



Project Value

CAPEX >£250M
CO₂ Reduction >1,000,000te

Project Scope

The CNOOC International-operated Buzzard asset is one of the UK's highest producing fields (80mmboe/d) and the largest oil discovery since 1990 (1Bn boe), with over 750mmboe produced since 2007.

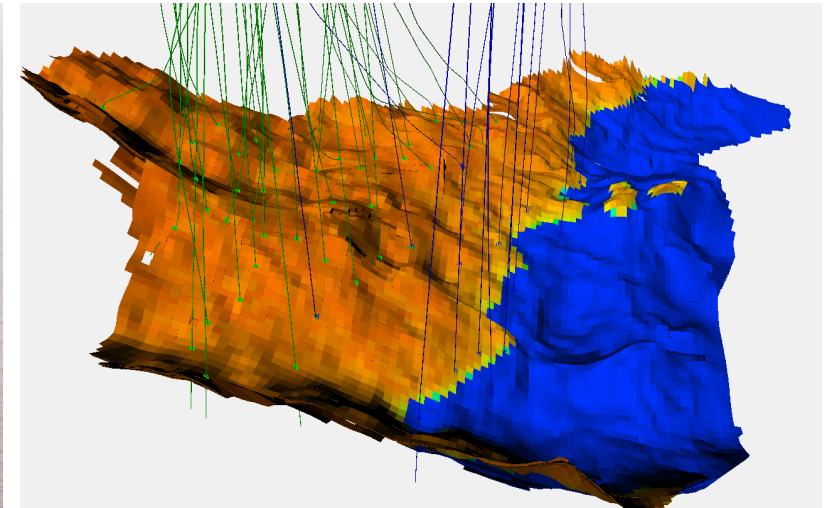
With Buzzard now off plateau, identifying Net Zero opportunities necessitates a combination of expansive thinking, with detailed analyses. Three key studies have or are framing impactful Next Zero asset opportunities:

- 1. Enhanced Oil Recovery (EOR) through CO₂ Injection** – Previously investigated in detail as part of a Buzzard EOR study. The methodology involved: building detailed reservoir models that closely replicate the geology and physical processes which occur at reservoir level, well performance dynamics, facility and operational models along with project costs estimates (CAPEX)
- 2. Carbon Capture and Storage** – CNOOC are currently working to make the reservoir model(s) available for a CO₂ storage study.
- 3. Platform integration with offshore renewables and power from shore** – Electrification of Buzzard, and beyond.

Successful progression beyond Final Investment Decision (FID) in a Capital Development Process (CDP) would lead to a material Net Zero impact, for the North Sea.



Aerial view, Buzzard



Buzzard reservoir model

Good Practice:

This good practise reflects upon how when investigating Net Zero, all optionality should be explored, with what-if scenarios considered before discounting options. Divergent thinking should be encouraged through a wide stakeholder group whom regularly challenge assumptions, looking beyond an individual asset and organisation to find those emerging initiatives and relevant projects.

CNOOC has built upon a previous detailed Buzzard EOR study (2015), although unsuccessful at the time due to high Brownfield CAPEX risk, this approach to wider thinking enabled the mindset and subject matter knowledge to support an OGTC led study group focussing on the capture of CO₂ in oil & gas reservoirs. The OGTC led study requires access to full reservoir models to enable detailed research. CNOOC are thus currently working with Joint Venture (JV) Partners to make the Buzzard reservoir model available for this CO₂ storage study. Such an engagement will make the Buzzard model, a product of thousands of hours of effort, available to OGTC, ultimately informing the Buzzard JV Asset of its potential as a CCS Storage Site, prior to its Cessation of Production (COP).

Wider North Sea engagement has led to the identification of new electrification opportunities for Buzzard, including offshore renewables integration and proposed power from shore schemes. Electrification has the potential to significantly reduce Buzzard oil and gas operational emissions and could extend the operating life and enhance cost efficiencies in the development of new fields. Under one electrification scenario, Buzzard could support renewables develop, acting as a service hub to both conventional Oil & Gas and Net Zero development.