WIRELINE

ISSUE 35 - SPRING 2016

ON POINT

Coming together to make the UK Continental Shelf the most attractive, mature oil and gas province in the world



Show your support for the Efficiency Task Force's **Industry Behaviours Charter**

The industry charter is a collective commitment to work effectively, efficiently and co-operatively

Add your company to the growing list of businesses that are dedicated to making the changes required to improve the competitiveness of the **UK Continental Shelf**



Oil & Gas UK

Industry Behaviours Charter

de access to decision makers thr

support for, industry codes of practice, forums and sta

Commit to Continuous Improvement through regular review

ETF

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www.oilandgasuk.co.uk/charter

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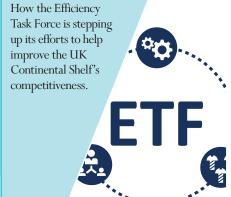
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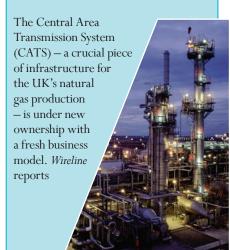
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hile there is little doubt that the challenges we'll face this year will continue to be great, I'd argue that they are not insurmountable. While we must not sugar-coat the situation, we cannot afford to stop championing the importance and promise of this industry.

In recent months, I've been fortunate to visit companies up and down the UK. The people I have met along the way have really inspired me and I have been struck by their determination to work through these challenging times. It is heartening to see this spirit in action on so many fronts.

Our 2016 Activity Survey (p15) shows how the industry's drive to improve efficiency, reduce operating costs and increase production over recent years has delivered really positive results. Our regular Efficiency Spotlights

series (p23) showcases just some of this outstanding work by companies that want to work smarter and reduce their cost base. These company-specific efforts are strongly backed up by the Efficiency Task Force's pan-industry projects, with a programme of activity for the remainder of this year now crystallising (p19).

I urge companies to seek out co-operative opportunities to secure the future of their businesses and that of the industry. This isn't something we should merely pay lip service to or be cynical about, because it can truly have tangible benefits. Our article in this issue on the Northern North Sea Operational Gas Group is a remarkable case in point (p28). We should all commend the perseverance of all those involved in developing a commercial model to tackle the shortages in operational gas in this region.

I'm also excited to hear how new businesses like CATS Management Limited are embracing this ethos of partnership and bringing a fresh focus to critical infrastructure — like the Central Area Transmission System (p35).

But industry cannot get through this downturn alone. The measures announced

OPERATIONAL GAS GROUP p28

by the Chancellor in the 2016 Budget (p5) are very welcome. The industry also had a productive meeting with Prime Minister David Cameron (p5) when he visited Aberdeen in January to announce a raft of supportive measures, and it is pleasing to also see the Oil and Gas Authority (p26), the Scottish Government, and governmental agencies and departments throw their weight behind the sector (p6).

These continue to be uncertain times, but one thing I am certain about is that we are now pulling together in the same direction and we need to keep doing this in the weeks and months ahead.



Deirdre Michie, Chief Executive, Oil & Gas UK

Wireline is published by Oil & Gas UK, the leading representative organisation for the UK offshore oil and gas industry.

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I. ACTIVITY SURVEY 2016 RELEASED ACROSS THE UK

Oil & Gas UK's *Activity Survey 2016* revealed that while the industry's drive to improve efficiency, reduce operating costs and increase production has had marked success, exploration remains at an all-time low and investment in new projects is set to fall to less than £1 billion this year. The report highlighted the urgent need for fiscal reform to attract investment back into the basin and to minimise loss of capacity during the downturn. Around 500 delegates turned out to hear first-hand the findings from the report at five briefings in Aberdeen, London, Inverness, Newcastle and Norwich.

Download the full report at www.oilandgasuk.co.uk/activitysurvey. See p15 of this issue for a summary of the key facts and figures plus a Q&A with Oil & Gas UK's Mike Tholen.



Adam Davey of Oil & Gas UK presenting the findings of the Activity Survey 2016

2. BUDGET COMPLEMENTS INDUSTRY'S EFFORTS TO IMPROVE COMPETITIVENESS

In the March 2016 Budget, Chancellor George Osborne announced a reduction in the headline rate of tax paid on UK oil and gas production, as well as other measures (see infographics below) to support the industry. Oil & Gas UK welcomes Mr Osborne's acknowledgment of the challenges facing the sector. Leading up to the Budget, Oil & Gas UK engaged with politicians cross-party to press for urgent fiscal reform to improve the UK Continental Shelf's competitiveness.

Deirdre Michie, Oil & Gas UK's chief executive, comments: "The Chancellor's announcement does indeed mark further progress in modernising the tax regime for an increasingly mature basin. We welcome these measures as they will build on the industry's achievements in improving efficiency in the face of low oil prices."

Budget 2016
- Upstream
Tax Changes









3. WESTMINSTER AND HOLYROOD ANNOUNCE SUPPORT PACKAGE

Prime Minister David Cameron visited Aberdeen on 28 January and announced a package of measures for the industry as a bridge to the future. He met with Oil & Gas UK chief executive Deirdre Michie and other senior industry representatives where he heard about the sector's current difficulties and the support it requires. Oil & Gas UK welcomes the package, which includes:

- \bullet A £250 million cash injection from the UK and Scottish Governments into the north east Scotland economy with the signing of the City Region Deal for Aberdeen, which will bring wider benefits to the UK industry
- £20 million for a second round of seismic surveys to unlock new exploration activity
- An Oil and Gas Ambassador to provide the best possible access for UK companies to markets overseas and boost inward investment
- · A new ministerial group on oil and gas, chaired by energy secretary Amber Rudd MP, with a focus on exports, skills and investment
- A decommissioning strategy from the Oil and Gas Authority by early summer so that the UK supply chain can become the centre of a new global market for decommissioning
- $\bullet \ Innovate \ UK's \ \pounds 1.5 \ million \ ``Energy \ Game \ Changer'' \ pot \ for \ companies \ outside \ the \ energy \ sector \ to \ develop \ radical \ solutions \ and \ disruptive \ technologies$
- £700,000 towards 3D visualisation facilities at Heriot-Watt University
- £1 million investment from the Natural Environment Research Council in the Oil and Gas Centre for Doctoral Training led by Heriot-Watt University

The Scottish Government also pledged an additional £254 million for city and regional infrastructure. On the same day, the Department of Energy & Climate Change published the MER UK strategy document, which sets out how the Oil and Gas Authority will make the most of the UK Continental Shelf.



Prime Minister David Cameron met over 20 senior industry leaders at a roundtable meeting in Aberdeen on 28 January

4. WORKSHOP FOR DISPLACED GRADUATES

Around 100 graduates attended Oil & Gas UK's interactive workshop in Aberdeen at the end of last year for those who have been displaced from the industry or who hold an oil and gas-related degree but have not found employment. The free-to-attend event saw a range of organisations provide insight into how delegates can increase their employability and the other industries where their skills may be in demand.

The participants included Aker Solutions, the Association of Project Management, Common Data Access Limited, the Energy Institute, the Oil and Gas Innovation Centre, OPITO, Skills Development Scotland, the Society of Petroleum Engineers, and the careers services of Aberdeen and Robert Gordon universities.

Dr Alix Thom of Oil & Gas UK says: "Our industry is currently operating in challenging conditions, yet we will continue to require skilled young people equipped to grasp the opportunities that our industry will undoubtedly present in the future. In the meantime, we want to support and offer encouragement to those impacted."

For more information, please contact Alix Thom on athom@oilandgasuk.co.uk.



5. SCOTTISH GOVERNMENT UNVEILS £12 MILLION TRANSITION TRAINING FUND



The Scottish Government has launched a £12 million Transition Training Fund to help people who face losing their jobs in the oil and gas sector to retrain for specialist roles in other energy and manufacturingrelated employment. The fund will also help individuals maintain the licences they need to work in the sector. It expands on the work of the Scottish Government's Energy Jobs Taskforce.

For more information, please visit www.skillsdevelopmentscotland.co.uk.

6. SCOTTISH ENTERPRISE ALLOCATED FUNDS TO KICK-START INNOVATION PROJECTS AND BUSINESS RESILIENCE REVIEWS

Scottish Enterprise, the Scottish Government's economic development agency, has been allocated £12.5 million of funding to help companies kick-start innovation projects and undergo business resilience reviews focussed on strategic, financial or market issues.



This activity will support the organisation in providing a range of expert advice to oil and gas companies, primarily in the supply chain. It currently works with around 340 companies in areas such as innovation, international activity, and organisational and strategic development. In response to the current difficult market conditions, Scottish Enterprise has also drawn together a group of experienced oil and gas leaders and held a series of 'resilience events' across Scotland, in partnership with Oil & Gas UK, to advise SMEs on topics such as cash flow and operations.

For more information, please visit www.scottish-enterprise.com or email enquiries@scotent.co.uk.

7. EAST ANGLIA OIL AND GAS **TASKFORCE BACKS INDUSTRY**

The New Anglia Local Enterprise Partnership (LEP) aims to support oil and gas businesses and employees impacted by the industry downturn. Companies can access advice on diversification, restructuring and alternative growth opportunities as well as developing business plans. The LEP also has a £250,000 Growing Business Fund grant scheme. Meanwhile, support is available for employees who have lost their jobs to retrain, find alternative employment or maintain their industry certifications. The LEP's Oil and Gas Taskforce includes local MPs, business leaders, Jobcentre Plus and local authorities.

For more information on the business support available, visit www.newanglia.co.uk/ business-support.



