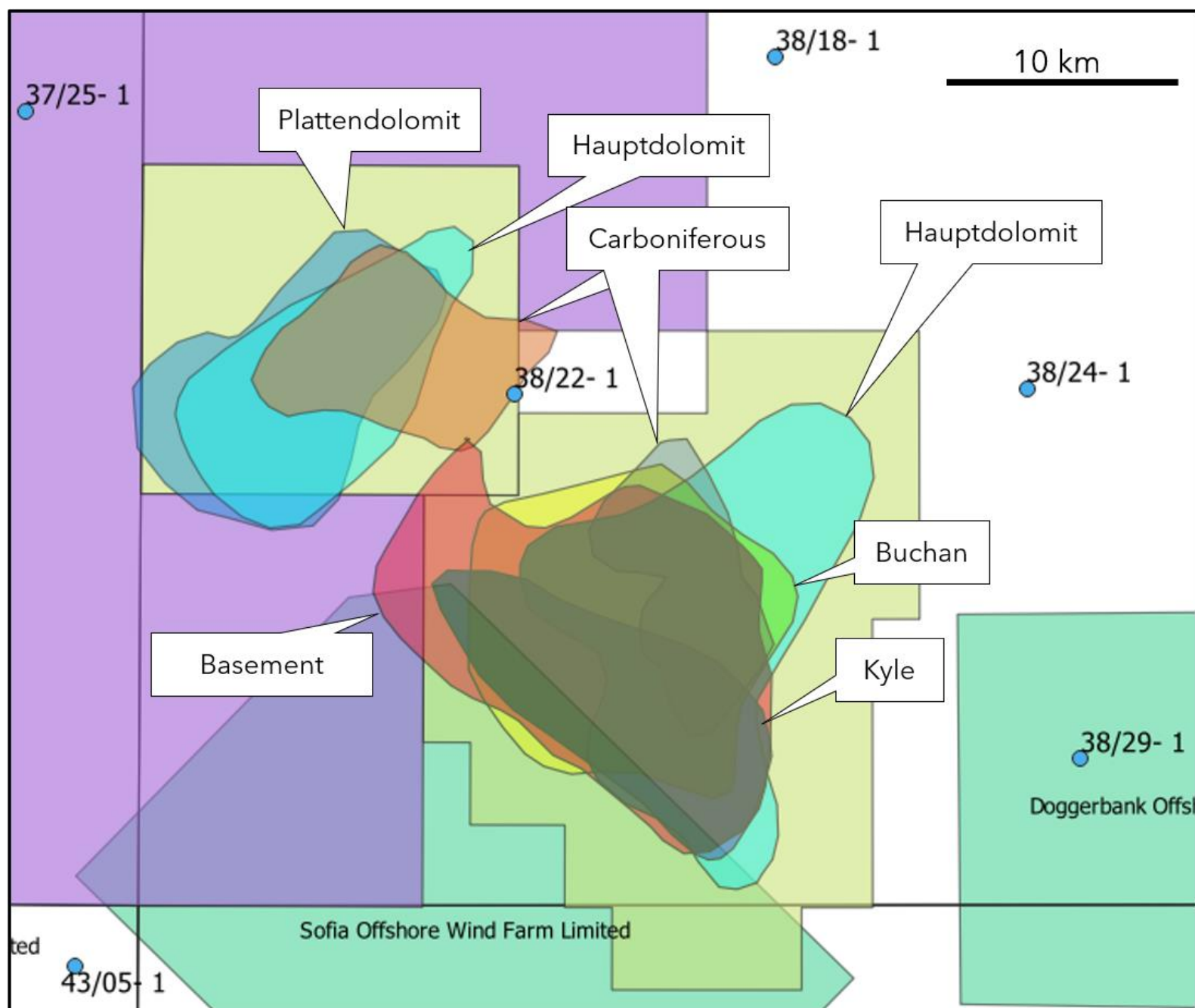


## THE BALVENIE AND DURHAM PROSPECTS UKCS OFFSHORE PRODUCTION LICENCES P2331&P2487



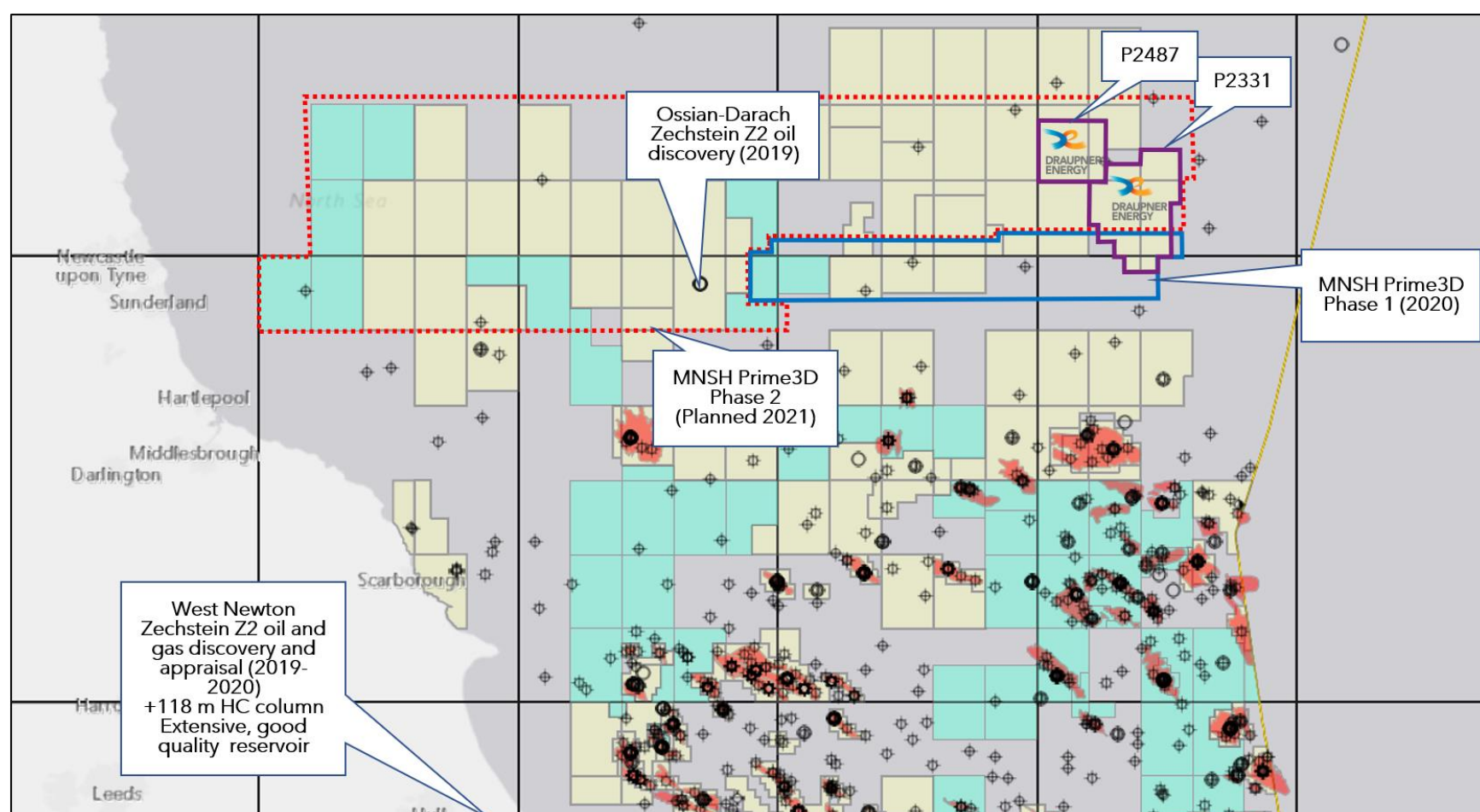
### FARM-IN OPPORTUNITY JANUARY 2021

## OFFSHORE UKCS P2331 & P2487 – BALVENIE AND DURHAM PROSPECTS HIGH IMPACT OPPORTUNITY

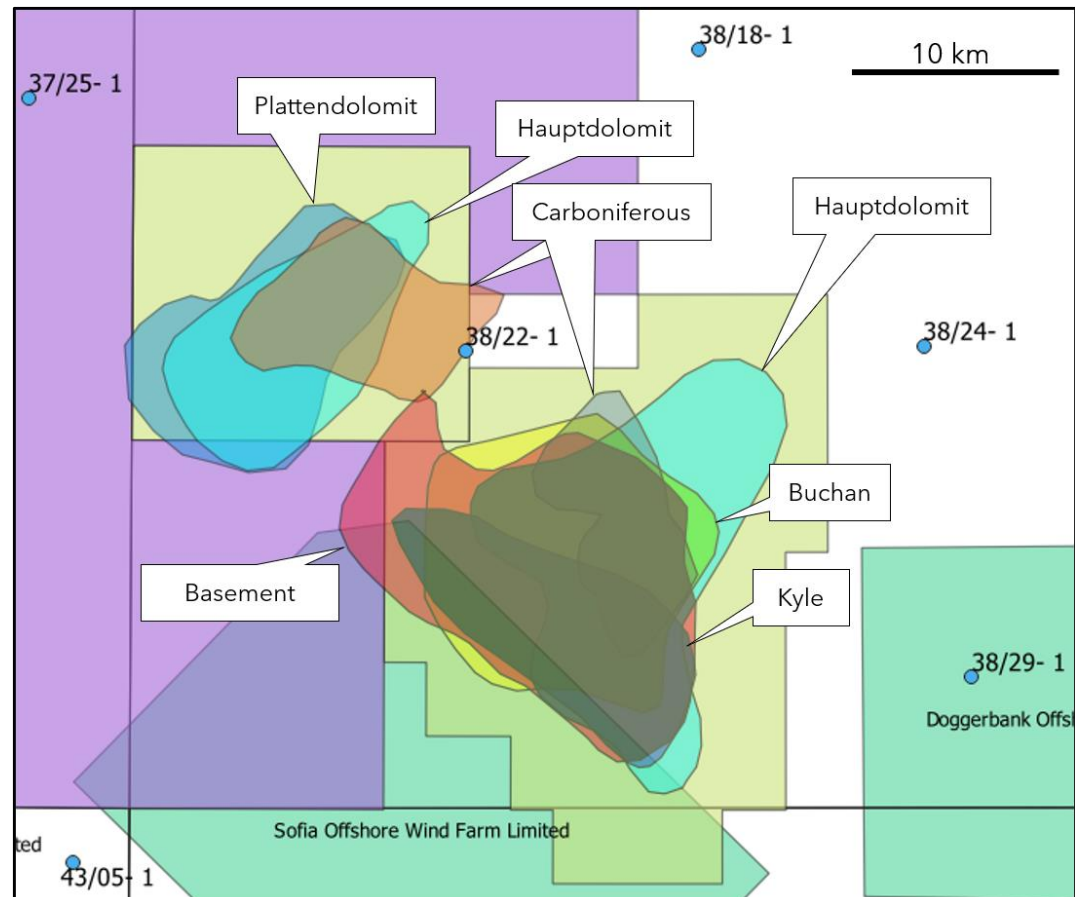
Draupner Energy offers a participating or operating interest in licences P2331 and P2487 in the UK sector of the Southern North Sea. These licences contain the two very large multi-target Balvenie and Durham 4-way dip closures involving Upper Paleozoic strata. The main target in both Balvenie and Durham is the Upper Permian Zechstein Hauptdolomit with a mean total potential of 500 mmbbls of recoverable oil and 370 BCF associated gas, alternatively 1.9 TCF recoverable gas. Additional potential is present in the Plattendolomit, Lower Carboniferous, Devonian, and fractured Basement. ION Geophysical commenced acquisition of the MNSH Prime3D multiclient seismic survey in 2020 and ca. 120 km<sup>2</sup> of P2331 has now been covered. Phase 2 acquisition is planned for 2021 covering the remaining part of