

# MER UK EXPLORATION TASK FORCE Exploration Forum

PROSPEX 2019 Conference, London

11<sup>th</sup> December 2019

Sponsored by



**CNOOC**



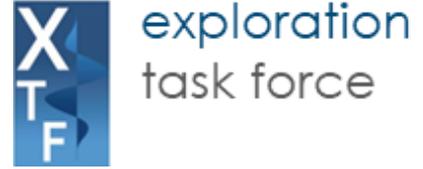
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**Complimentary Wi-Fi**

Network: **DNOPROSPEX2019**

Password: **Fiftyby50**

# Exploration Forum



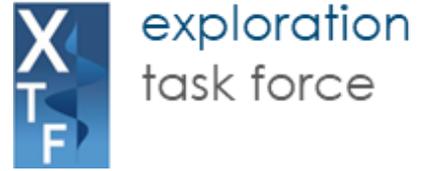
## Agenda

- XTF Introduction (*Nick Richardson*)
- Activity update (*Sophie Guy-Pearson & Alyson Harding*)
- Petroleum Systems Project (*Nick Terrell*)
- Centre for Doctoral Training (*Nick Richardson*)
- OGTC Technology & Projects update (*Gillian White*)
- XTF 2020 Priorities (*Nick Terrell*)

Sponsors



**Followed by OGA's Opening Keynote at 10am**



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MER UK EXPLORATION FORUM

# XTF Introduction

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Nick Richardson

# Exploration Task Force



**Role:** To revitalise exploration on the UKCS in order to add reserves to replace production and secure longevity of the UK Petroleum Industry.

## Key Priorities:



**Attracting Investment** – Promote inward investment and raise the profile of UK Exploration & Production



**Delivering Future Activity** – Define the Yet-to-find Potential of the UKCS and deliver resources and value through appropriate activity



**Licensing Rounds** – Support the OGA's licensing activity and ensure fit for purpose licencing regime that supports activity and investment



**Regional Exploration** – Support delivery and promote funding of collaborative regional Petroleum Systems Project. Ensure project produces useful and valuable deliverables to industry



**Data Release & Technology** – Support delivery of NDR and improvements to data release mechanisms. Ensure timely delivery of exploration related OGTC projects and that data is effectively published. Support TLB digital technology challenge.

The XTF provides input on key strategic issues such as UK Industrial Strategy and collaboration

# Exploration Task Force Members



exploration  
task force



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**Jenny Morris**  
VP Exploration UK,  
Equinor



**John Underhill**  
Chief Scientist & Prof.  
Heriot-Watt University



**Dave Lewis**  
Team Lead UKCS  
Chevron



**Graham Goffey**  
Founder/Direct  
Soliton Resources Ltd.



**Nick Richardson**  
Head of Exploration &  
New Ventures, OGA



**Rod Crawford**  
Technical Director,  
Zennor Petroleum



**Anne-Sophie Cyteval**  
UK Exploration Manager,  
Spirit Energy



**Nick Terrell**  
Managing Director,  
Azinor Catalyt



**Chrysanthe Munn**  
Exploration Manager,  
BP



**Andy Alexander**  
Chief Geophysicist,  
Siccar Point Energy



**Mohamed-Amine  
Soudani**  
North Sea Area Exploration  
Manager, Total



**Ben Hillier**  
Exploration Manager UK,  
Shell



**Ian T. Edwards OBE**  
Exec. Vice President, NW  
Europe & Asia Pac, Spectrum



**Colin Percival**  
Technical Director,  
Athena Exploration



**Katy Heidenreich**  
Upstream Ops  
Optimisation Mgr,  
OGUK

Please  
contact XTF  
Members to  
raise Issues  
or to  
Volunteer  
for Sub-  
Groups

# Exploration Task Force Website



exploration  
task force



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The screenshot shows the website's header with the Oil & Gas Authority logo and a search bar. A navigation menu includes links for About us, Regulatory framework, Licensing & consents, Exploration & production, Onshore, Decommissioning, Technology, Supply chain, Data centre, and News & publications. A large blue banner contains the text 'Exploration Task Force' and a breadcrumb trail: Home / About us / MER UK Forum & Task Forces / Exploration.

**About us**

- What we do
- Ambition & priorities
- People and values
- Leadership & governance
- Performance
- Investing on the UKCS
- MER UK Forum & Task Forces
  - MER UK Steering Group
  - Exploration
    - Priorities
    - Exploration Task Force members
    - Presentation Material and Minutes of meetings
    - Activities and Plans
    - Deliverables: Projects and Reports
    - Terms of Reference
  - Asset Stewardship
  - Efficiency
  - Technology Leadership
  - Supply Chain and Exports
  - Decommissioning Task Force
  - Cultural Change

**Exploration Task Force:** revitalising exploration on the UKCS in order to add reserves to replace production and secure longevity of the basin.

A row of six blue icons, each containing the 'XTF' logo. Below each icon is a link: Priorities, Members, Presentation Material and Minutes of meetings, Activities and plans, Deliverables: Projects and reports, and Terms of Reference.

**OGUK**



Westwood  
Global Energy  
Group



exploration  
task force



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**MER UK EXPLORATION FORUM**

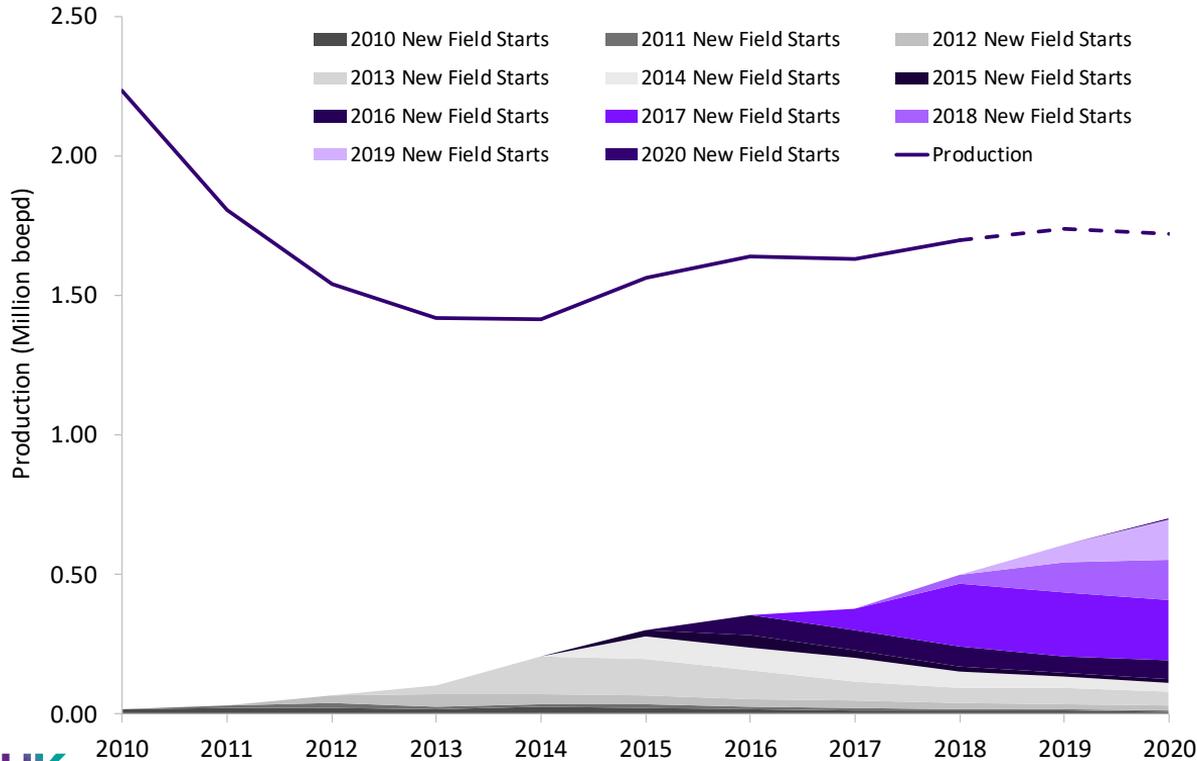
# Activity update

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Sophie Guy-Pearson (OGUK)

Alyson Harding (Westwood Global)