8. COMPANIES COLLABORATE TO IMPROVE INVENTORY MANAGEMENT

Apache North Sea, Centrica, EnQuest, Shell Upstream International and Talisman Sinopec Energy UK Limited are to share information about a pool of 200,000 inventory items on a trial online trading platform as part of a project run by Oil & Gas UK's Efficiency Task Force (ETF). The aim is to share resources so that companies can reduce individual stock holdings and cut lead times for access to vital equipment. The ETF has worked with Ampelius Trading to develop the online platform.

For more information, email efficiency@oilandgasuk.co.uk. Also see p19 for an update on how the ETF is stepping up its efforts to improve the industry's competitiveness.





9. EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE: UK'S FIRST REPORT

The UK's first Extractive Industries Transparency Initiative (EITI) report is due to be published in April. It will reconcile data on payments that companies have made for upstream taxes on a 'cash-paid' basis to government and information from government on payments received. The EITI aims to improve transparency in the oil, gas and mining sectors. The UK now has until April 2017 to undergo validation to become a fully compliant country.

There will be lessons to be learnt from the report ahead of issuing templates for the second year. Please send your feedback to business.transparency@bis.gsi.gov.uk.

More information on EITI can be found at http://bit.ly/UKeiti.

10. OGA PUBLISHES WELL ANALYSIS STUDY

The Oil and Gas Authority has released the findings from its well failure analysis study in the central North Sea and Moray Firth regions. The work was carried out as part of the industry's 21st Century Exploration Road Map project to improve exploration success on the UK Continental Shelf. The report provides detailed analyses and reasons for the failure of 98 wells drilled over the last ten years so lessons can be learnt.

Download the report at http://bit.ly/1RyoeJf.



II. PROMOTING THE ROLE OF NATURAL GAS IN OUR DAILY LIVES

An alliance of leading trade associations, including Oil & Gas UK, has called for much needed national dialogue on gas uses and supply. This follows research by ComRes late last year that found that more than half of the UK population want to prioritise gas produced in the UK over energy imported from overseas and that 70 per cent of people feel heating or cooking (currently almost exclusively gas based in the UK) are the most important energy uses in their daily lives.

The alliance represents both users and producers of gas and comprises the Chemical Industries Association, EEF the Manufacturers' Organisation, Energy Intensive Users Group, Oil & Gas UK, United Kingdom Onshore Oil and Gas, Onshore Energy Services Group and Aberdeen & Grampian Chamber of Commerce. A series of blogs, infographics and opinion pieces have been released by the Coalition to raise awareness of the important role of gas.

Find out more at www.ukoog.org.uk/the-natural-gas-coalition.



12. OIL & GAS UK AND EEEGR AGREE MEMORANDUM OF CO-OPERATION

Oil & Gas UK and the East of England Energy Group (EEEGR) have agreed a Memorandum of Co-operation to develop a closer relationship that better serves and promotes the interests of both organisations' members and the UK oil and gas industry in general, while recognising the independent and autonomous authorities of each entity. The two organisations have worked together for many years, arranging joint events, providing speakers for public platforms and sharing information. In the current market, together, they can be more effective voices for UK oil and gas businesses.

Speaking at EEEGR's Southern North Sea conference in Norwich on 2 March, Deirdre Michie, Oil & Gas UK's chief executive, says: "The businesses in this area and the region itself are important to the success of the UK oil and gas industry as a whole. Not only do they make a really important contribution to operations in the southern North Sea, their considerable expertise supports a healthy export market."



14. SPOTLIGHT ON NORTH EAST ENGLAND AND SHETLAND ISLES

In a series of fact-finding visits, Deirdre Michie, Oil & Gas UK's chief executive, toured Advanced Industrial Solutions (AIS), BEL Valves and Hardy AVARR in the north east of England in February to learn about the subsea engineering, innovative technology, specialist training and manufacturing on offer in the region. She also visited Lerwick Port Authority and learnt of their construction capabilities and current infrastructure projects, as well as hosting a roundtable meeting at Highlands & Islands Enterprise where she met other members of the supply chain. During these visits, Deirdre heard how these firms are responding to the evolving market requirements and discussed with them the cross-industry initiatives under way to help companies improve efficiency.

If you would like your company to be considered for a site visit, please contact Neil Michie on nmichie@oilandgasuk.co.uk.



imon Gray, CEO of EEEGR and Deirdre Michie CEO of Oil & Gas UK agree to work in co-operation to best serve the nterests of their members

13. DIRECTORY PROMOTES FABRICATION SECTOR

The 2016 UK Offshore Oil and Gas Fabricators Directory is out now, promoting the sector's capabilities and capacities to potential customers in the UK and global oil and gas markets. It features companies throughout the UK from Falmouth in Cornwall to Arnish in the Scottish Highlands.

Oonagh Werngren of Oil & Gas UK says: "This sector has been particularly hit in the current downturn and is channelling its collective energies into making efficiency improvements to restore competitiveness to the UK Continental Shelf. This Directory is evidence that a number of fabricators have identified opportunities for adjusting to different market needs leading them to develop new capabilities and extend capacity."

The Directory is available to download at www.oilandgasuk.co.uk/fabrication.



L-R: Alan Campbell MP, Mary Glindon MP, Deirdre Michie and Paul Attrill, chief operating officer at AIS

15. POWERING THE FUTURE AT GLASGOW SCIENCE CENTRE

Glasgow Science Centre has brought together major players of the energy industry to create an exhibition that focusses on science, technology and some of the key issues behind energy supply in the UK. Over 72,000 visitors have toured the exhibition since it was opened in December. It features 60 interactive exhibits, including those related to oil and gas that allow visitors to pilot a remotely operated vehicle, carry out a virtual seismic survey, simulate drilling for oil and make fossil rubbings.

Find out more at www.glasgowsciencecentre.org/powering-the-future.html



Image courtesy of Andy Buchanan Photography



16. REVISED TRAINING STANDARD INCORPORATES EMERGENCY BREATHING SYSTEM

OPITO has introduced a new interim training standard for offshore personnel that incorporates the Category A emergency breathing system. It includes breath-holding exercises underwater using the Survitec Mk50 lifejacket.

The standard removes the lifejacket air pocket plus and re-breather from the existing BOSIET/FOET training. OPITO-authorised training providers are now delivering the revised course.

17. AAIB RELEASES REPORT ON SUMBURGH OFFSHORE HELICOPTER ACCIDENT

The Air Accidents Investigation Branch has published its final report into the Sumburgh offshore helicopter accident in 2013. It gives recommendations to improve both flight operations and post-crash survivability. Some measures have already been implemented, including introducing improved emergency breathing equipment.

Mick Borwell of Oil & Gas UK says: "Our thoughts are with the families, friends and colleagues of those not with us today. Everyone has the right to get to and from their workplace safely and we must respond to the learnings in this report. Industry will continue to work with the helicopter operators, regulators and the workforce to make offshore operations as safe as they can be."

The full report is available at http://bit.ly/AAIBreport.



18. UPDATED GUIDANCE ON REPORTING HYDROCARBON RELEASES

New Supplementary Guidance on the Reporting of Hydrocarbon Releases has been published by Oil & Gas UK. The latest document (Issue 3) outlines how hydrocarbon releases should be assessed when reporting them to the Offshore Safety Directive Regulator under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) and the EU Implementing Regulation.

Download the Supplementary Guidance at www.oilandgasuk.co.uk/product/hs095/.

Also see p33 of this issue for more details on the changes to the reporting of offshore incidents arising from the EU Offshore Safety Directive and the associated Implementing Regulation.

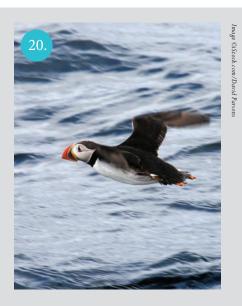




19. GUIDELINES FOR EFFECTIVE OIL SPILL RESPONSE

Four new oil spill response implementation guidelines on *Aerial Surveillance; Shoreline Response; Decanting;* and *Waste Management* have been published by Oil & Gas UK. They complete a toolkit of eight guides that aim to provide support to onshore response staff in the event of an oil spill incident and to aid discussions between the offshore operator and response contractor about the response strategy.

The complete toolkit is available at www.oilandgasuk.co.uk/product/oil-gas-uk-oil-spill-response-tool-kit.



21. OONAGH WERNGREN EMBARKS ON A NEW JOURNEY

Oonagh Werngren leaves Oil & Gas UK at the end of April after more than three years as operations director, with responsibility for operational issues in UK petroleum exploration, development, production and infrastructure.

She played a key role in driving the Exploration Task Force's initiatives to revitalise exploration on the UK Continental Shelf, including the 21st Century Exploration Road Map, the government-funded seismic data acquisition programme, the Palaeozoic study, and review of wells in the central North Sea.

With a leading role in the industry's Production Efficiency Task Force, Oonagh championed a range of pan-sector projects to improve the production performance of

existing fields, including industry guidelines on efficient execution of planned maintenance shutdowns.

Oonagh brought to her role over 30 years' of exploration and production experience leading subsurface, drilling, technology and development organisations in Europe and Alaska.

Deirdre Michie, Oil & Gas UK's chief executive, comments: "Oonagh has worked tirelessly to promote Oil & Gas UK and the industry. Her passion and commitment are evident and she can look back with pride at what she has achieved for and on behalf of the industry."



20. FINDINGS RELEASED FROM SEABIRDS AT SEA RESEARCH PROJECT

Outputs from the Seabirds at Sea Research Project have been released. The project was one of the recommendations of the now disbanded Oil Spill Prevention and Response Advisory Group (OSPRAG) set up following the Macondo incident in the Gulf of Mexico in 2010. The outputs include: a Review of the Value and Applicability of the JNCC Seabird Vulnerability Index to the Marine Waters off Eastern Scotland, which examines data from the Seabird Oil Sensitivity Index; and the ESAS Suitability Study, which tests the current Seabird Oil Sensitivity Index data against newly collected figures.

