

Pale Blue Dot.

UK Offshore CO₂ Storage - Acorn

Norway-US Bilateral - 27 February 2019

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Acorn CO₂ SAPLING, project 12.2, is co-funded by the European Commission under the Connecting Europe Facility

CO₂ from H₂ production hub



Around 35% of all UK natural gas comes onshore at St Fergus - an ideal site for a major H₂ production hub. H₂ at St Fergus can be fed directly into the gas grid from blending and decarbonising gas.



Pipeline reuse

More than £750 million cost savings from reuse of high capacity on and offshore pipelines.



Low cost CO₂

200,000 tonnes of existing, easy to capture CO₂ from the St Fergus Gas Terminals.



World class CO₂ stores

Two large, well understood CO₂ stores with plenty room for growth.

Shipped CO₂ to Peterhead Port



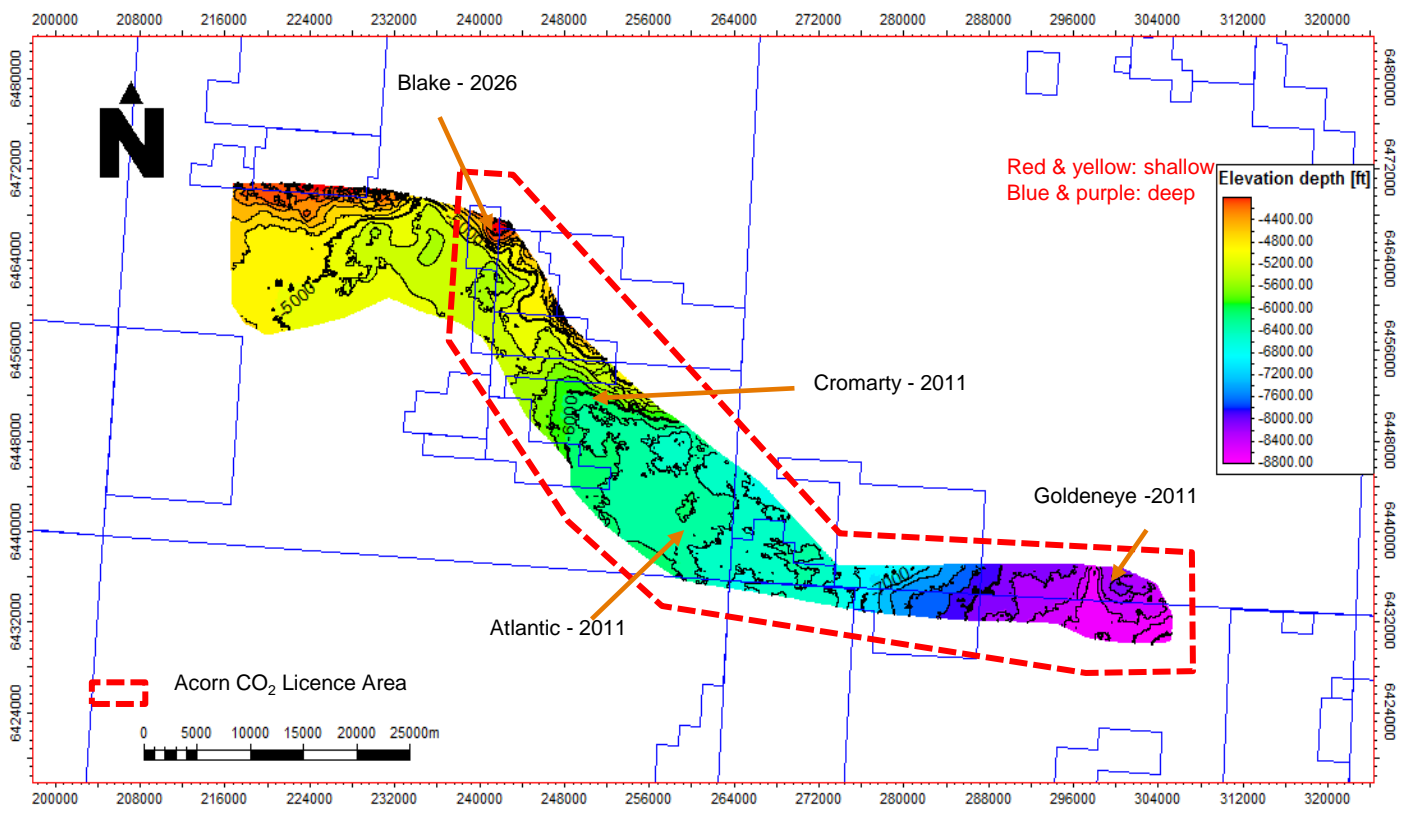
Use of the deep water port at Peterhead to include CO₂ import facilities.