# Production performance has been strong – but it needs to be underpinned by a steady stream of new projects



Source: Rystad Energy, OGUK, BEIS

**UK industry  
must remain  
internationally  
competitive to  
unlock new  
opportunities**



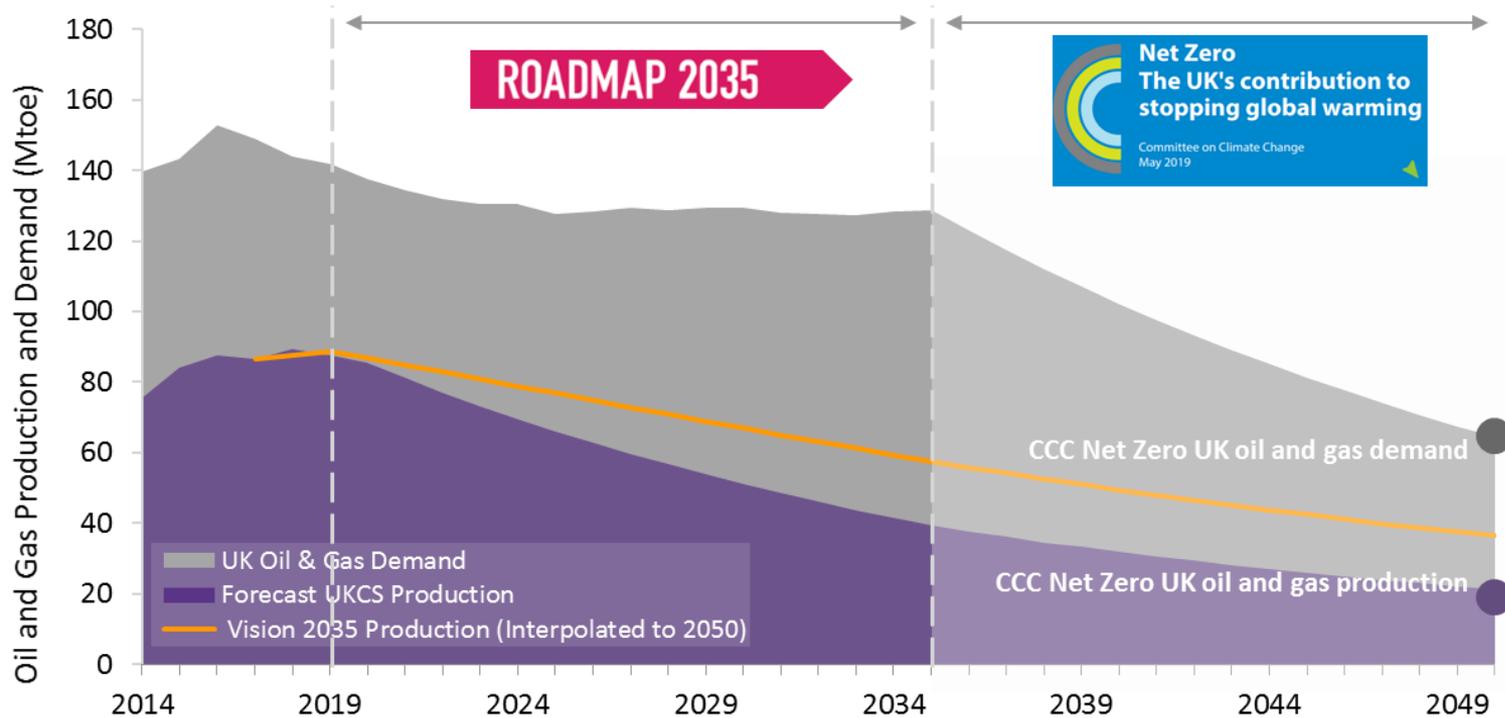
**There is a healthy pipeline of projects under consideration** – companies are making sure that investment decisions are as robust as possible

**12-15 new projects** were expected in 2019; releasing **£2bn capex & 240 mn boe**



# Exploration remains key to the future of the UKCS

We need to ensure there are opportunities that can be progressed through to production



# ROADMAP 2035

## A BLUEPRINT FOR NET-ZERO



### Supporting net-zero

- On track to be a net-zero oil and gas basin
- Developing Carbon Capture Usage and Storage and other low-carbon technologies, at scale
- Underpinning an increasingly diversified energy system



### Helping meet UK energy needs

- Providing over half of the UK's oil and gas demand
- Delivering over 1 million barrels of oil and gas each day
- Foundation of an integrated energy system on the UK Continental Shelf



### Developing people and skills

- Developing a diverse workforce with transferable skills, supported by an inclusive culture
- Attracting 40,000 people, a quarter of which will be in new roles
- Be recognised as a global leader in carbon management



### Driving technology and innovation

- Establishing a Net Zero Technology Solution Centre
- Creating more than 100 new technology start-ups, adding £2 billion in economic value
- Adding over £10 billion in economic value through technology and innovation



### Growing the economy and exports

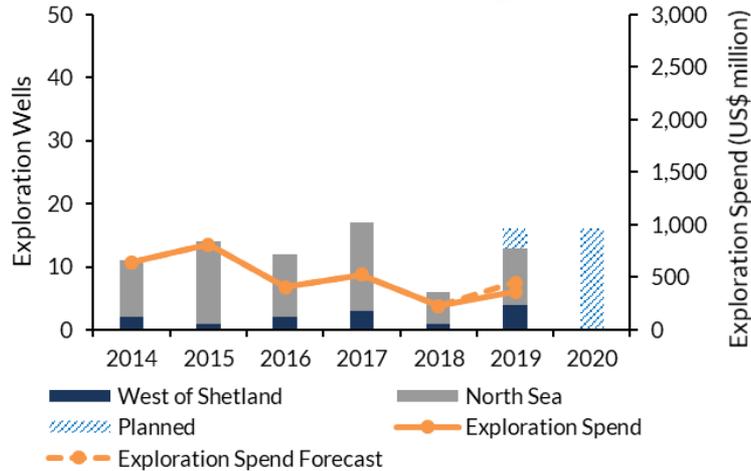
- Continuing to add billions of pounds of value to the UK economy
- Increasing exports from the diversified oil and gas sector to £20 billion each year
- Increasing the number of supply chain firms exporting by 50%



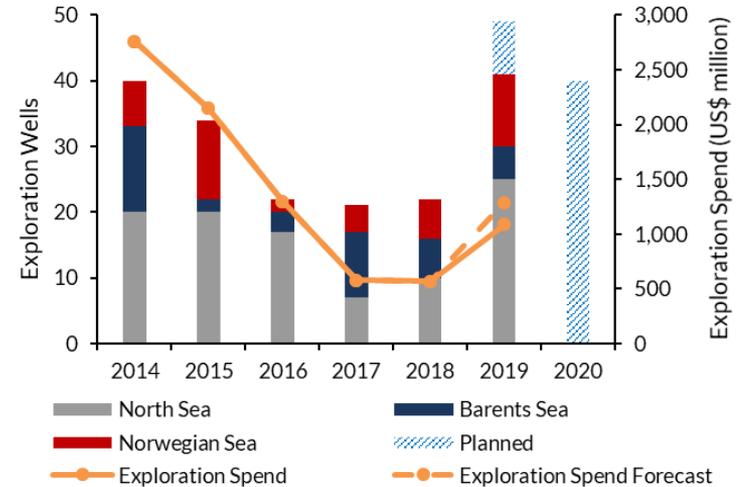
# UK & Norway exploration activity

Increased activity in 2019 but what about success rates?