Oil & Gas UK commissioned a series of reports between 2012 and 2015 to form the basis of the Seabirds at Sea Research project that will be completed this year and provide updated seabird population data for the entire UK Continental Shelf.

View the research published to date at http://bit.ly/1QAR8L7.



22. NORWEGIAN DECOMMISSIONING MARKET

Oil & Gas UK's inaugural Norwegian Continental Shelf Decommissioning Insight report illustrates the potential for Norway's decommissioning market to become the second largest in the North Sea after the UK. The study was produced in response to demand from the supply chain for more publicly available information on the Norwegian decommissioning market and outlines where the need for related services is likely to lie so operators and the supply chain can plan decommissioning activity more effectively.

The report is available to download at www.oilandgasuk.co.uk/decommissioninginsiqht.cfm.



Image courtesy of Katie Callaghan, Butterfly Conservation

HAROLD HUGHES OBE

Oil & Gas UK was saddened to learn of the death of Harold Hughes in October 2015. Harold will be remembered for his energy and dedication as director general for the UK Offshore Operators Association (UKOOA) (before it became Oil & Gas UK) from 1989 to 1997. Prior to this, he was general manager at British Gas Exploration and Production from 1981 to 1989 — a critical period in which he negotiated the licences for assets purchased following the company's privatisation in 1986.

Outside of work, Harold played a key role in the work of the Butterfly Conservation charity, particularly as chairman from 1991 to 1999. During his time as chair he helped raise funds to appoint its first employee and was responsible for securing major sponsorship that helped to launch an advertising campaign boosting membership from under 3,000 to 10,000.

Oil & Gas UK is grateful for Harold's services to our industry and offer our sincerest condolences to his family and friends.

MEMBERSHIP MATTERS

SHINING A SPOTLIGHT ON SME MEMBERS

Oil & Gas UK's new Steering Group for members that are small-to-medium sized enterprises (SMEs) met for the first time on 21 March. Led by Rod Buchan, executive chairman of IMES Group, the group's objective is to develop initiatives that raise awareness of the contribution that SMEs make to the UK offshore oil and gas industry, tackle barriers to market access and address cultural behaviours within the sector.

For more information, contact Mark Mullins on mmullins@oilandgasuk.co.uk.



NEW MEMBERS JOIN OIL & GAS UK

We are pleased to welcome the following companies that have joined Oil & Gas UK since the last issue of *Wireline*:

Ampelmann Operations, Azinor Catalyst, Centrifuges Unlimited, Edison E&P UK, Exprodat Consulting, Hydrasun, Imagen, Lerwick Port Authority, Lyme Bay Consulting, Operational Excellence, StormGeo and Tendeka.

Oil & Gas UK's Mark Mullins is committed to ensuring that the membership is tailored to members' needs so please contact him on mmullins@oilandgasuk.co.uk with any queries.





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Dates for your diary

Raise your company's profile and be better informed about the important issues of the day by attending Oil & Gas UK's industry-leading events.

EVENTS

12 April

Scottish Parliamentary Election 2016 – Spotlight on Energy

Aberdeen

27 April

Share Fair Spotlight – Maintenance and Repairs Aberdeen

31 May

Offshore Safety Awards

(Jointly organised with Step Change in Safety)
Aberdeen

14 to 15 June

The Oil and Gas Industry Conference

Aberdeen

22 September

Legal Conference

Aberdeen

2 November

Share Fair

Aberdeen

3 November

Oil & Gas UK Awards

Aberdeen

14 to 16 November

Offshore Decommissioning Conference

(Jointly organised with Decom North Sea)

St Andrews

Open Doors Event

- 12 May London
- 14 September Aberdeen
- 12 October London

SEMINARS

20 April

Security and the HR role

Aberdeen

17 May

Supply Chain Seminar

(In association with the

Chartered Institute of Procurement & Supply)

Aberdeen

I June

Aviation Seminar

Aberdeen



BREAKFAST BRIEFINGS

Aberdeen Breakfast Briefings



- 30 June
- 27 September
- 6 December

London Breakfast Briefings

- II May
- 29 September
- 22 November

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MEMBERS-ONLY EVENTS

Members Speed Networking

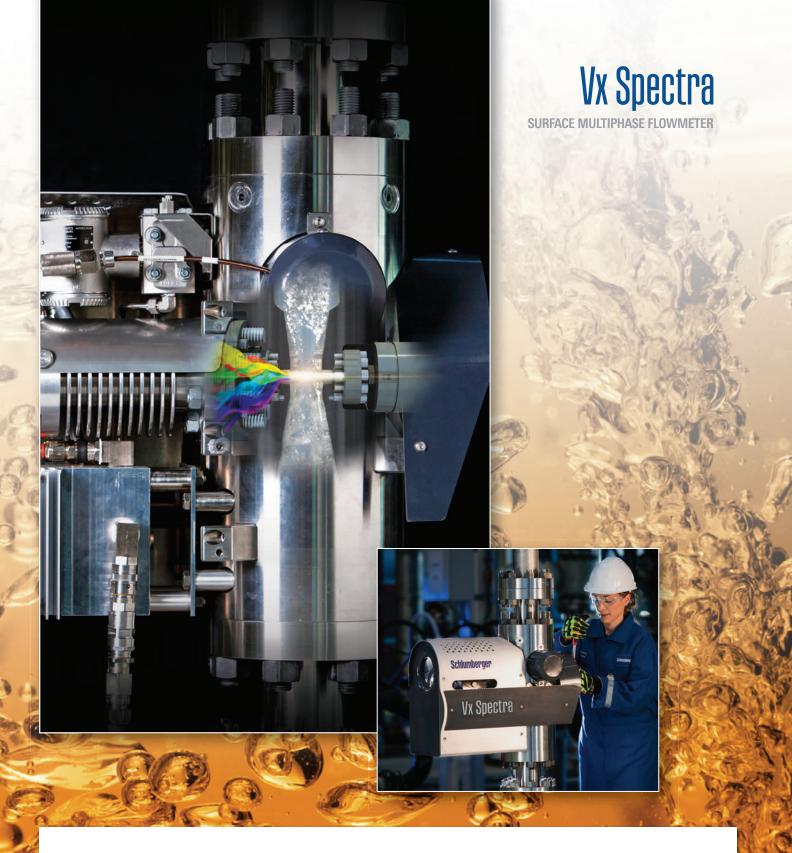
- 31 May Aberdeen
- 7 June London
- 13 September Aberdeen
- II October London

Meet the Members

- 19 April Aberdeen
- 5 May London
- 23 June Aberdeen
- 20 September London
- 4 October Aberdeen



www.oilandgasuk.co.uk/events



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Schlumberger

Activity Survey 2016

Oil & Gas UK's Mike Tholen discusses the key findings of the *Activity Survey 2016* and what it means for the industry.



2015 - Challenges

Q: What does the *Activity Survey* tell us about the current state of the industry?

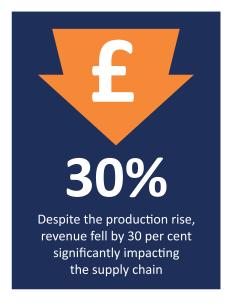
A: Well before the oil price began its steep and sustained descent over 18 months ago, the basin's maturity had already added technical challenge and expense to operations. The drop off in investment approvals expected this year, to less than £1 billion from a typical £8 billion per year over the last five years, illustrates just how keenly the mature UK Continental Shelf (UKCS) has been affected by the drop in oil price and underlines the importance of the industry's concerted action to improve efficiency.

Q: What progress has been made?

A: With companies sharing insight into minimising production downtime offshore over the last couple of years and new fields coming onstream, production efficiency is recovering. The *Activity Survey* reported that the basin's average unit operating cost has already improved by 28 per cent, falling from almost \$30 per barrel of oil equivalent (boe) in 2014 to just over \$20/boe last year. Further improvement to around \$17/boe is expected by the end of this year taking the total reduction to over 40 per cent in two years.

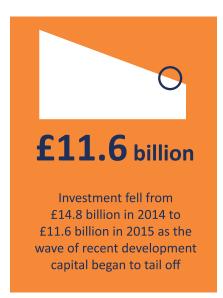
Q: Where does the UKCS rank in competitiveness?

A: There is no reliable, recent comparison of operating costs in basins across the world. While the significant progress made in the UKCS to lower unit operating costs will have had a positive effect on competitiveness, at a \$30 oil price almost half of UKCS oil fields are still likely to be operating at a loss through 2016. With around \$400 billion cut from exploration and production budgets globally it is inevitable that costs will have to be driven down further if the basin is to get in shape to



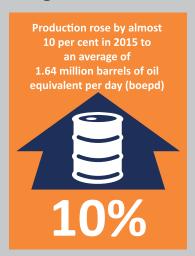






While it will take time for the impact of a lightened tax rate to benefit upstream cash flows – coupled with the improvements in efficiency and cost – it puts this sector in a much more competitive shape for the future.

Progress in 2015









attract investment in the future and the industry's \$15/boe target certainly takes us in the right direction.

Q: Does this mean more bad news on the jobs front?

A: Over the course of 2015, industry efforts saw total expenditure fall by almost £5 billion. This restructuring has been painful for many, especially those tens of thousands who are estimated to have lost their jobs. The immediate desire for cash flow and ongoing transformational change mean that more efficiency gains and expenditure reductions are inevitable during the course of 2016, making further contraction in employment likely. We're looking to provide an update this summer on the number of jobs supported by the industry.