CO₂ from Grangemouth cluster and beyond



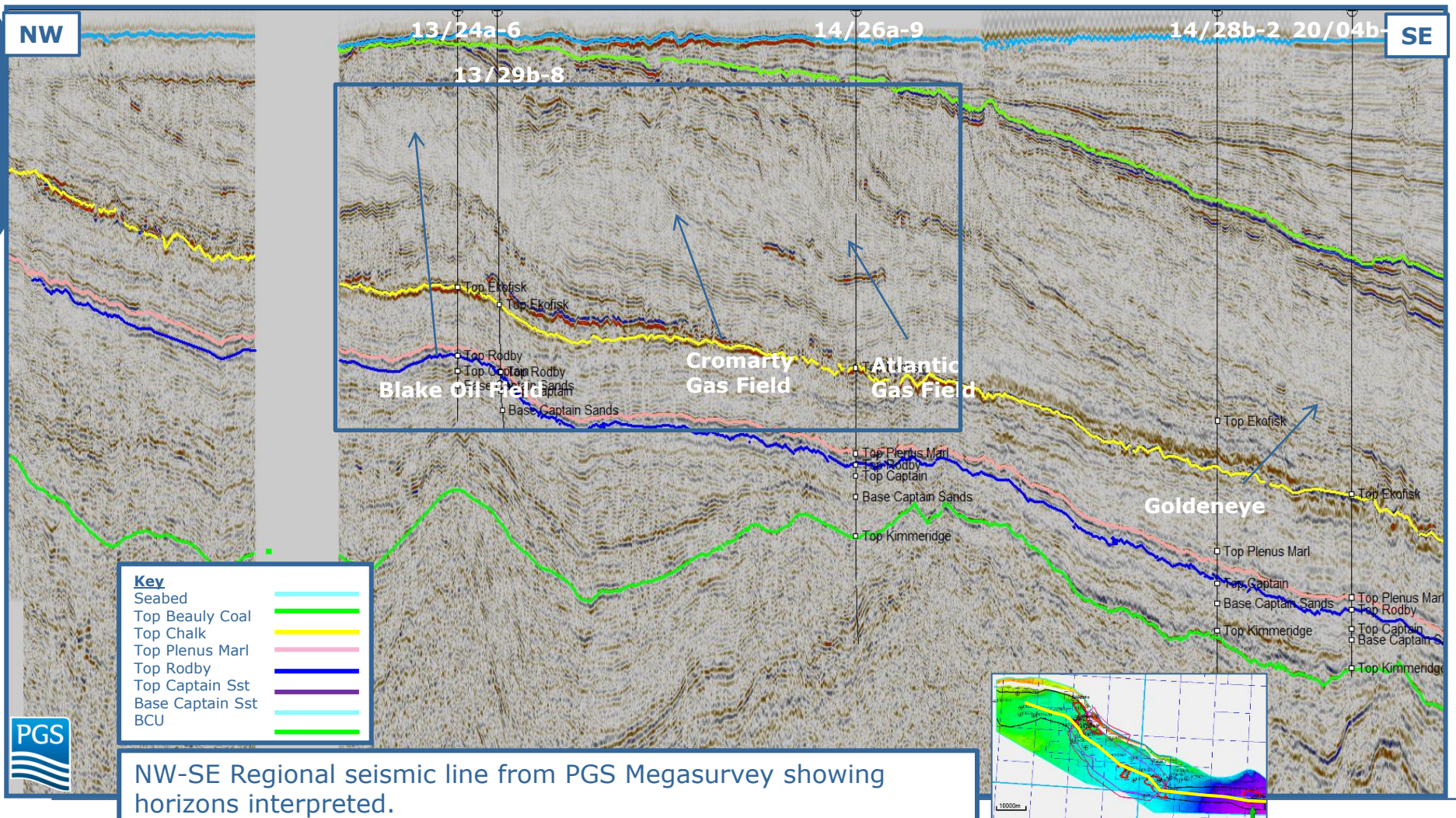
CO₂ from Grangemouth cluster piped to St Fergus through Feeder 10 - a natural gas pipeline ready for reuse.