### UK exploration drilling



### Norway exploration drilling



- Exploration drilling activity has increased in both the UK and Norway in 2019 - may have most wells in Norway for a decade depending on which complete before year end
- Exploration spend is relatively low in both countries for the number of wells drilled - partially due to shallow targets and shorter duration wells
- 2020 is expected to remain similarly active

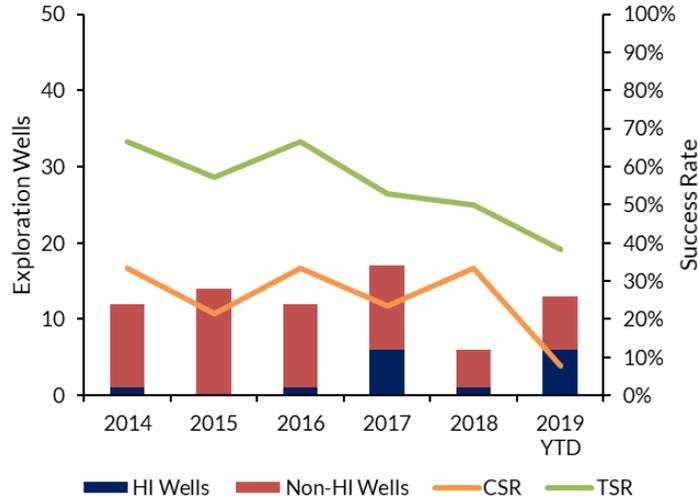
Source: Westwood Atlas and Wildcat



# UK & Norway exploration activity

Increased activity but success rates in 2019 are poor in the UK and average in Norway

### UK success rates



### Norway success rates



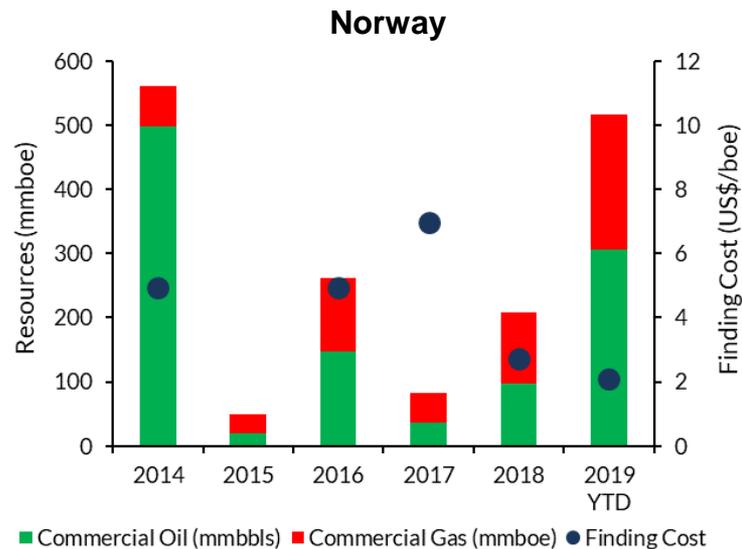
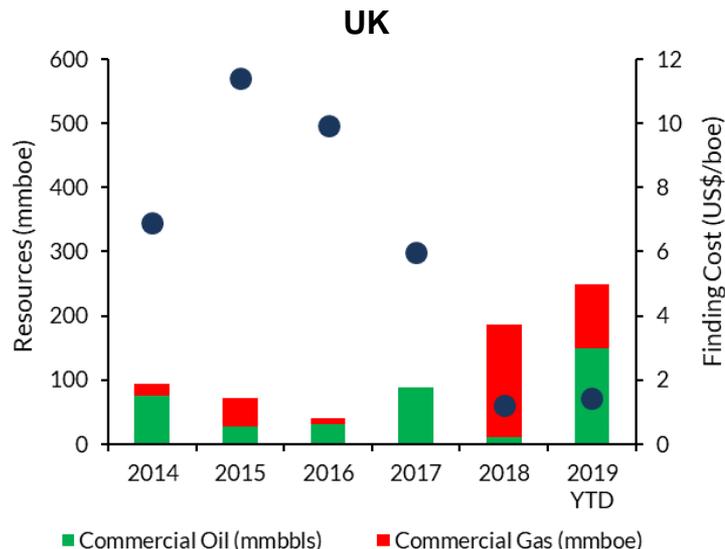
- UK and Norway have seen increased high impact drilling - 5 YTD in UK, 16 YTD in Norway
- UK CSR has dropped from an average of c. 30% in 2014 - 2018 to just 8% YTD in 2019. Norway has remained stable, but mediocre at c. 20% CSR
- Technical success rates have fallen since 2016 on both sides of the median line

Source: Westwood Atlas and Wildcat



# UK & Norway discovered volumes

2019 volumes are highest in UK & Norway since the oil price crash



- UK and Norway have seen the most new volumes discovered from exploration since 2014 - 250 mmboe in the UK and over 500 mmboe in Norway
- Last time >250 mmboe was found in the UK was in 2008, with 449 mmboe including Culzean and Kinnoull
- Finding costs are low, but skewed as a result of discovery sizes in the UK

Source: Westwood Atlas and Wildcat

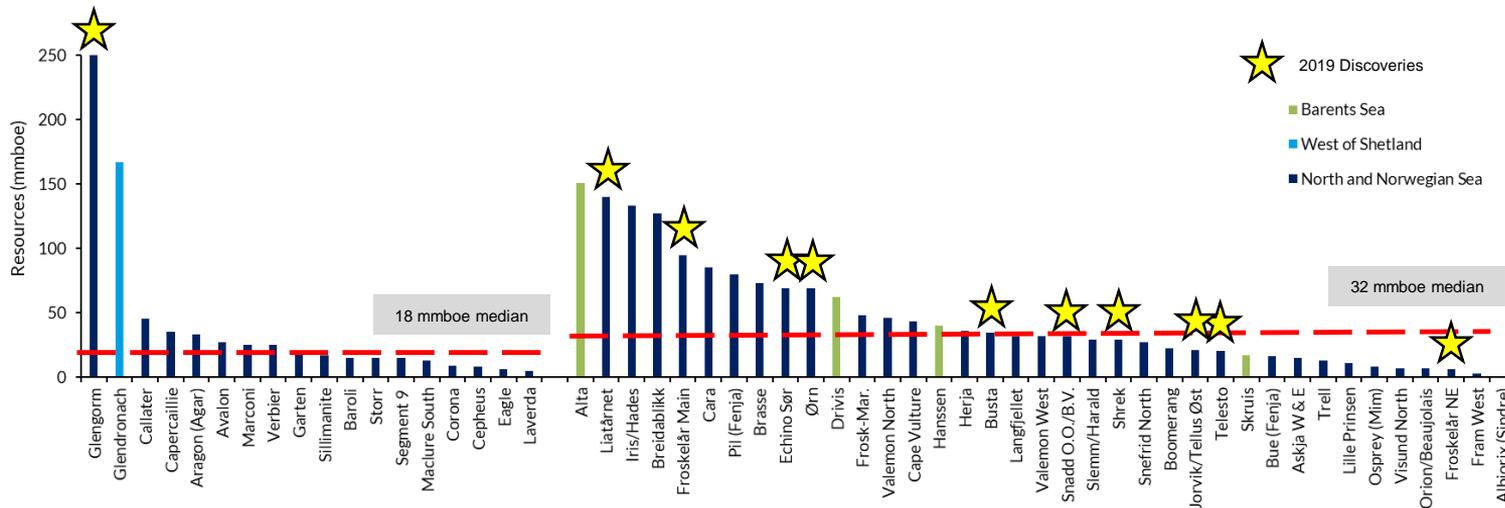
# UK & Norway commercial discoveries 2014 - 2019 YTD