Q: What will happen to production if little new investment is approved?

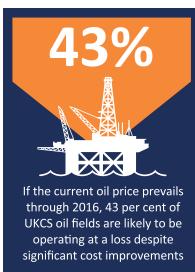
A: We know that strong and sustained investment does translate into higher

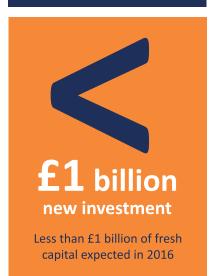
production. The *Activity Survey* identified — and the Oil and Gas Authority has since confirmed — a ten per cent increase in production last year, which is a direct result of significant annual capital expenditure in the five years to 2014. Unfortunately, the converse is also true. There is a real risk that fields due to cease production in the next five years will simply not be replaced by new projects, and, as a result, domestic oil and gas production is forecast to decline sharply beyond the end of this decade, though the Chancellor's announcements on 16 March should help pave the way to address this.

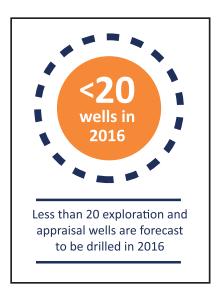
Q: Is the low oil price speeding up decommissioning?

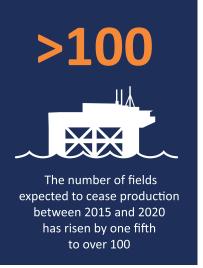
A: Industry is determined to avoid premature decommissioning and to retain the infrastructure required to maximise economic recovery. However, the *Activity Survey* does show that the number of fields expected to stop producing between 2015 and 2020 has risen by one fifth over the past year to just over 100.

Outlook - Challenges









The significant reduction in the volume of reserves that companies are considering for production, compared with last year's survey, reinforces the urgency of boosting competitiveness and restoring investor confidence. It is in the full economic interest of the UK that we bridge the gap between the oil and gas reserves currently in company plans and the estimated 20 billion boe that still remain to be extracted.

Q: Does the tax reduction announced in the 2016 Budget have much effect on the industry's prospects?

A: The Budget has reduced the headline rate of tax paid on UK oil and gas production profits from the beginning of this year. This falls from 50-67.5 per cent to a rate of 40 per cent across all fields. We welcome that decisive action from the Chancellor as acknowledgment of the challenges facing the industry. Oil & Gas UK has been calling on the government to support the competitiveness of UK oil and gas production and lighten the burden of special taxes paid by the sector. We saw the Budget as an indication that the government has been listening and is prepared to act constructively to protect this important sector. While it will take time for the impact of a lightened tax rate to benefit upstream cash flows - coupled with the improvements in efficiency and cost - it puts this sector in a much more competitive shape for the future.

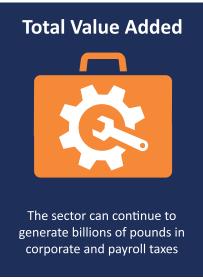
Our next steps will be to continue to work with the Treasury to complete its 'Driving Investment' plan and ensure that the fiscal regime reflects the business needs of the UKCS and sends a strong signal that the UK is open for business. (w)

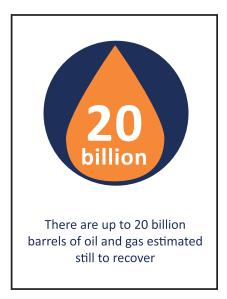


It is in the full economic interest of the UK that we bridge the gap between the oil and gas reserves currently in company plans and the estimated 20 billion boe that still remain to be extracted.

Outlook - Potential













Watch our short video on the UK Continental Shelf

- Current State of Play at www.vimeo.com/156336502.



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Working for tangible results

Stephen Marcos Jones of Oil & Gas UK talks about how the Efficiency Task Force is stepping up its efforts to help improve the UK Continental Shelf's competitiveness.

o put our sector in competitive shape for the future and to demonstrate resilience in the face of an oil price that has continued its decline into 2016, the industry's Efficiency Task Force (ETF) is intensifying its efforts. A number of pan-industry projects aimed at improving efficiency and reducing the cost base are now nearing completion.

Our over-arching ambition is for as many companies and individuals across the basin to get involved in these initiatives so that this industry becomes as competitive as it possibly can be in the global marketplace and is ready to take advantage of the upturn when it happens.

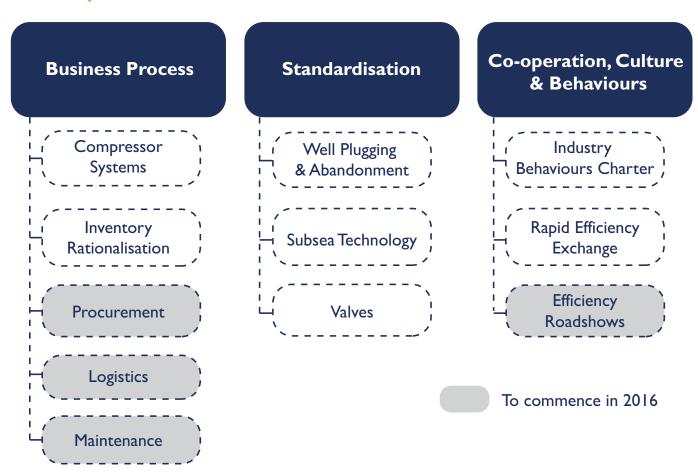
What does our target look like in real terms? Both Deirdre Michie, chief executive of Oil & Gas UK, and Amec Foster Wheeler's John Pearson, who heads up the ETF, have set their sights on achieving an industry average unit operating cost of \$15/barrel of oil equivalent (boe) by the end of this year — through focussed efforts by individual companies and cross-sector initiatives developed by the task force. Meeting that target isn't going to be easy. But given that we have already seen unit operating costs fall by a third since 2014 to just over \$20/boe, it should be within our reach. The question is whether it will be enough.

Here, we outline the progress being made on a selection of ETF projects since its official launch in September last year. Today, the ETF is working with its Steering Group to shape its vision for the year, identifying the gaps in efficiency we next need to



turn our attention to. The group will then work with the Oil & Gas UK Board to reassess and revise the current programme of activity to deliver maximum value. >

Efficiency Task Force Work Streams



Our over-arching ambition is for as many companies and individuals across the basin to get involved in these initiatives so that this industry becomes as competitive as it possibly can be.



Business Processes

The **Inventory Rationalisation** project brings together operators to see how they can rationalise their inventory holdings to reduce the costs associated with the storage and maintenance of materials. The ETF has been working with Ampelius Trading on a trial trading platform where companies can share details of their inventories. Following implementation in March, the group is looking at pooling inventories and developing best practice for their management.

In the **Compression Systems** project, the ETF has identified a group of operators who are accountable for the bulk of compression system outages on the UK Continental Shelf (UKCS) – the biggest cause of unplanned maintenance. Those companies are working together to reduce the number and duration of outages in the hope of further improving production efficiency across the basin. At a recent meeting of the work group in February, it was agreed that the main output should be a guidance document for efficient gas compression operations to be released in Spring 2016. An industry workshop in May will include those companies aiming to make an improvement in this area.



Standardisation

The **Subsea Technology** work group has analysed the potential cost savings from carrying out projects to existing industry standards rather than bespoke requirements. The outcome reveals that savings of 18 to 25 per cent are possible. Furthermore, qualitative research reveals the importance of collaboration, positive relationships and trust throughout the supply chain, as well as strong leadership. The group will now identify how best to engage with industry to implement the findings.

The **Valves** group is in the process of finalising the outline for its project, which will explore how companies can work together to reduce the costs associated with valve maintenance and supply across the basin. The next stage is to engage with the operators on how they can benefit from the outputs. The British Valve and Actuator Association is progressing work to address the widespread and costly use of bespoke valves and is engaging with all relevant parts of the supply chain to create a slimmed-down portfolio of products.

Meanwhile, the **Well Plugging and Abandonment (P&A)** group has analysed data from extensive thru-tubing P&A projects in the Gulf of Mexico to provide a business case for greater use of thru-tubing P&A on the UKCS. The resulting report incorporates analysis of 500 wells. It is currently undergoing final review and this project is now being taken forward by Oil & Gas UK's Decommissioning Work Group.



Culture, Co-operation & Behaviours

To drive further engagement and to measure the impact of the *Industry Behaviours Charter* launched in December last year, a *Collaboration Index* (in association with Deloitte) is being compiled. A number of contractors are being asked to provide confidential feedback on how operators are collaborating with the wider supply chain. This will result in a performance measurement tool for operators and guidance for areas of focus for the ETF. Initial results are expected shortly.

The **Rapid Efficiency Exchange** (REE) – a portal for sharing successful stories in improving efficiency and for exchanging knowledge – currently holds 36 case studies and has received over 200 'likes' from those visiting the site. The most compelling of these stories are being promoted by Oil & Gas UK as 'Efficiency Spotlights' (see p23 for some of the latest Efficiency Spotlights).

Sharing common challenges

There is increased focus on sharing common industry challenges on the REE. The response has been positive.

Shell UK posted its concerns regarding the management of valves — it requires bespoke valves while manufacturers are set up for high volumes of standard valves, resulting in high costs and long lead delivery times for the company. Within a matter of days of posting, Shell was contacted by a contractor who is already working with another operator on the same issue. That operator was happy to arrange a joint visit with Shell to the contractor two days later.

While it is still early days, this shows how companies can make quick connections and find support to overcome common challenges through the portal.