Acorn CO₂ Store



- Hybrid depleted gas field - aquifer
- High injectivity
- Hydraulically connected
- Robust containment

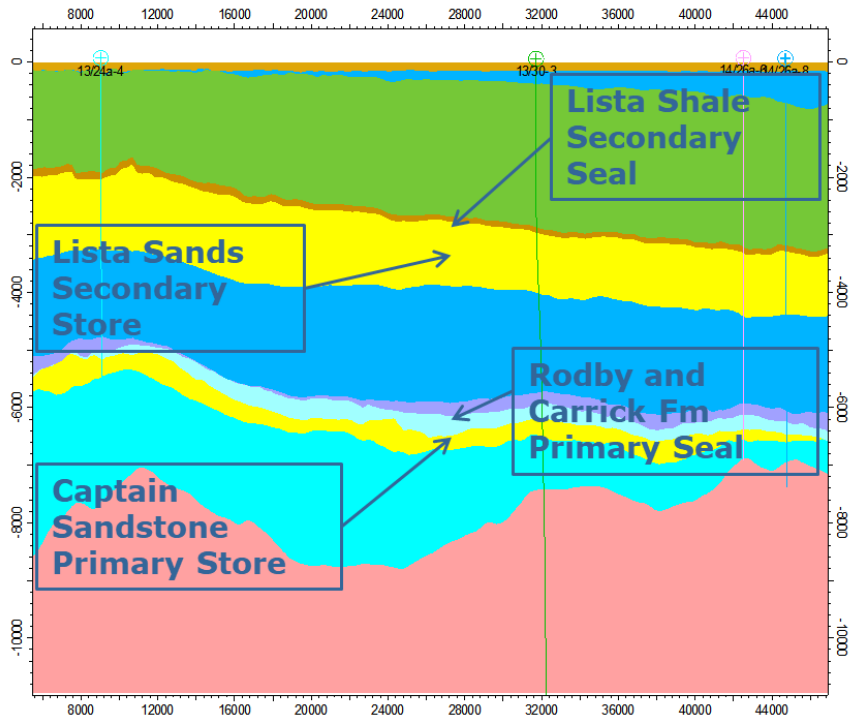
NW-SE Captain Fairway



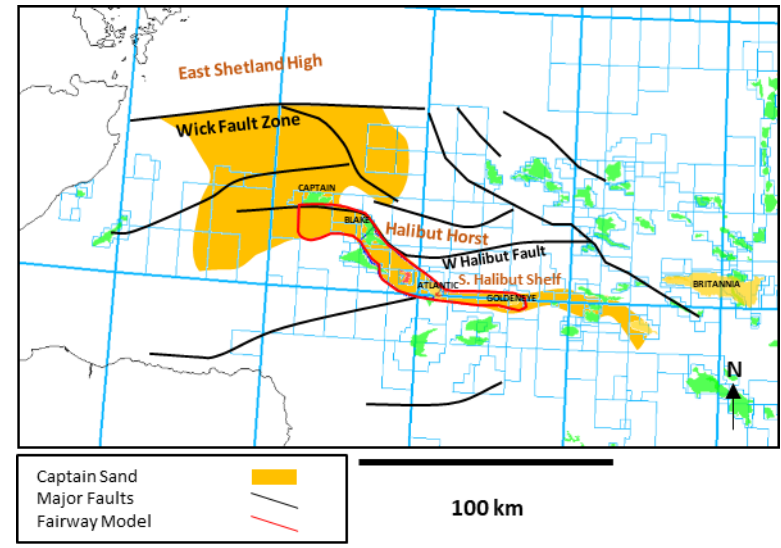
NW-SE Regional seismic line from PGS Megasurvey showing horizons interpreted.