UK discoveries are dominated by ILX wells

UK - 729 mmboe in 18 discoveries

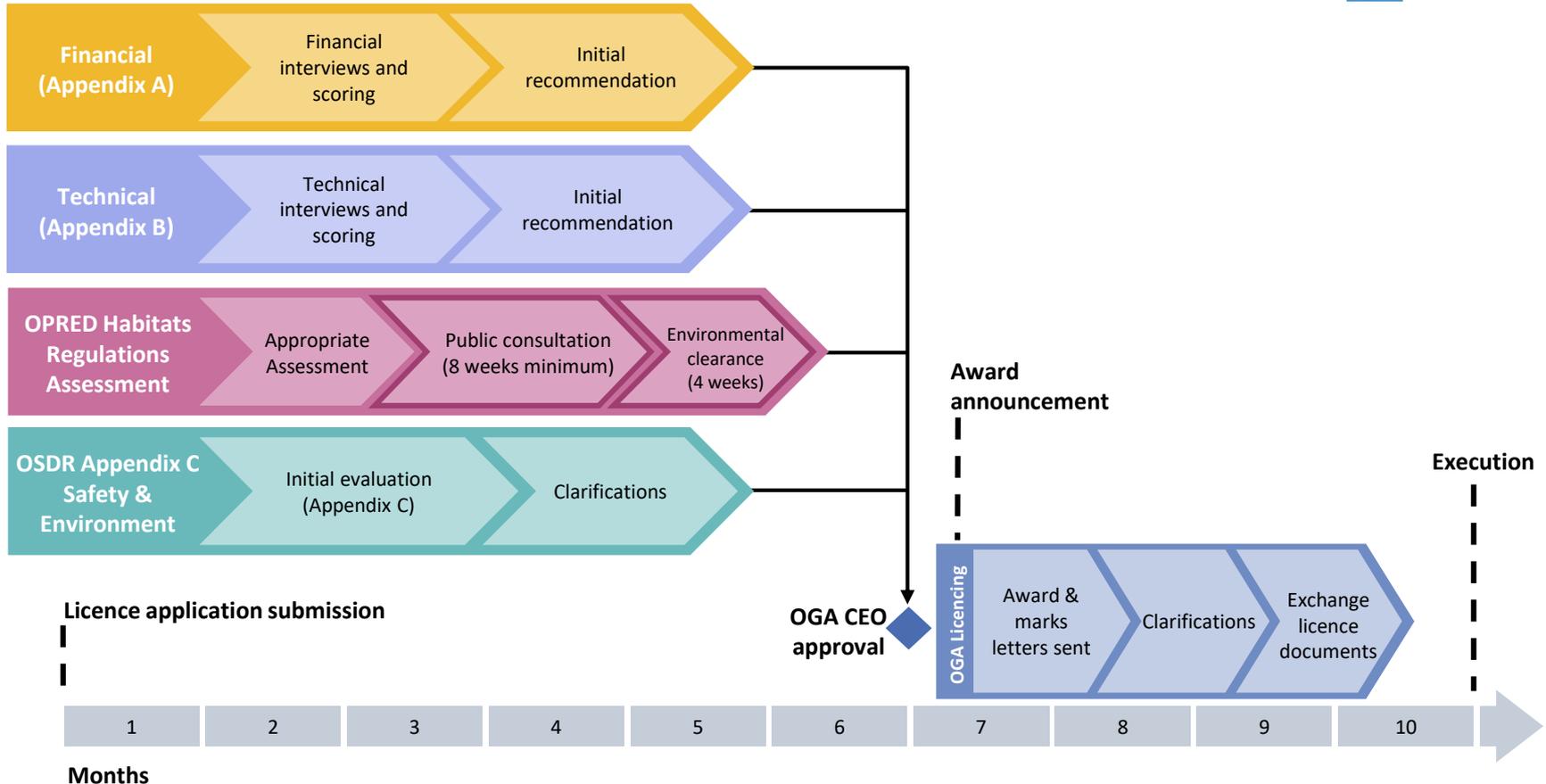
Norway - 1,680 mmboe in 37 discoveries



- Median volumes of discoveries are small - just 18 mmboe in UK, 32 mmboe in Norway
- Dominance of near-field drilling is reflected in the volumes discovered
- UK has had just one commercial discovery in 2019 - Glengorm. Isabella and Aspen are still active
- 2019 Norway discoveries are a mix of heavy oil (Liatårnet, Froskelår), gas (Ørn) and light oil (Echino Sør, Busta)

Source: Westwood Atlas and Wildcat

# Simplified view of Innovate Licence award process





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# Petroleum Systems Project

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Nick Terrell

# UKCS Petroleum Systems Project

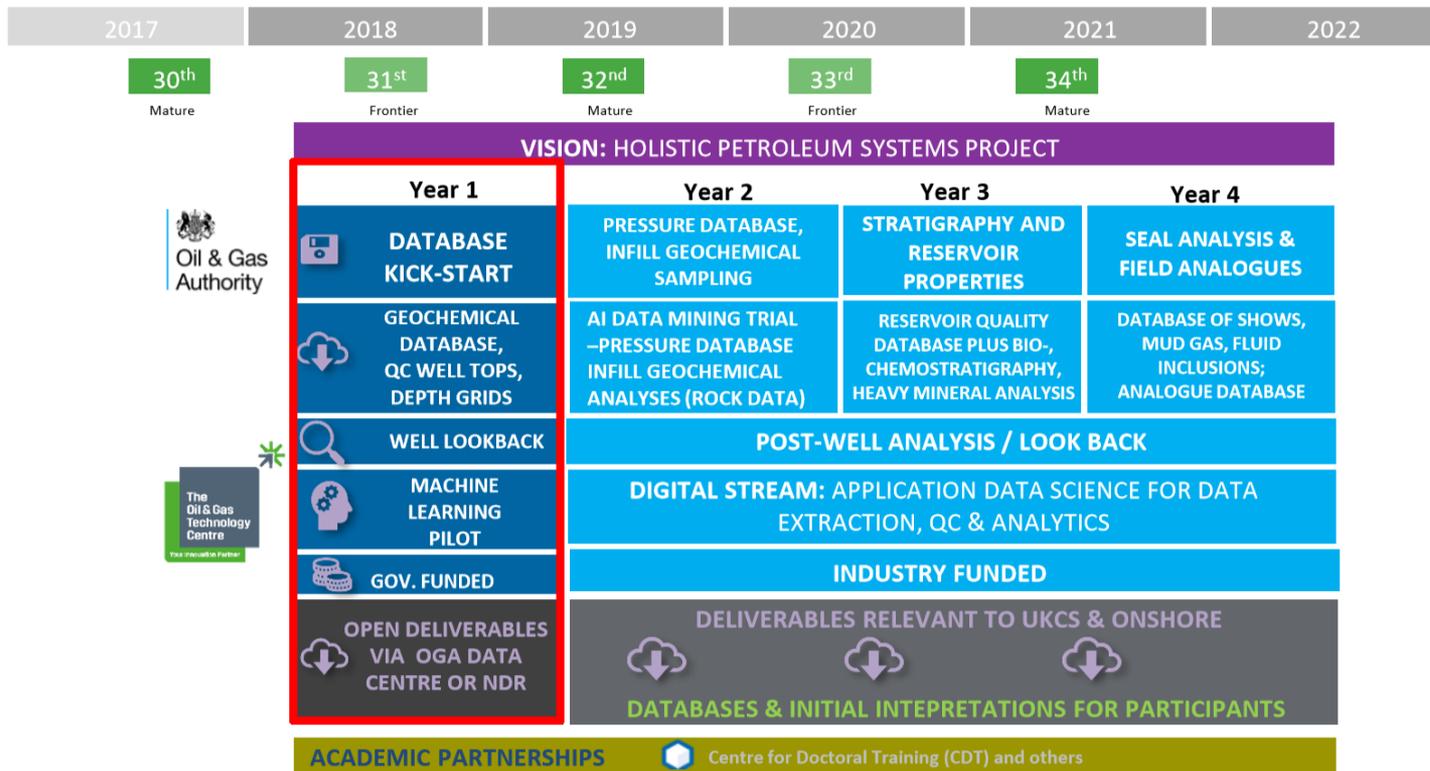
## Proposed Model



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The XTF provides leadership and support to exploration on the UKCS

# UKCS Petroleum Systems Project

## Deliverables

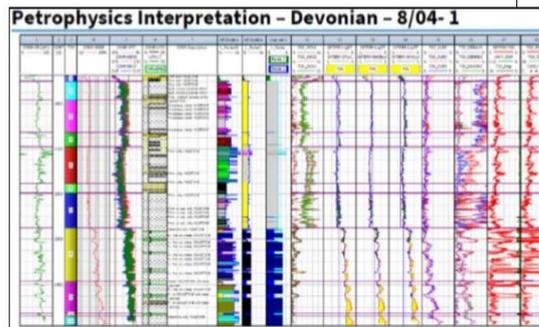
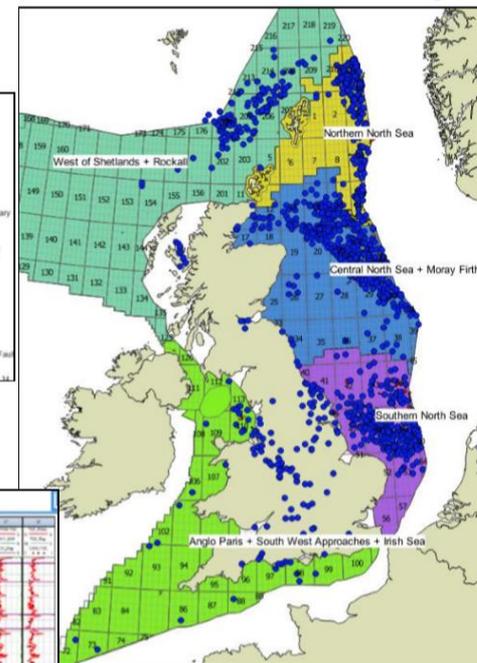
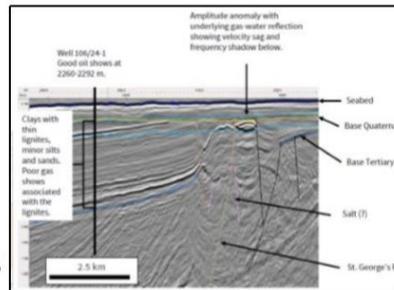