Engaging experts in continuous improvement

The Oil and Gas Continuous Improvement (CI) Network, established in September 2015 in the north east of Scotland, has been brought under the banner of Oil & Gas UK and expanded to include efficiency champions from across industry — with 25 companies now participating.

The network will be responsible for identifying success stories and challenges from the industry. These findings will then be shared by uploading them to the REE, supporting work to embed changes in behaviour across the sector.

Efficiency Roadshows

The ETF has put together proposals for a series of in-house Efficiency Roadshows – a way for companies to engage their workforce in the pan-industry efficiency drive in their own offices. Initial roadshows will take place at Global Energy, Amec Foster Wheeler and ConocoPhillips and the task force aims to hold a number of these on-site town hall meetings by the end of the year.



www.oilandgasuk.co.uk/efficiency



If you are interested in hosting an Efficiency Roadshow, get in touch at efficiency@oilandgasuk.co.uk.

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Efficiency spotlights

An Efficiency Spotlights section on Oil & Gas UK's website showcases case studies from companies that are addressing costs by working smarter. Wireline presents just some of the good ideas being put into practice and delivering value.

EXCEPTIONAL SPORTS PERFORMANCE INSPIRES NEXEN EXCELLENCE

In recent years, Nexen's management has sought to evolve the company's performance to become a truly 'Best-In-Class' operator. To inject creativity and eradicate entrenched ways of working, Nexen's leadership team examined the outstanding sporting excellence of Olympic athletes for inspiration in motivating their entire workforce.

They understood that workforce collaboration and two-way communication was crucial to achieving cultural transformation through new experiences, beliefs and behaviours that deliver top business results and a common language that drives accountability both individually and collectively across the business.

To help achieve 'efficiency of execution' in every aspect of activity, both on and offshore, Nexen invited Olympic rower, Cath Bishop, to its Leaders' Forum in 2014. Cath outlined the philosophy behind the 'marginal gains' theory that came to public attention when Sir Dave Brailsford became the British Olympic Cycling Team's performance director. The doctrine is about targeting opportunities to make small incremental efficiency improvements, which, when added together, deliver significant improvements.

The resulting new practices at Nexen have improved productivity offshore from five and a half hours to over eight hours per shift, while the company's new mindset and behaviours are embodied in a business model known as 'The Steps to Accountability', which includes a commitment to effective planning and each person holding themselves and others to account for achieving superior results. This is now making a difference to the company's success as one of the largest oil producers on the UK Continental Shelf, along with a suite of tools to equip employees in implementing the culture change and to naturally engrain the new ways of working into everyday tasks.

Ray Riddoch, Nexen's managing director UK and SVP Europe, explains: "Efficiency of execution is the core value, along with excellence in health, safety and environmental performance. We encourage this

approach throughout every department in the organisation, no matter how big or small the task. Our highly effective mechanism ensures all good ideas are gathered, evaluated and shared across the company. It is important to ensure collaboration at all levels and acknowledge how someone's input has contributed to our aim of reducing the lifting cost per barrel."

Nexen has applied the approach to improve the efficiency of the safety briefings it provides to the 1,000 or so new workers or 'green hats' who descend on Nexen's assets each year. What this means in practice, is that if ten scaffolders are required for a job, contractors provide five seasoned and experienced offshore workers together with five staff new to the platform, creating a 'buddy system' that ensures rapid and effective dissemination of key safety procedures and allows Nexen to increase productive time per green hat.

Another example of the cultural shift and commitment to more effective planning is the approach now being taken to well intervention operations. Nexen deploys a tool in the planning stage to measure the condition of internal components within

highly accurate virtual well interventions to be modelled. The process has transformed the ability of engineers to visualise the wellbore, select the appropriate tools

before the intervention takes place and, as a result, reduce the time required to return the well to production.



CYBERHAWK REDUCES THE TIME AND COST OF INTERNAL TANK INSPECTIONS

Cyberhawk Innovations has improved the safety, time and cost of inspecting cargo oil tanks on operational floating, production, storage and offloading (FPSO) vessels using remotely operated aerial vehicles (ROAVs).

Maersk Oil, which owns and operates the Gryphon FPSO on the UK Continental Shelf, traditionally inspected the cargo tanks for integrity, damage assessment and class certification using technicians who were suspended on ropes. They focussed on areas of high stress such as stiffeners, brackets, bracing, webs and stringers.

But carrying out a visual non-contact inspection of the tank using Cyberhawk's ROAV brought benefits.

Cyberhawk mobilised an experienced two-man ROAV team comprising a pilot and inspection engineer.

Human risk factors presented by rope access, such as working at height for sustained periods and in confined spaces, were reduced, while the inspection of critical components was completed within a day, in comparison with rope access that usually takes between three and four days. As a result, there were significant cost savings and Maersk Oil can identify and more efficiently plan for any subsequent contact-based inspections that are required.

This inspection technique can be applied to all large internal tanks on FPSOs, as well as bulk carriers and tankers.

Malcolm Connolly, Cyberhawk's technical director and founder, says: "Not only have we removed one of the most significant risks associated with tank inspection — working at height — but we have also highlighted the significant cost and time savings that can be achieved by ROAV inspection."





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The Oil and Gas Authority

Wireline catches up with Andy Samuel, chief executive of the Oil and Gas Authority.



Q: Since the Oil and Gas Authority (OGA) was established, the oil price has fallen significantly and 2015 suffered the lowest exploration levels recorded. How are you supporting the sector?

A: The UK Continental Shelf (UKCS) operating environment has changed significantly since the publication of the Wood Review in early 2014. We of course recognised this and rapidly published the OGA *Call to Action Report* to identify the key risks and immediate actions for industry, government and the OGA. Our principal objective remains the same, to maximise economic recovery from the UKCS (MER UK) but there is no denying that the sharp decline in oil prices over the past 12 months has magnified issues that ourselves and companies have had to tackle.

Exploration is one of the keys to revitalising the basin and it helps protect jobs, skills and the supply chain. Exploration drilling levels remain very low in the current economic climate and we are working hard to reverse this trend. The high success rates and notable discoveries last year highlight the significant remaining potential in mature areas and we are also working to unlock what we believe is exciting prospectivity in frontier areas.

Following the successful government-funded OGA seismic surveys in 2015, we will release this data openly via Common Data Access Limited's (CDA) UKOilandGasData portal – the first time such large quantities of data have been made freely available to all.

We were very pleased the government introduced a further package of support measures earlier this year, including funding another £20 million seismic round to be undertaken in 2016. We

have already engaged with industry to help define the most suitable and prospective areas for this phase of data acquisition — as always, we are finding that the geoscience community and our own OGA staff are full of good ideas and generating some real enthusiasm.

Building on this, we recently launched a frontier basins Exploration Licence competition to derive innovative data analysis from industry and academia. The winning studies will greatly increase our understanding of the two frontier areas that will be included in the 29th Licensing Round, to be announced later this year, subject to Strategic Environmental Assessment.

The sustained low oil price requires constant focus and careful prioritisation. At the end of last year, we created our low oil price contingency team specifically with the remit of understanding the issues facing companies and what the OGA and other parts of government can do to support.

We have also committed to providing £700,000 of government funding to the development of a 3D visualisation facility at the Lyell Centre at Heriot-Watt University in Edinburgh. It will benefit from state-of-the-art equipment to interpret complex geological and engineering data. In addition, we are awarding up to £500,000 of funding to support two post-doctoral appointments in UK universities to support the energy skills agenda.

Q: Industry has asked for a strong and independent regulator for many years. This is crucial now more than ever. What will be the OGA's main areas of responsibility going forwards?

A: We recently published our five year *Corporate Plan* covering the period 2016 to 2021. It sets out areas the OGA will regulate, influence and promote and our main areas of responsibility. To become a world-leading oil and gas authority, we have set seven priorities:

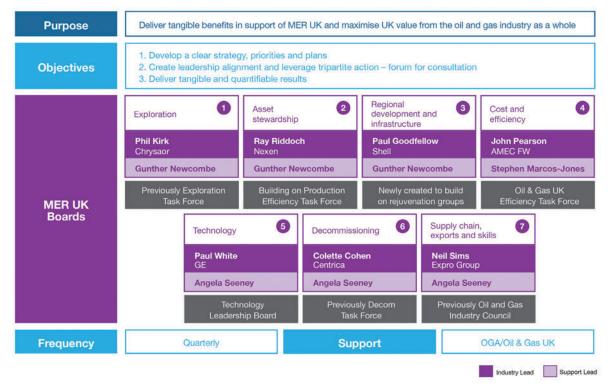
- Revitalise exploration by implementing a licensing regime to encourage high levels of exploration and improve success rates.
- Improve asset stewardship to optimise efficiency while maintaining high standards of safety and environmental management.
- Drive regional development and protect critical infrastructure.
- Improve decommissioning efficiency to ensure the UK gains a competitive industrial capability and we achieve the maximum extension of life of field.
- Leverage technology and data to maximise economic recovery.
 - Create the right conditions to create an operating environment and supply chain that supports MER UK while sustaining high levels of skilled employment.
 - Develop people, processes and systems to create a high-performing team within the OGA to support industry.

Q: Can you talk us through how the structure of the OGA is evolving?

A: The OGA was established in April 2015 as an Executive Agency of the Department of Energy & Climate Change. The Energy Bill is currently passing through Parliament and we are on track to become a government company (GovCo) later this year. This provides

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MER UK Forum and Boards



new regulatory powers for the OGA including the ability for us to participate in meetings with operators, have access to data, provide dispute resolution and introduce a range of sanctions such as improvement notices and fines up to $\pounds 1$ million. I hope that by maintaining good relationships with industry, these are measures we would only use infrequently as a last resort.