P2331 as well as P2487. Draupner Energy aims at licensing ca. 1,000 km<sup>2</sup> of this 3D seismic dataset to adequately map, re-evaluate and de-risk the Balvenie and Durham prospects in preparation for exploration drilling.

### 1. Introduction

Production licence P2331 was awarded on 15 May 2017 to Draupner Energy Limited (Draupner Energy) in the 29<sup>th</sup> Seaward Licensing Round. In July 2019 Draupner Energy was awarded a northern extension to P2331 and adjacent licence P2487 in the 31<sup>st</sup> Licensing Round, with the two licences presently covering in total 741 km<sup>2</sup>. The licensed acreage is located on the southern portion of the Mid North Sea High ca. 90 km east of the Ossian-Darach Hauptdolomit oil discovery and 40 km north of the Cygnus gas field. Draupner Energy is seeking partners to fund access to full 3D seismic coverage (ca. 1,000 km<sup>2</sup>) of the licensed area through purchase of ION Geophysical's MNSH Prime3D survey.



The initial terms for P2331 and P2487 are 9 years and 7 years, respectively. Draupner Energy has fulfilled P2331 phase A work commitments and entered the 3 year's phase B on 15 May 2020 which entails acquisition, processing, and interpretation of at least 200 km<sup>2</sup> 3D seismic. P2487 is presently in its 2<sup>nd</sup> year of phase A with phase B starting on 15 July 2022 (150 km<sup>2</sup> 3D seismic commitment). G&G work has revealed a very large hydrocarbon potential in the multi-target Balvenie and Durham 4-way dip closures with the Zechstein Hauptdolomit as the primary objective at ca. 2000 m depth. The total Balvenie and Durham Hauptdolomit mean volume potential is **500 mmbbls of recoverable oil and 370 BCF associated gas, alternatively 1.9 TCF recoverable gas**. Additional potential is present in the overlying Plattendolomit and underlying Lower Carboniferous, Upper Devonian Buchan sandstones, Middle Devonian Kyle carbonates and fractured Basement at ca. 2400-2700 m depth directly underlying the Hauptdolomit main target. There are no high temperature or pressure issues. Licences P2331 and P2487 are located in shallow water (ca. 25-35 m). The Durham prospect and nearly all of the Balvenie prospect lie outside of the planned wind farm developments in the vicinities of the Dogger Bank.