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- Single compiled UKCS geochemical database plus 5 regional databases
- (p:IGI™ & MS Excel™)
- 5 high level overview/interpretation reports
- Technical note and catalogue of CDA files
- ArcGIS project showing results of all deliverables
- UKCS regional depth structure surfaces in Zmap format
- CPI's and .las files of petrophysical results
- Written report



# UKCS Petroleum Systems Project

## Industry Engagement

- **Project Outline – Exploration Managers Forum, Prospex December 2017**
- **Initial Participation Request Letter – February 2018**
  - Supplementary Information
- **Industry Survey – March 2018**
  - c.40% of companies Responded. Positive response.
- **Presentation – Exploration Managers Forum, Geol. Soc. July 9<sup>th</sup> 2018**
- **Industry follow-up – September to November**
  - **Contact individual companies – feedback**
- **Project Update – Exploration Manager’s Forum, Prospex December 2018**
- **Request for Commitment – Q1 2019**



Aiming for **£1MM industry funding per Year 2**

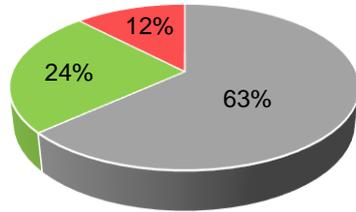
- annual contribution £40K - £20K - £10K - £2K
- 3 year commitment

The XTF provides leadership and support to exploration on the UKCS

# UKCS Petroleum Systems Project

## Project Status

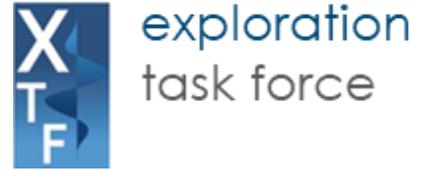
### Industry Response



■ No response ■ Yes ■ No

- Letters sent to **all UKCS licencees** March and September 2019
  - **37% of companies** sent a response
  - **No response** from remaining 63% (57 companies)
- Of responses received, 67% were positive committing **£515k of funding**
- Whilst the target of £1MM has not been reached there is clearly appetite from industry to fund and participate in collaborative regional exploration projects





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# Centre for Doctoral Training

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Professor John Underhill

# CDT Funding

## From Oil & Gas to the Low Carbon Energy Transition

- NERC awarded the CDT in Oil & Gas to the Heriot-Watt led partnership of 17 HEIs and 2 Research Centres in 2013;
- Launched in 2014, the original £3M 3-year 30-PhD investment has leveraged 3 times more studentships (now 128 PhDs), an additional £11.7M and 8 Industry partners who support the Training Academy and offer internships. The CDT program is now worth £14.7M and entered its 6<sup>th</sup> year IN October 2019;
- Success of the original model has led to a new £2.5M award, which will see a further 48 PhDs in 2020-2022. The new PhDs will be the field of Geoscience and its place in the Low Carbon Energy Transition facing the challenge of Net Zero;
- The Industry Partners provide £320k p.a. (£1.9M) to support the Geological Society accredited Training Academy that consists of 20-weeks of modules;
- Research undertaken has led to world class peer-reviewed output, numerous awards and esteem indicators and generates significant Government interest (e.g. Visits by the UK Energy Minister; Secretary of State for Scotland etc.);
- The CDT has also informed regulatory policy in the UK through the Oil & Gas Authority (OGA) and helped UKRI launch new initiatives and calls for research (e.g. NERC workshop on Extending the Life of Mature Basins and research funding calls in Decommissioning and Unconventional Hydrocarbons);
- First 27 PhDs completed and all of the graduates have gone into employment in relevant areas of industry, academia, government and big data analytics (e.g. Amazon) and outreach (e.g. BBC);



CDT Annual Conference, Edinburgh



UK Energy Minister, Matt Hancock visiting the CDT

# CDT Numbers

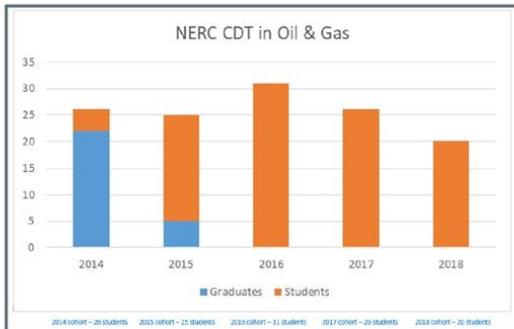
- NERC Funding covered 30 x 4-year PhDs (2014-18)
- National Productivity Investment Fund (NPIF) provided a further 12 PhDs (2017-2022);
- Academic and Research Centre Partners funded 86 PhDs;
- Initial NERC investment leveraged 3 times more PhDs;



## CDT Student Numbers



- 128 students undertaking their PhDs at 17 UK universities;
- 46 female, 82 male (gender balance: 36%);
- First student PhD thesis submissions in 2018;
- Now 27 CDT Graduates;
- Moving in to employment;



Natural Environment Research Council



- UK Research Councils (UKRI)
- Government Depts;
- Companies;
- Conference presentations (EAGE; GSL; EAGE & AAPG);
- Published Articles

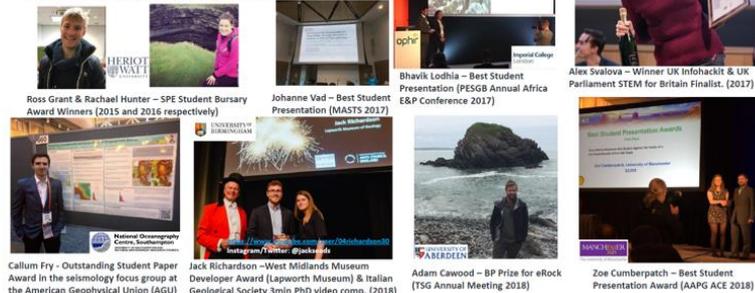


• <https://www.geosoc.org.uk/Geoscientist/Archive/September-2019/Feature-1>



## Engagement & Awards

- International engagement with diverse industry, academic, government and regulatory officials.
- Numerous prestigious awards credit both their research work and individual's wider talent and skills base.



The XTF provides leadership and support to exploration on the UKCS

# Industry Engagement



- The CDT vision has led to companies coming in to support the Training Academy:
- 8 current sponsors supporting Training Academy activities;
- BP, Cairn Energy, ConocoPhillips, Equinor, ExxonMobil, Shell, Total, Verus Petroleum;



- BG Group, E.ON, Maersk Oil, OMV & Woodside;

# The CDT Student Experience



"I like the CDT because it offers the possibility to gain additional knowledge, meet a lot of very interesting people and get an idea how industry works and how it interlinks with academia."

**Ulrike Sonnenblume - Birmingham Uni.**

"It has been a great networking platform, being able to meet and build relationships with not only current industry professionals but contemporaries who together will likely be part of the future of geoscience within industry."

**Ross Grant -Heriot Watt University**

"You gain a lot of new and interesting view points that enhance your personal development."

**Amy Bode - Aberdeen University**

"The CDT has given me a wide range of valuable skills and experiences that I would not have been able to gain elsewhere having joined the CDT and geology as a whole from a pure physics background."

**Thomas Snell -Durham University**

"The CDT is an academic experience that is second to none. Not only does it allow us to obtain the essential skills and knowledge for a successful career in the petroleum industry but it also provides an unrivalled opportunity to meet academic experts. And very importantly, it allows us to build friendships and networks that will hopefully last beyond PhD studies."

**Aleksandra Svalova - Newcastle University**



**NERC CDT in Oil and Gas 2014 Cohort: French Alps Field course**

"I have learnt a great deal of new skills and been exposed to exceptional science along the way. In addition to this, the CDT has been the platform for plenty of stimulating debate and the forging of strong friendships!"