Internally, we have recruited a highly capable team and are now focussing on building on our existing strengths while remaining very cost conscious.

Q: With a relatively broad remit, how will you prioritise in 2016 to give the industry the urgent support it needs?

A: The sustained low oil price requires constant focus and careful prioritisation. At the end of last year, we created our low oil price contingency team specifically with the remit of understanding the issues facing companies and what the OGA and other parts of government can do to support.

As part of their effort to manage costs and seek efficiencies, unfortunately many companies have been forced to reduce staffing levels. It is vitally important that key skills are retained in the industry and that apprenticeship and graduate schemes continue. I am on the Energy Jobs Task Force chaired by Scottish Enterprise chief executive Lena Wilson and we also have representation on the New Anglia LEP Oil and Gas Taskforce to provide support in this important region.

Technology is vitally important in extracting the estimated 20 billion barrels still remaining on the UKCS. Our technology team is working closely with industry to ensure that existing technologies are deployed to their full effect and new technologies are developed. This effort is significantly bolstered by the recently announced Oil & Gas Technology Centre with government funding of £180 million.

Q: How will you seek to step up your engagement with industry and government moving forwards?

A: The MER UK Forum acts as a conduit for bringing together government, industry and the OGA. It is focussed on seven core work areas (see image above), each with its own board and led by an industry executive with support from the OGA and Oil & Gas UK. These boards are an important vehicle for engagement and consultation with industry.

Earlier this year, the UK Government established a new inter-ministerial group on oil and gas, which I am part of, chaired by Secretary of State for Energy and Climate Change Amber Rudd. It was founded to co-ordinate the UK's response to the collapse in oil price and will focus on critical issues such as exports, skills and investment.

We will continue working closely with industry and government to harness the tripartite approach to challenges and opportunities.

Q: How do you see the relationship between Oil & Gas UK and the OGA developing?

A: Having served as an Oil & Gas UK Board member I saw first-hand the good work done by Oil & Gas UK on behalf of the industry. This work continues and the OGA is working closely with Deirdre and her team on a number of fronts such as the recently published *Activity Survey* and the Rockall Trough and Mid North Sea High seismic data release. We frequently cite collaboration as being the solution to navigating industry through the current challenging market and we recognise this approach must fully apply to us too. \bigcirc



Powering a pioneering partnership

In the spirit of working co-operatively to secure an enduring future for the UK Continental Shelf, eight companies came together to tackle the shortages they were facing in securing vital supplies of operational gas in the northern North Sea. Wireline explores their journey to keep fields in production.

It was back in 2013, under the auspices of the then government-industry forum PILOT, that it became apparent that the northern North Sea was likely to encounter shortages in operational gas from 2015 onwards to run its installations.

Considered the life blood of a platform, operational gas usually comes from the gas produced by the platform itself. It is used for operational purposes (such as gas lift) and to provide the energy that powers the turbines, compressors and pumps for further production, transportation and processing of oil and natural gas. This interconnected system comes under pressure, however, when gas production from the reservoir naturally decreases as it matures. Operational gas shortages then occur just at the time that more gas is needed to recover the hydrocarbons through water injection and gas lift as the natural pressure in the reservoirs/wells declines. This is the conundrum that the northern North Sea operators needed to crack.

"It became clear that there was an urgent need to secure sufficient supplies of imported operational gas to ensure continued production in the northern North Sea," notes Oonagh Werngren of Oil & Gas UK.

"Furthermore, there are significant inter-connectivities between the fields and a number are considered to be infrastructure 'hubs', whereby fields upstream depend on these hubs to export the hydrocarbons they produce. All parties therefore have a vested interest in other companies continuing their operations. The longevity of each field has an impact on the cost-sharing arrangements for shared infrastructure such as offshore hubs, pipelines and terminals. One field or hub's closure could have a knock-on effect on others in the area."

Fuel for thought

2013

The efforts to tackle the northern North Sea's operational gas deficiency stems from a significant amount of co-operative work that industry began in 2012, in conjunction



TACKLING OPERATIONAL GAS SHORTAGES IN THE NORTHERN NORTH SEA



PILOT, the government-industry forum, sets up the Infrastructure Access Group to examine the dynamics of maintaining offshore infrastructure hubs, improving area stewardship and ensuring third party access at reasonable cost.

Hannon Westwood and Oil & Gas UK publish studies carried out by the Infrastructure Access Group that define the Magnus and Cormorant hubs in the northern North Sea as critical infrastructure hubs, leading to the formation of the Northern North Sea Rejuvenation Group.

Oil & Gas UK and the Northern North Sea Rejuvenation Group commission Dundas Consultants to carry out an independent study to identify the challenges and opportunities for enhancing area stewardship. Analysis from the final report reveals that the northern North Sea will be operational gas deficient from 2015. The Operational Gas Group is set up so that operators can work co-operatively to find a cost-effective supply of operational gas.



with the Department of Energy & Climate Change (DECC) and, more recently, the Oil and Gas Authority.

PILOT's Infrastructure Access Group, made up of infrastructure owners, developers, users and transportation (pipeline) service providers, alongside DECC and Oil & Gas UK, was tasked with maximising value from the UK Continental Shelf (UKCS) by identifying critical infrastructure, ensuring its robust stewardship and testing 'transformational' options to improve access. Thereafter, three rejuvenation work streams were established focussed individually on the northern, central and southern North Sea regions.

In 2013, members of the Northern North Sea Rejuvenation Work Group participated in an independent study commissioned by Oil & Gas UK to gain a collective understanding of the challenges in this area. With a special emphasis on the Magnus and Cormorant hubs – identified as being "critical" hubs – the study by Dundas Consultants analysed aggregated data from those companies operating in the east of Shetland whose production was delivered to the Sullom Voe Terminal.

The report highlighted concerns that a failure to secure reliable operational gas supplies — at a competitive price — could have a significant effect on the recoverable volumes of hydrocarbons that could be produced. The findings provided the catalyst for operators to come together in a new group called the Operational Gas Group, comprising TAQA, CNR International, EnQuest, Dana Petroleum, Fairfield Energy, BP, Shell UK and ExxonMobil. >

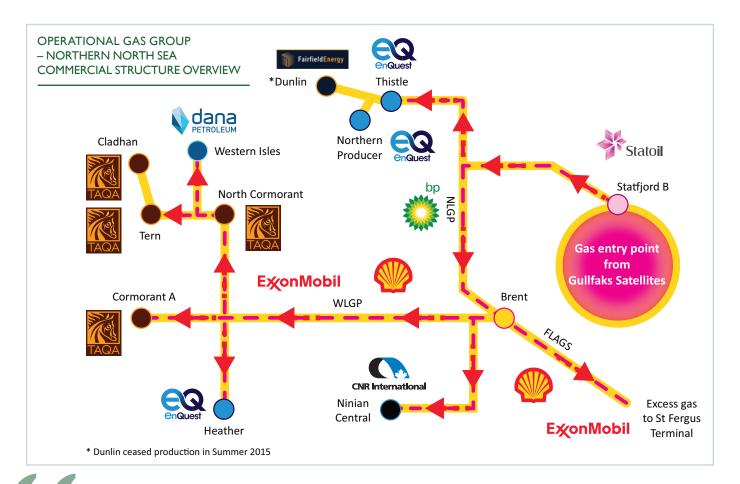




The Operational Gas Group completes the full suite of agreements for the Buyers' Representative Model to import operational gas from Statoil in the Norwegian North Sea sector.



The Operational Gas Group delivers the first flow of imported operational gas through the northern North Sea transportation system.



This has been a truly collaborative effort from all the participating companies. We have looked beyond the confines of our individual businesses and worked towards establishing an enduring future for critical infrastructure hubs...It is my sincere hope that this approach can be replicated effectively elsewhere on the UKCS.

Scaling up a solution

Of these organisations, the operational gas 'user field operators' are defined as CNR International, EnQuest, Fairfield Energy, Dana Petroleum and TAQA. BP, as well as Shell and ExxonMobil meanwhile operate and/or own the primary transportation systems that would carry any imported supply — the Northern Leg Gas Pipeline (NLGP) and the Shell Esso Gas and Associated Liquids (SEGAL) system, respectively. SEGAL includes the Far North Liquid and Associated Gas System (FLAGS) pipeline and the Western Leg Gas Pipeline (WLGP).

Jim Goldie, joint venture lead at TAQA and lead member of the Operational Gas Group, explains: "With insufficient supplies of operational gas available in the vicinity of the northern North Sea, we had to look further afield. After studying the most efficient way to bring an outside source of operational gas into the existing infrastructure, the group considered the Norwegian oil and gas sector and selected

Statoil. Statoil can deliver gas from its Gullfaks satellites to northern North Sea user fields via the NLGP and excess gas will be exported through the FLAGS pipeline."

He continues: "The group's priority was then to explore ways of overcoming the technical and commercial hurdles of sourcing imported operational gas and to do so at the earliest possible date. It was essential that we developed a plan that aligned with the objectives of the field participants and the transportation system owners, as well as meeting the Oil and Gas Authority's objectives of maximising economic recovery from the UKCS (MER UK).

"We looked at the reliability of supply, mindful that we needed to create a system flexible enough to meet planned and unplanned operational needs. The system has to deliver competitively priced gas with competitive tariff rates — there needs to be transparent governance via a commercial model that is also attractive to suppliers."

The group also had to consider how to negotiate flexible commercial arrangements that matched the fluctuating demands of individual and mature fields and had the capacity to balance gas with different properties.