Robust Containment System

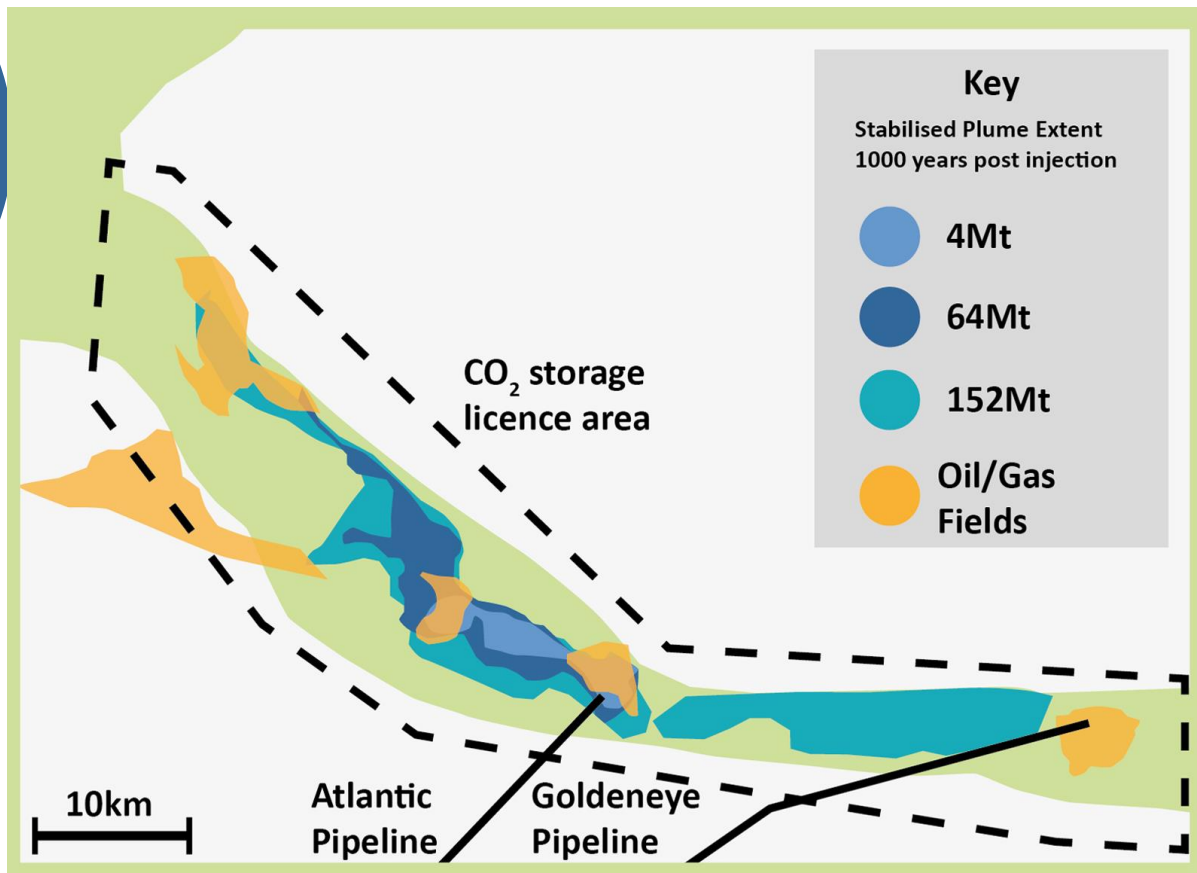
Vertical containment assured by multiple seals



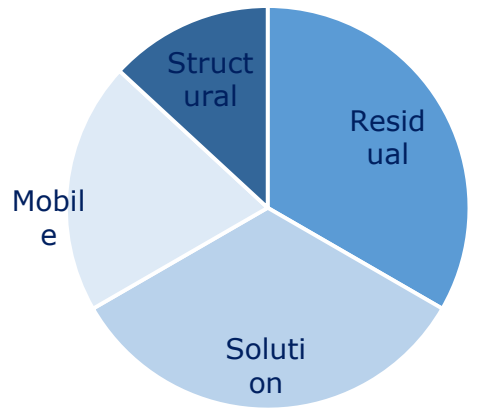
Lateral containment assured by major structural & depositional features



Storage Resource and Plume Extent



- Plume extent influences:
 - Development plan
 - Top structure
 - Dip
 - High permeability
- Trapping mechanism



- Multiple injection sites required to develop store