**Sean O'Neill -Durham University**

"The variety of CDT training courses means you are offered the chance to obtain skills and knowledge that you would probably not get the chance to learn outside of the CDT"

**Jamie Hizzet – NOC Southampton Uni.**

"The CDT has given me access to a network of friends and colleagues across the UK. Through this it has greatly enriched my PhD"

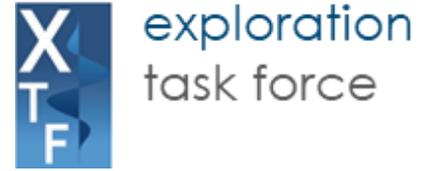
**Jonathan Hardman -Aberdeen University**

"The CDT has been eye opening. It's provided a vast array of avenues I didn't realise I wanted to or even could go down."

**Katy Oakes - University of Dundee**

"The field trip to the Cleveland Basin was probably the best field trip I have ever been on. It allowed me to apply and test theories that I am using throughout my PhD in the field, in an area I would have not visited otherwise. Plenty of singing."

**Nathaniel Forbes-Inskip  
Royal Holloway, University of London**



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# OGTC Projects update

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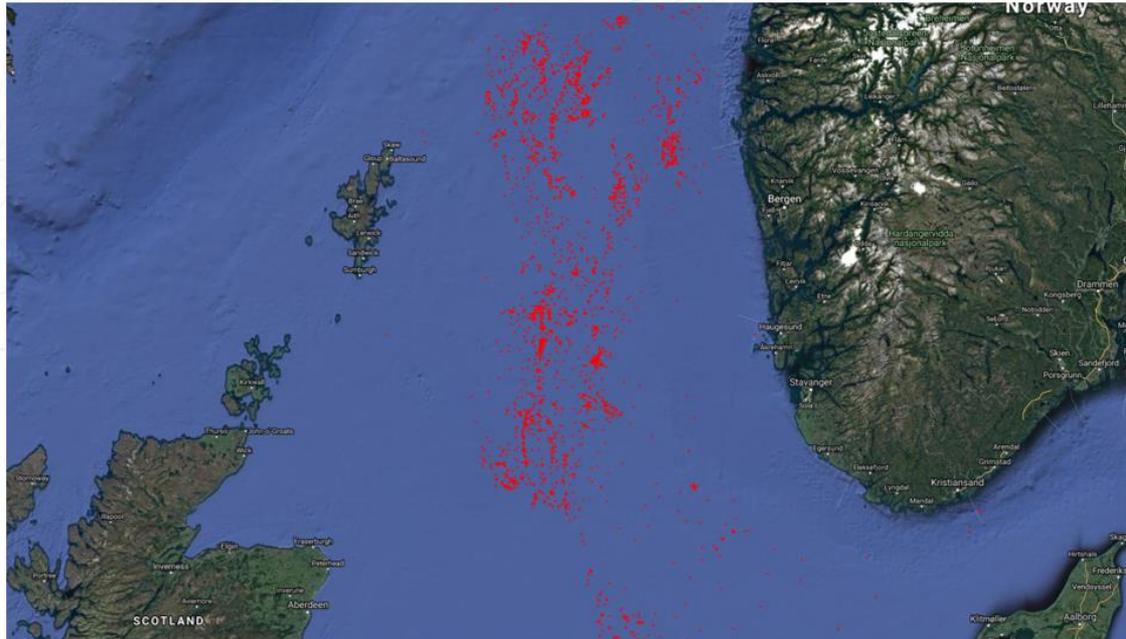
Gillian White (Subsurface Solution Centre)

# Input Data



## NDR, NPD, Operators (x9)

Company	No of Wells
<u>Taq</u>	526
CNR	501
Apache	459
Shell	457
Enquest	436
Total	285
Marathon	236
Maersk=Total	223
BP	164
<u>Equinor</u>	40
OGA	881
NPD	<u>767</u>
	<b>4975</b>



# Overview



**Output:** Conditioned dataset x2, Ranked list of missed pay x3, Comparison of different ML techniques x3

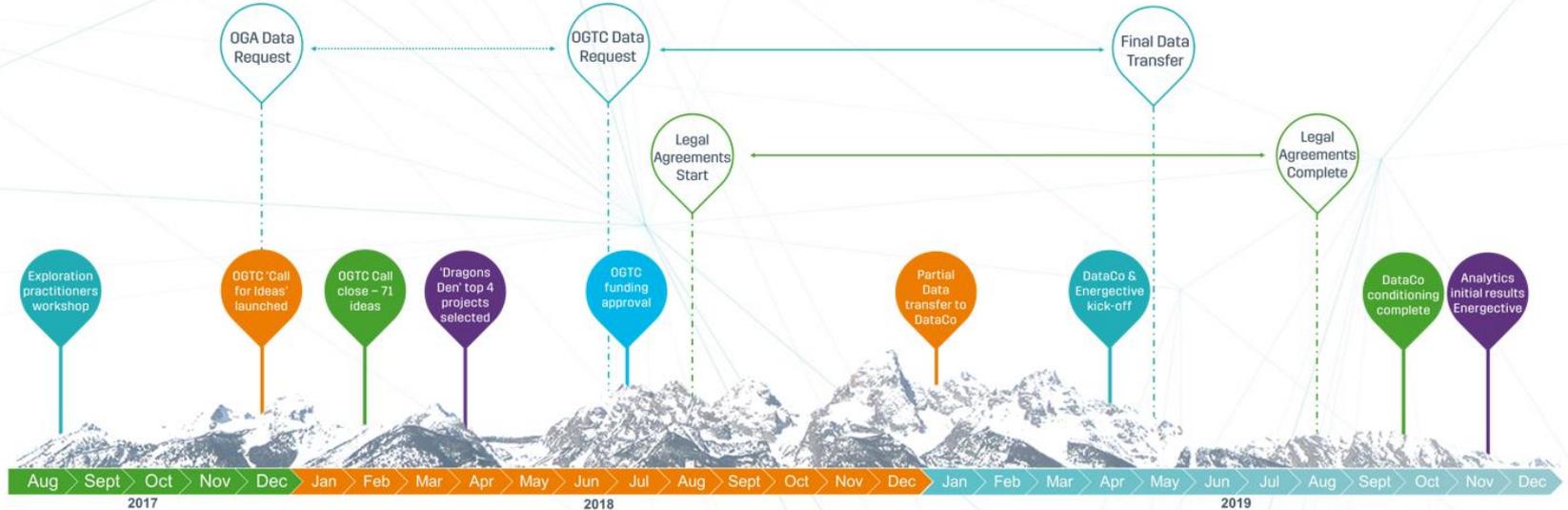
DataCo

Energetive

EARTH SCIENCE  
ANALYTICS

MERKLE

**Objectives:** Use Machine learning techniques to rapidly identify remaining 'overlooked pay' opportunities. Prove that ML techniques can improve productivity and objectivity and be deployed at scale



# DataCo

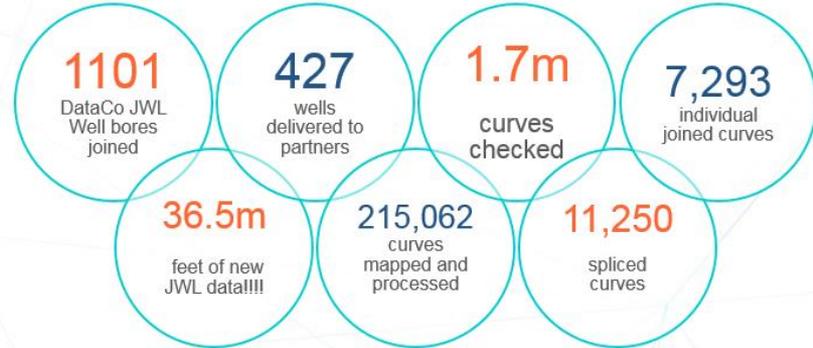


- ✓ Combine DataCo workflows & third-party tools (Spark, Hadoop and Python)
- ✓ Create fit for purpose dataset for the large-scale analysis of hydrocarbon potential
- ✓ Integrate all relevant data into a searchable metadata-based database with a dashboard