Jim says: "After considering various potential commercial arrangements with support from legal experts, the group proposed a 'gas aggregator model' as the most efficient and cost-effective way to purchase offshore operational gas. This commercial arrangement is now known as the Buyers' Representative Model, whereby a single entity takes the role of consolidating small volume demands from a number of field users into a more significant volume that is of commercial interest to potential gas suppliers."

While the concept of joint purchasing of gas by competitors might be considered as potentially restricting competition, the commercial model that the Operational Gas Group chose complies with both

EU and UK competition law, in that the parties to the joint purchasing arrangement have a combined market share that does not exceed 15 per cent of either the purchasing market or the selling market. Steps have also been put in place to ensure that there are no anti-competitive exchanges of information between potential suppliers of gas or transportation services.

The group decided that TAQA would take up the role of buyers' representative for the user field operators. The buyers' representative remit is to work on behalf of the Operational Gas Group to contract the purchase of gas from source fields, its transportation to user fields and the transfer of title of the gas to user fields. The buyers' representative will also enter into arrangements to dispose of excess gas through an offshore sale to the original supplier. All of this is undertaken on a no-profit/no-loss basis by TAQA consistent with the ethos of MER UK.

On 18 December 2015, the Operational Gas Group completed the full suite of agreements for the Buyers' Representative Model. On 1 January 2016, the group marked a major milestone when the first delivery of imported operational gas entered the northern North Sea pipeline system.

Safeguarding future production

Companies are now able to cost-effectively source operational gas and continue production. Oil & Gas UK's latest *Activity Survey 2016* forecasts that there are up to 3.5 billion barrels of oil equivalent still to be recovered from the northern North Sea, including those resources yet to be found.

Jim concludes that "as buyers' representative, this project represents a 24/7 commitment for TAQA. Our priorities are to monitor progress regularly, ensure our colleagues in the control room have further training, and assess how we can fine-tune the operation to optimise value for the gas users and transportation system owners.

"This has been a truly collaborative effort from all the participating companies. We have looked beyond the confines of our individual businesses and worked towards establishing an enduring future for critical infrastructure hubs on the UKCS. Our collective efforts have helped us to develop an innovative commercial model for purchasing operational gas that safeguards future production from the northern North Sea. It is my sincere hope that this approach can be replicated effectively elsewhere on the UKCS." (w)

WHAT SOME OF THE OTHER PARTNERS SAY...



Murray Rattray Commercial Team Leader, CNR International

"The spirit of collaboration enabled us to handle all the challenges of a complex situation and deliver a seamless transition to the new cost-effective, shared solution that suited everyone."



Brenda Wyllie Northern North Sea and West of Shetland Area Manager, Oil and Gas Authority

"The Oil and Gas Authority welcomes the opportunity to work with operators across the UKCS to protect valuable infrastructure. When we identify constraints, the MER UK strategy allows us to collaborate with industry to provide a new innovative solution

such as the Operational Gas Group project. By working together, we were able to increase the value in the area and extend the future of the basin."



Judith Aldersey-Williams Partner at CMS Aberdeen, who led the legal team advising the Operational Gas Group

"This project required a complex set of contracts all of which had to tie together — the group met weekly for a year to address first the technical and commercial issues of making the project work and then delivering the legal documentation of the innovative arrangement. It was a great example of teamwork."



Ben Taylor Country Commercial Manager Upstream UK & Ireland, Shell U.K Limited

"From a Shell perspective, the development of the Operational Gas Group agreements is a great step forward as it is part of a costeffective route to lengthen the life of the fields that are connected to our infrastructure and supports the goal of MER UK. The work

was not easy as there were lots of complications associated with legacy agreements. The negotiating teams worked very hard to ensure the issues were understood and solutions developed – this meant it took time but also means the agreements are robust and will last. The co-operative behaviours shown in listening to each other's needs, requirements and concerns and working together to resolve these augers well for future negotiations in the area."



Lars Hauge Sortland Vice President Statoil Upstream Origination & Supply, Statoil ASA

"The Norwegian and UK Continental Shelves have become ever more inter-connected over the last few years. Field owners on the UKCS are increasingly looking to producers such as Statoil for supplies of operational gas. The complexity of such a deal has been

high due to the involvement of different system operators. However, the challenge of multiple stakeholders has been overcome by a strong drive from all parties to reach an agreement. Statoil is well positioned to provide such supplies going forward and we are pleased to be able to contribute to extending the economic life of the UK's northern North Sea."



Russell Streether Senior Commercial Adviser, EnQuest

"The mix of fields created its own unique challenge and it was important to understand what factors could influence gas demand during field operations and how gas delivery could be best planned or adjusted within the day. While each field operator had a diversity of needs, including partner and stakeholder approval, we

successfully delivered a complete solution. This is an excellent example of industry collaboration in the spirit of MER UK."

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Although

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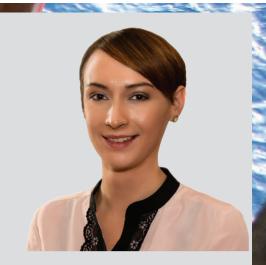
Competent Authority

- the Offshore Safety

of offshore incidents as

Changes to the reporting of offshore incidents

The EU Offshore Safety Directive has brought with it changes to how offshore incidents are reported. Wireline speaks to Moira Lamb of Oil & Gas UK to find out more about the implications for companies operating on the UK Continental Shelf.



Q: What is the EU Offshore Safety Directive and how has it changed which offshore incidents need to be reported?

A: The EU Offshore Safety Directive was published in 2013 and aims to align the different major accident hazard regulatory frameworks across the EU Member States to further minimise the risks from offshore operations. The Directive came into force in UK legislation last July.

One of the requirements is that each EU Member State's Competent Authority must provide information and statistics about offshore incidents in a calendar year to the European Commission. It should do so using the EU Common Reporting format detailed in Annex II of the accompanying EU Implementing Regulation.

Directive Regulator. Although UK companies still have to report the same types of offshore incidents as they did before, there are now a range of additional incidents and dangerous occurrences that must be reported to our new Competent Authority – the Offshore Safety Directive Regulator (OSDR). These are set out in the EU Implementing Regulation. For example, any loss or non-availability of safety and environmental critical elements (SECE), requiring immediate remedial action, is now reportable.

Q: What are the new hydrocarbon release reporting requirements?

A: Under the existing RIDDOR legislation (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations), release rate and volume are taken into account for those hydrocarbon releases that are reportable. The new

EU Implementing Regulation has resulted in different reporting requirements as it only considers volume for reportable releases, with the exception of 'fugitive emissions'. The

> Directive has introduced a new legal definition for 'fugitive emissions' hydrocarbon releases that occur from the 'loss of tightness of equipment'. Release rate is taken into account for these types of releases.

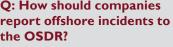
The Oil & Gas UK Supplementary Guidance on the Reporting of Hydrocarbon Releases has been updated to cover these and other new requirements and can be found on our website.

Q: How should companies report offshore incidents to the OSDR?

A: The Health and Safety Executive (HSE) has brought in new administrative arrangements for reporting of incidents to align with existing requirements and minimise bureaucracy. A single form called a ROGI - Report of an Oil and Gas Incident - will eventually replace several existing Offshore Incident Report

The ROGI pulls together – into one place – all the legislative reporting requirements for RIDDOR, DCR (Design and Construction Regulations), MAR (Management and Administration Regulations), and the EU Implementing Regulation. The ROGI also allows companies to submit additional data surrounding hydrocarbon releases, which was previously recorded on the OIR12 form.

The ROGI is currently available as a downloadable Microsoft Word document on the OSDR website with guidance on how to complete the form. Guidelines on the incidents that need >



(OIR) forms.

to be reported have been published by the EU Offshore Authorities Group.

The *ROGI* form will be transformed into a simpler-to-use online tool later this year. When the online version is up and running it will replace the following three HSE forms:

- OIR8 Return of Death or Loss of a Person
- OIR9b Report of an Accident or Dangerous Occurrence Offshore
- OIR12 Hydrocarbon Release Report Supplementary Information

The HSE form *OIR13* for reporting the infringement of a safety zone and the Department of Energy & Climate Change's Petroleum Operations Notice (PON) reporting requirements are unchanged and will remain in place.

Q: When do companies have to switch to using the ROGI?

A: Legally, the European law sections of the *ROGI* form only need to be completed by offshore installation owners and operators on an installation-by-installation basis as their Safety Case transitions to the new regime under The Offshore Installation (Offshore Safety Directive) (Safety Case etc.) Regulations 2015. Compliance is tied to the date that the revised Safety Case for each installation is accepted. Therefore, a company with several installations may have a number of different compliance date obligations.

Overall, non-producing offshore installations have until July 2016 to comply, while producing assets must comply by July 2018.

However, Oil & Gas UK is encouraging companies to switch to using the *ROGI* form in its entirety as soon as possible, including submitting the hydrocarbon release data. This will

improve the efficiency of reporting through a single form and help ensure consistency in approach across the UK Continental Shelf.

Q: Are there any other significant reporting changes?

A: Yes, under the Safety Case Regime 2015, operators and owners of UK registered companies will have to report, if requested by the OSDR, any major offshore accident in which it or its subsidiaries have been involved in outside the EU.

Oil & Gas UK is encouraging companies to switch to using the ROGI (Report of an Oil and Gas Incident) form in its entirety as soon as possible...This will improve the efficiency of reporting through a single form and help ensure consistency in approach across the UK Continental Shelf.



More information is available at www.hse.gov.uk/osdr/reporting/index.htm.

Oil & Gas UK's Supplementary Guidance on the Reporting of Hydrocarbon Releases can be found at www.oilandgasuk.co.uk/product/hs095.