Target	P2331 Balvenie Prospect				P2487 Durham Prospect			
	Oil case recoverable volume		Gas case recoverable volume		Oil case recoverable volume		Gas case recoverable volume	
	Oil (mmbbls)	Associated gas (BCF)	Gas (BCF)	Associated condensate (mmbbls)	Oil (mmbbls)	Associated gas (BCF)	Gas (BCF)	Associated condensate (mmbbls)
Upper Zechstein Plattendolomit	99	74	270	1	79	60	220	1
Middle Zechstein Hauptdolomit	290	220	1100	6	210	150	770	4
Lower Carboniferous	21	15	57	0	60	45	170	1
Upper Devonian Buchan			970	5				
Middle Devonian Kyle			220	1				
Fractured Basement			940	5				

## **2. Plays and prospectivity**

### **2.1 Source and charge**

A very large hydrocarbon generating kitchen area is located south and east of the Balvenie and Durham prospects. The primary source rock for gas is the Lower Carboniferous Scremerston Formation which is the main source rock for the Breagh Field and onshore Cleveland Basin fields. The Scremerston, Kupferschiefer and the lower part of the Zechstein also have a considerable oil potential, and the likelihood for oil in Balvenie and Durham has increased following the recent Ossian-Darach and West Newton Zechstein discoveries.

### **2.2. Reservoirs and seals**

The main play in the area is the Zechstein Hauptdolomit which has the largest volume potential and lowest geological risk. The Zechstein Hauptdolomit play has recently seen a revival with Shell farming into a number of licences formerly held by Deltic Energy, Horizon Energy and Egdon Resources and the Ossian-Darach and West Newton discoveries mentioned earlier.

Additional potential has been identified in the Zechstein Plattendolomit, the Lower Carboniferous, the Devonian Buchan and Kyle, and in fractured Basement.

#### **2.2.1 Zechstein Hauptdolomit main play**

In the area of interest, the Hauptdolomit is 40-65 m thick and consists mainly of platform carbonates deposited as ooid and oncolite shoals in a platform and lagoon setting with local stromatolite development. The rocks are heavily dolomitised which has resulted in enhanced porosity and permeability. Where developed as high-energy platform facies, the Hauptdolomit has a high net/gross ratio with net reservoir thickness of 25-40 m, average porosity of 17-22 % and an average permeability of ca. 50-100 mD.

The Hauptdolomit is overlain by anhydrite and/or halite belonging to the Basalanhydrit and Stassfurt Halite, respectively, representing excellent top seals for retainment of hydrocarbons.

### **2.3 Trap geometry**

The Balvenie and Durham prospects are large 4-way dip closures with the Balvenie Hauptdolomit (up to 178 km<sup>2</sup>) and Durham Hauptdolomit (up to 95 km<sup>2</sup>) as the primary targets. For other reservoir levels the structural closures vary in size between 58 km<sup>2</sup> (Lower Carboniferous) and 200 km<sup>2</sup> (Basement). There is stratigraphic trapping volume upside potential especially in the Hauptdolomit targets as the dolomite facies are likely to be laterally flanked by halite providing an effective side seal. Other targets may also have stratigraphic or combination trap mechanism volume potential upside.

### 3 Summary and Way Forward

Through comprehensive geological and geophysical work, the Balvenie and Durham prospects have been matured into **High-Impact Opportunities** with a combined potential of **500 mmbbls of recoverable oil and 370 BCF associated gas, alternatively 1.9 TCF recoverable gas** in the primary Hauptdolomit targets as well as substantial additional potential in secondary targets.

Draupner Energy is seeking additional partners to jointly underwrite ca. 1,000 km<sup>2</sup> of ION Geophysical's multi-client MNSH Prime3D 3D seismic covering P2331 and P2487. High-quality 3D seismic will reduce the uncertainty on the extension and geometry of the Hauptdolomit main target and secondary targets, improve the depth conversion model and reduce risk related to trap geometry and reservoir extent, thickness, and properties, and may also provide more insight into the likelihood of hydrocarbon migration. A 3D seismic survey is also considered essential for placement of exploration wells. The best commercial option (early participant price for phase 2) can be achieved through underwriting **by 1 April 2021**. Thereafter the cost will increase as a consequence of late participant pricing.

The farm-out process is as follows:

- Data package and data room available after signing of a Confidentiality Agreement
- Deals can be made at any time on a *first come – first serve* basis
- Equity is available in exchange for coverage of costs for the 3D seismic purchase, potential re-processing and historic costs, or a cash offer
- Material equity interest (up to 80%) available

Bid preference order:

- Full carry on 3D seismic purchase and potential re-processing, and coverage of historic costs
- Cash offer

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