050 hydrogen demand area (48% of UK demand)
- Key Enabler for decarbonisation of South, UK's 2nd largest CO₂e emissions area

2023 CO₂e Emitters

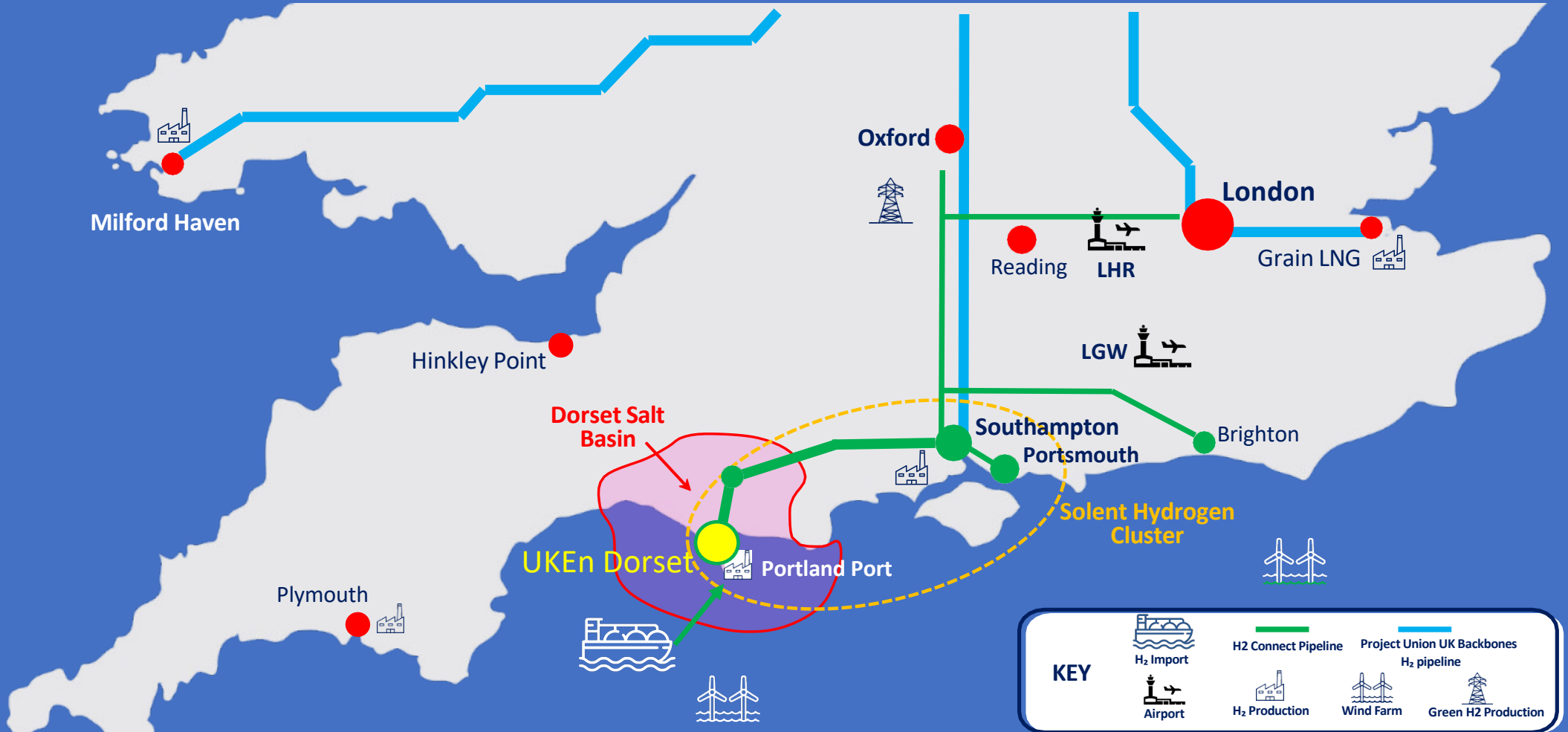
2023 Top 5 CO₂ emitters (Mt/yr):

1. Drax: 11.46
2. Port Talbot Steelworks: 5.71
3. Pembroke Power Station: 4.00
4. Scunthorpe Iron & Steel Works: 3.24
5. Fawley Refinery: 3.16



UKen Dorset

UKEn Dorset: A key element of S. UK H₂ infrastructure



Material Economic Benefits to UK and Dorset Economies

- **£2.28 bn/year GVA during its 30-60 year operational life** (Quod Economic Impact report)
- **Job creation: up to 2,100 direct + 5,100 supply chain jobs, 135 permanent jobs in site operations**

Significant National Scale Contribution to UK Energy Security

- **Store equivalent of 14-27 days of UK electricity supply (i.e., ~4-8% of 2023 annual electricity demand)**
- Supply ~15-31% of high end¹ 2050 UK H₂ storage demand forecasts*
- Supply ~60% of AFRY 2035 UK H₂ storage demand forecast

Key Enabler for UK Hydrogen System and Decarbonisation in UK & Southern England

- **Critical for establishment of UK Backbone Hydrogen Pipeline into Southern UK**
- **Decarbonisation of dispatchable electricity via switch to “H2P” (e.g., Chickerell, Marchwood, Didcot et al)**
- Supports H₂ demand/decarbonisation for
 - Solent Cluster SAF production at Fawley to decarbonise LHR and LGW
 - Southampton and Portsmouth International Maritime Organisation (IMO) 2030 fuel targets
- **Direct synergy/pipeline link with proposed 1GW green H₂ production at Portland Port**