## Summary



## Automated Log Joining in Numbers



Curve Name	Curve Type	Curve Units	Left Scale	Right Scale	Comment
GR	GAMMA	API	0	150	Gamma Curve
SP	SP	MV	-100	100	Spontaneous Potential
CALI	CALI	IN	6	26	Caliper
DEN	DENS	G/CC	1.95	2.95	Density
DENC	DENCOR	G/CC	-0.75	0.25	Density Correction
NEU	NEUT	%	-15 // -0.15	45 // 0.45	Neutron (Limestone Porosity)
DT	SONIC	US/F	140	40	Sonic / Acoustic
DT_SHEAR	SONIC	US/F	440	40	Shear Sonic
RES_DEP	DEPRES	OHMM	0.2	2000	Deep Resistivity (>61" doi)
RES_MED	MEDRES	OHMM	0.2	2000	Medium Resistivity (24-60" doi)
RES_SLW	SLWRES	OHMM	0.2	2000	Shallow Resistivity (9-24" doi)
RES_MIC	MICRES	OHMM	0.2	2000	Micro Resistivity (<8" doi)

All have been provided where available





- Misnaming a major barrier
  - 30-40% of NDR data
- Incomplete data sets
  - > 60% of wells
- Data formats & accessibility variations and vintages
  - All operators' contributions
- Sparse machine-readable information
  - ~40% of enhanced data contributed

“

*The UK NDR is not fit for machine learning – if we assume our data package delivered to the partners is 100% machine learning-ready, the UK NDR is closer to 30% machine-ready. Norway's NPD is much closer at ~75%.*

”

**5 % Native digital formats**

Word, Excel  
ASCII, text...

**75% PDFs**

printed to PDF

image-based PDFs requiring OCR

**20% Image-only**

e.g. tiffs...

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Apply advanced technology to ingest, cleanse and integrate relevant legacy well data into a trusted Data Lake using various AI-driven techniques; provide rapid search-and -retrieval tools to that data; and then automate geo- and petro- physics workflow analysis using machine learning models on sample data to extract correlatable features indicative of incremental reserves.



**Summary of Preliminary Results:**

- Composited logs for 3486 wells
  - Composited as 1 set of curves
  - Depth tied
  - QC and Edited
  - Full petrophysical evaluation where logs exist
- Thomas Stieber (thin Bed analysis) on selection of 446 wells that satisfy the criteria of:
  - Vertical or near vertical well bores < 20 degrees deviation
  - Large stratigraphic and geologic interval represented
  - Cover entire geographic area of study
  - Good quality and availability of logs types
  - Any value adding information (core, test, dipmeters)
- Geophysical Logs on all wells from above
  - Rock physics based constructed (VP, VS and density)
  - Synthetic seismogram in depth and time
- Play fairway maps by zone (dependent on info from above work)
  - Thomas Stieber analysis will drive where new and additional reserves can be prospective behind pipe or in new areas.

Operator (as of 18.04.19)	Total Wells	Wells w TS Evaluation
Apache	459	66
BP	165	49
Bridge Petroleum	76	5
CNR	501	53
Equinor	436	56
Maersk	223	22
Marathon	236	8
Shell	457	26
Taq	526	25
Total	264	55
*Other (<75 Wells)	540	75
SUM	3883	441

# Publication of 3x Analytics

- 1/2 day workshop to share results 4<sup>th</sup> June OGTC Innovation Hub
- Disseminate 3x output
- Publication of results will follow this event via the NDR/OGA
- Fourth (intern) sub-project to assess and compare results Q3
- PETEX/EAGE/DIGEX and other conferences

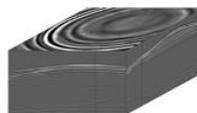
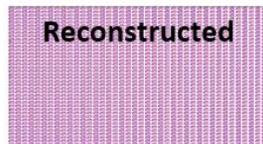
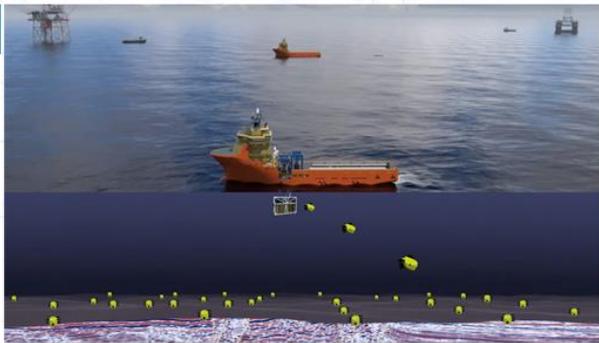
# Exploration Call for Ideas



## Autonomous Robotics



Flying Nodes  
Autonomous Ocean  
Bottom Nodes

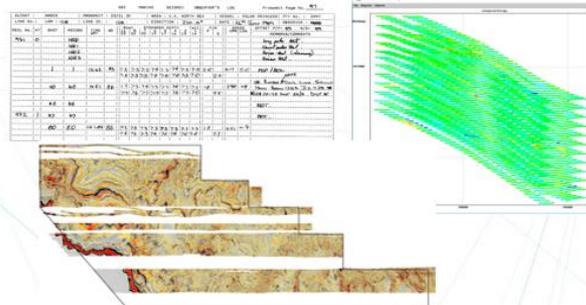
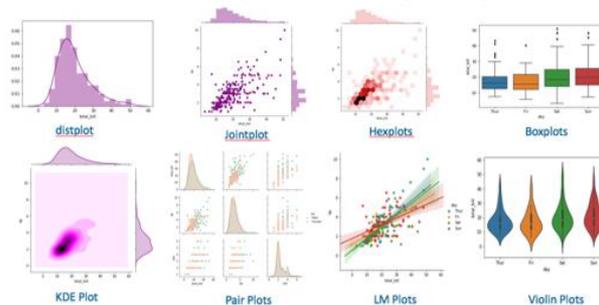


osokey ML4Seismic  
unlocking potential Georgia Tech

Compressive  
Sensing for  
Marine Seismic  
Enabler for sparse  
seismic acquisition



Rapid Zonal  
Analysis  
AI/ML for basin wide  
reservoir properties



Process Ready  
Seismic  
AI/ML to QC and edit  
raw seismic to make  
process ready

# UKCS Energy Lookahead



Vision 2035 production x today's oil & gas prices



CCC wind x £40/MWH



CCC H<sub>2</sub> x £2/kg



CCC CCS x £50/t

2020

£24 Bn

£2 Bn

.

.

2030

£20 Bn

£5 Bn

£1 Bn

£2 Bn

2040

£16 Bn

£11 Bn

£5 Bn

£4 Bn

2050

£11 Bn

£16 Bn

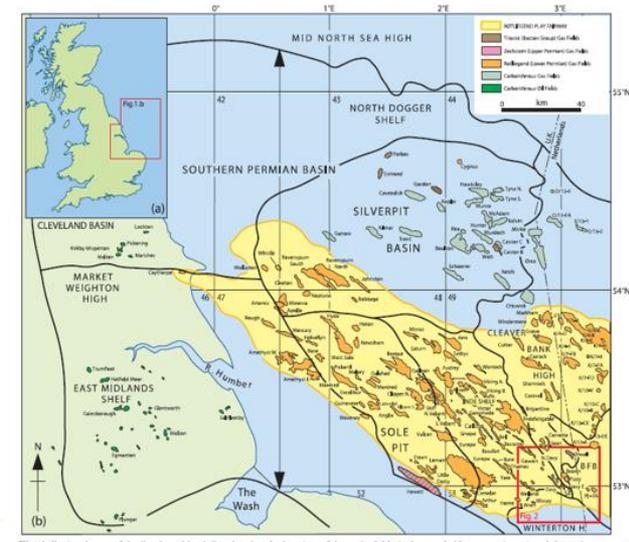
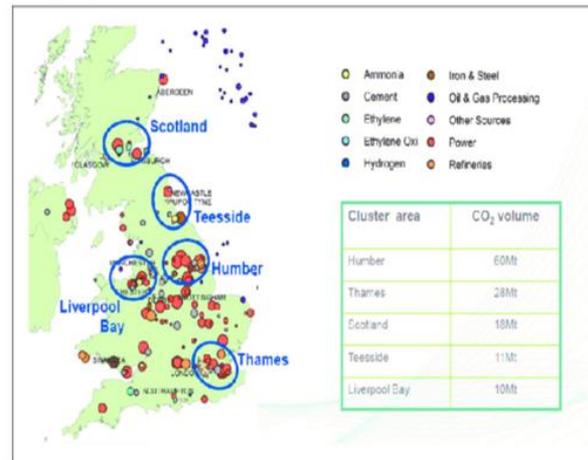
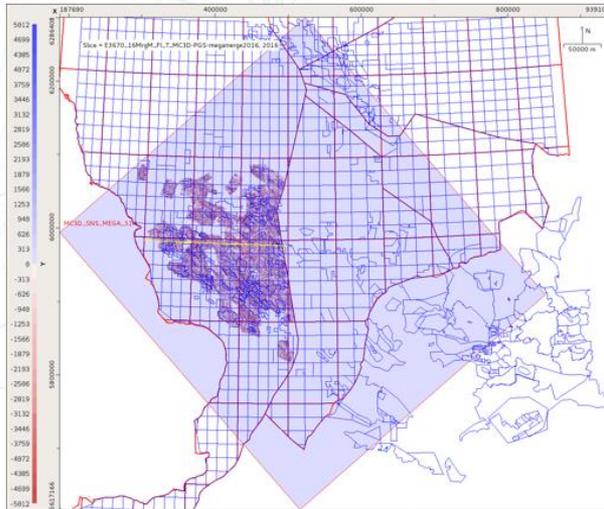
£13 Bn