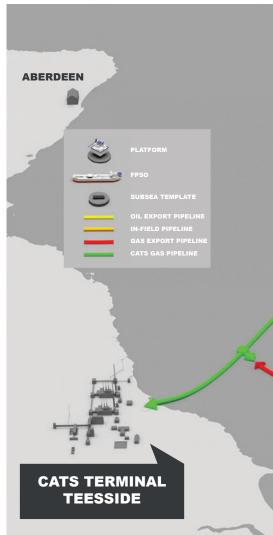


A crucial piece of infrastructure for the UK's natural gas production is under new ownership with a fresh business model. The man at the helm, Andy Hessell, believes the Central Area Transmission System (CATS) has a lot more to give. Wireline reports

Gas is transported through the CATS pipeline to an onshore terminal at Teesside.

Construction of a new accommodation building is under way so that more people can be on site at one time, improving the efficiency of activities such as shutdown maintenance programmes and turnarounds





Andy Hessell, managing director of CATS Management Limited, is steering the company's three-pronged business plan that comprises the safe, reliable and efficient operation of CATS; supporting the MER UK agenda from all connected hubs; and capturing new business opportunities

The CATS 400-plus kilometre pipeline transports gas ashore for processing from 11 UKCS hubs comprising more than 30 producing fields

ndy Hessell is relishing what he calls "a once-in-a-career opportunity".

As managing director of CATS

Management Limited (CML), he heads up the business now operating the Central

Area Transmission System (CATS) — critical to the UK Continental Shelf's (UKCS) gas production.

With first gas carried through the system in 1993, CATS' 400-plus kilometre pipeline extends from the central North Sea to a terminal at Teesside and transports gas ashore for processing from 11 UKCS hubs comprising more than 30 producing fields. In 2014, the system delivered almost eight billion cubic metres of gas to UK markets, representing about one fifth of domestic gas production and ten per cent of demand.

At the end of last year, Antin Infrastructure Partners completed a deal with BP resulting in it owning 99 per cent of CATS through its company CML.

Andy says: "CATS has been well run and well maintained by BP, with no critical maintenance backlog on the terminal and 13 years without a lost-time incident, but it was not a core part of their business.

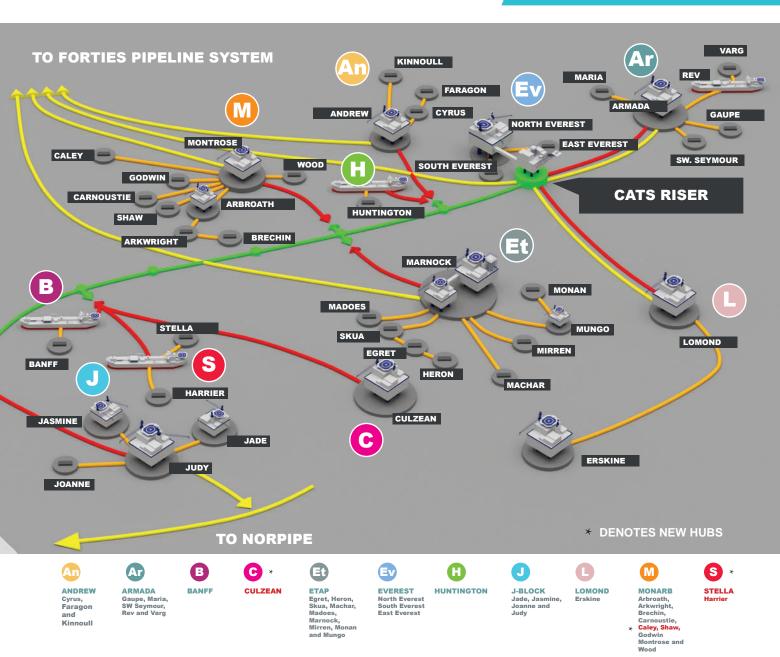
We have started the process of exploring with shippers what we can do to get the most out of their hubs and how we can align with their individual operations.

"Antin is a new player to the North Sea and offers a different business model. It is solely focussed on infrastructure investment. With this dedicated focus, we can make a difference. That is what maximising economic recovery from the UKCS (MER UK) is all about and can only be good for the basin.

"Moreover, Antin's involvement represents the introduction of fund capital that would otherwise not have been there, and potentially releases capital that upstream companies might invest in other upstream assets."

Changing lanes

Although today Andy is leading a business with a pivotal role in sustaining and enhancing UKCS gas production, he didn't initially have his sights set on an oil and gas career.



As he completed his physics degree at Nottingham University in the late 1980s, he started to apply for jobs with blue chip companies in various sectors. One of those just happened to be BP, and he joined its research centre in Sunbury.

He eventually gravitated towards commercial roles, more recently in upstream operations, and has worked on projects in Vietnam, the US and Angola. Aberdeen has been his base since 1999 and his North Sea work with BP involved strategy, business planning and development, and most recently a role as regional chief finance officer. This involved commercial and financial oversight of all BP's assets in the UK and Norway.

The new chapter in Andy's career after 26 years at BP stems from successful moves by Antin. It initially secured BG Group's 63 per cent interest in CATS in 2014,

before acquiring BP's interest and taking its stake to 99 per cent last year.

Andy had been providing consultancy support to Antin since the start of 2015 and was offered the chance to join CML as its managing director. It's a professional challenge that he is excited about. "I had a very enjoyable and fulfilling career at BP, but it has been really refreshing to take on a new project like this," he enthuses.

"One of the things I've enjoyed most is being able to hand-pick a really strong and experienced management team with lots of industry knowledge. The opportunity to create your own team from scratch doesn't come around very often."

Smart thinking

Andy's now steering CML's three-pronged business plan that comprises the safe, reliable and efficient operation of CATS;

supporting the MER UK agenda from all connected hubs; and capturing new business opportunities.

Andy notes that "like every company in the sector, achieving more efficient and smarter ways of working is high on our agenda. We have to manage our cost base so that we can continue to provide an effective service for our shippers for many years to come. We won't be looking for short-term fixes that create problems for the future and we will certainly not be cutting back on critical maintenance and integrity work. As a new operator, we are taking a pragmatic, common-sense approach to ensure we have a sustainable business."

Investment in the infrastructure is one of the priorities. For example, construction of a new accommodation building at the terminal is already under way, so that more people can be on site at one time, improving > the efficiency of activities such as shutdown maintenance programmes and turnarounds.

And engagement with existing CATS customers is also important. "As a midstream owner, we are not in competition with upstream," explains Andy. "We have no axe to grind over whose gas we transport. We want to transport everyone's gas with maximum efficiency. We have 11 connected hubs of various sizes and vintages, each with their own unique issues and opportunities. We have started the process of exploring with shippers what we can do to get the most out of their hubs and how we can align with their individual operations."

Perfectly aligned

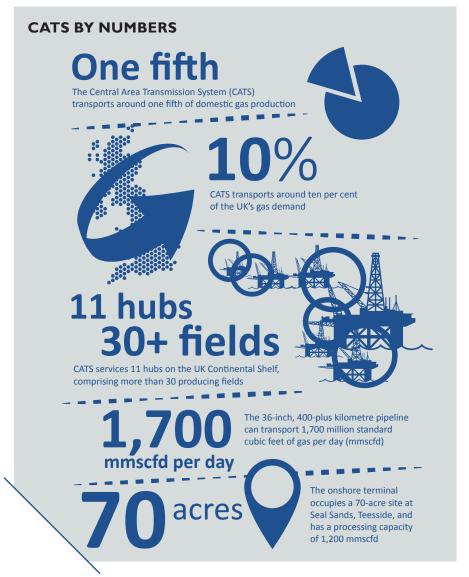
As part of the process to demonstrate to operators, shareholders and regulators that it has a credible operating model, CML completed an exhaustive selection process to identify a partner to manage the pipeline and terminal operations. Wood Group PSN (WGPSN) was chosen.

"The relationship with WGPSN is critical and is why we emphasise that they are an operating partner and not a contractor," asserts Andy. "They share our ambitions and have demonstrated that they want to work with us in the long term to do what is right for CATS."

Equally, the CML team is building a sustainable relationship with BG Group, which operates the CATS riser platform offshore that is bridge-linked to its North Everest installation.

And CML has already been successful in securing new business to transport and process gas from the Culzean development when it begins production in 2019.

We believe there are significant growth opportunities and the potential for another 25 years of CATS operations, perhaps more. I think this is a mark of our faith in the UKCS – the fundamentals are still there despite what is happening to the oil price.



"We are already engaging with Maersk on how we can collaborate to get the most out of the Culzean hub," explains Andy. "For example, how we can align our respective maintenance programmes to ensure optimum efficiency. We have a great opportunity over the coming years to plan for the long term and create a win-win scenario."

Andy has total faith that the CML management team and WGPSN operating team are perfectly equipped to write a new chapter in the CATS success story. "My biggest challenge was making sure we brought together really talented people, and my biggest opportunity is making sure we become recognised as the leading midstream business in the UK.

"I like the fact that our team has genuine diversity of thought – there are different approaches, styles and backgrounds. You get huge benefits from that and reach the best end results."

He continues: "Personally, I love solving problems in a commercial environment

and work best by being challenged and challenging others. I enjoy nothing more than sitting in a room, chewing problems over with colleagues, testing their views and have them test mine as we work towards a consensus. You invariably come up with a better product that way."

It's a philosophy that he will apply to take CATS' operating life well beyond 2030. "We believe there are significant growth opportunities and the potential for another 25 years of CATS operations, perhaps more. I think this is a mark of our faith in the UKCS — the fundamentals are still there despite what is happening to the oil price.





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