£9 Bn

CCC = 2019 Committee For Climate Change targets

Compiled by Martyn Tulloch OGTC

## Evaluating the Geological Case for CO<sub>2</sub> Storage in Depleted Gas Fields in the Southern North Sea



- Investigate critical geological factors that maintain seal integrity and entrapment at subsurface sites where hydrocarbons and CO<sub>2</sub> have already been found through a forensic assessment of the trap
- Evaluate overburden effects of CO<sub>2</sub> storage

A woman with glasses and a man are looking at a screen displaying data visualizations. The woman is pointing at the screen. The background is a blurred image of a computer monitor with various charts and graphs. A teal triangle is on the left side of the image.

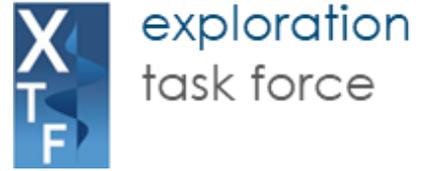
# Thank You



The  
Oil & Gas  
Technology  
Centre

Your Innovation Partner

Together we  
can transform  
the future



Oil & Gas Authority

# XTF 2020 Priorities

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Nick Terrell

# Exploration Task Force



## PURPOSE

Maintain UKCS Exploration and Appraisal activity, making the most of the UK's own energy resources in support of the transition towards a net zero carbon future and beyond.

### 2020 PRIORITIES

#### Licensing

#### Data

#### Technology

#### Opportunity Maturation

### INITIATIVES

- |   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"><li>▪ Promote alignment with the OGA's Stewardship Expectations</li><li>▪ Advise on &amp; ensure fit for purpose licensing regime</li><li>▪ Promote &amp; encourage collaborative commercial behaviours</li></ul> | <ul style="list-style-type: none"><li>▪ Support development of best in class National Data Repository</li><li>▪ Facilitate data release</li><li>▪ Promote digital initiatives and improved ways of working</li></ul> | <ul style="list-style-type: none"><li>▪ Work collaboratively to deliver our four TLB challenges</li><li>▪ Champion new technologies</li><li>▪ Support OGTC exploration projects</li></ul> | <ul style="list-style-type: none"><li>▪ Leverage UKCS Yet-To-Find data to identify new focus area</li><li>▪ Support collaborative regional exploration projects</li><li>▪ Promote cross-border collaboration</li><li>▪ Support sustainable hubs and implemented area plans</li></ul> |
|---|--|---|--|

### Energy Transition



- Delivering the case for continued exploration on the UKCS
- Attract and retain transferrable skills, expertise and data
- Securing social licence to operate through the Energy Transition and beyond

The XTF provides leadership and support to exploration on the UKCS

# Now it's over to you....



Take out your phone

[www.menti.com](http://www.menti.com)

Enter the code **76 33 93**

## Complimentary Wi-Fi

Network: **DNOPROSPEX2019**

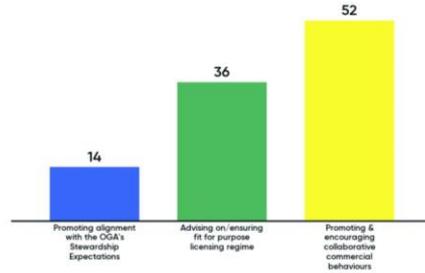
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# Menti questions

Initiative	Question	Answer
Licensing	Please tick the initiatives that would create value for your company	Multiple choices possible
Licensing	Is there anything else we should be considering?	Word cloud
Data	Please tick the initiatives that would create value for your company	Multiple choices possible
Data	What areas would you like to see future collaborative regional exploration projects focus on?	Word cloud
Data	Is there anything else we should be considering?	Word cloud
Technology	Please tick the initiatives that would create value for your company	Multiple choices possible
Technology	Is there anything else we should be considering?	Word cloud
Opportunity Maturation	Please tick the initiatives that would create value for your company	Multiple choices possible
Opportunity Maturation	Is there anything else we should be considering?	Word cloud
General	How would you rate this morning's session	0 (very poor) -10 (excellent)
General	What would you like the agenda to include next time?	Word cloud

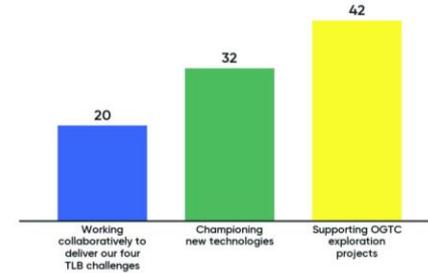
# Menti results

**Licensing: Please tick the initiatives that would create value for your company**



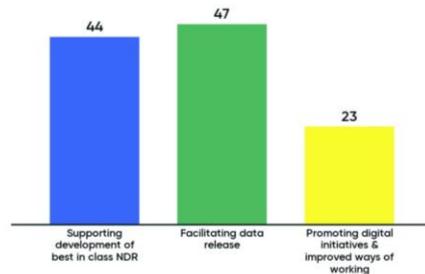
69

**Technology: Please tick the initiatives that would create value for your company**



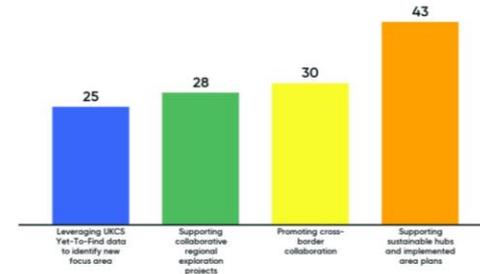
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**Data: Please tick the initiatives that would create value for your company**

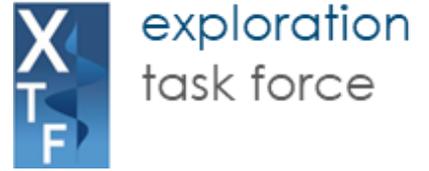


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**Opportunity maturation: Please tick the initiatives that would create value for your company**



67



# AOB

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# UK Oil and Gas Fields

## 50<sup>th</sup> Anniversary Commemorative Memoir

- Third memoir in a series preceded by Memoir 14 (1991, 64 fields) and Memoir 20 (2003, 116 fields)
- Memoir 52 (85 papers, 145 fields): an enduring, milestone two volume Memoir, publication Q2 2020
- Launch conference planned for June 2019: intent to live-stream between Aberdeen & London venues
- Combined book and launch conference sponsorship is being sought – see Graham Goffey
- Many thanks to the 100's of authors and reviewers who have contributed to the Memoir and to GSL's Petroleum Group, OGA, OGIA and UKOOG for their endorsement of the project at the outset



OGUK

# Exploration Conference 2020

**29 January 2020**

30 Euston Square, London, NW1 2FB

Principal Sponsor



Supporting Sponsors



Presentations include case studies on: Achmelvich, Blackrock, Ekland, Glengorm, Pharos & more!

Visit our events page for more info: [oilandgasuk.co.uk/event/oguk-exploration-conference](http://oilandgasuk.co.uk/event/oguk-exploration-conference)



# Thank you

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