

WIRELINE

ISSUE 25 - AUTUMN 2013



THE TOOLS FOR GROWTH

The UK oil and gas well services sector invests in people and equipment to meet high demand *p12*

AT THE CUTTING EDGE *p15*

Mike Wood, project manager at Heerema's Hartlepool fabrication yard, talks about one of the most exciting challenges of his career and more

USING THE SHELF SPACE *p25*

How carbon capture and storage could herald a new era for gas – find out more

MAXIMISING RECOVERY *p28*

Extending the productive lives of the UK's older fields offshore with broad benefits for the economy and energy security



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Issue 25

REGULARS

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"We like assets that have not had much capital invested for a protracted period and older fields or acreage that have not utilised the latest technology, such as modern seismic that allows our geoscientists to pinpoint areas of future value generation." p28

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Nine months into his career in the UK oil and gas supply chain, Mike Wood (pictured above) is excited about the opportunities the sector is offering him. His career has taken him from one landmark project to another; the project manager at Heerema's Hartlepool fabrication yard shares his story and his enthusiasm for the future.

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Taking on producing assets presents both opportunities and challenges for their new operators. Apache North Sea and TAQA share their experiences with *Wireline*.





People right across our industry, all the staff of Oil & Gas UK included, were shocked and saddened by the tragic loss of life and injury resulting from the helicopter crash at Sumburgh Head on 23 August. Our thoughts are with all who were on this flight, their families and their friends and we extend our deepest condolences to the loved ones of all of those who died.

We also wish to thank and acknowledge all the very fine men and women involved in the search and rescue operation. Their prompt, professional action in difficult circumstances saved many lives and for that we are sincerely thankful.

The Helicopter Safety Steering Group (HSSG), now an established part of Step Change in Safety, will ensure any learning is shared across the industry and provide guidance on workforce engagement. Further details are provided in our news section on p5.

This awful event reminds us that the people who work in the sector, on and offshore and throughout the supply chain, are the heart of our industry. As chairman of two very different but significant conferences this year, I have been privileged to witness the coming together of individuals who are committed to

excellence and the long-term future of the offshore oil and gas industry in this country.

The three-day Piper 25 conference, held to mark the 25th anniversary of the Piper Alpha tragedy, and the parallel Workforce Involvement Day combined were attended by over 1,200 people and prompted them to re-affirm their commitment to the process of continuous improvement in the cause of safety (p6).

Offshore Europe, meanwhile, is our industry's largest gathering outside the USA and it was very encouraging to see so many people coming together in Aberdeen to focus on the 'next 50 years' of the oil and gas sector (p9).

If the industry's drive and vitality is coupled with the requisite government involvement and backing (p7), there is every reason to be optimistic about the future. Mike Wood of Heerema's Hartlepool fabrication yard certainly thinks so. His story (p15) is testimony to the great opportunities available for skilled professionals.

One of the many supply chain sectors which is creating large numbers of good jobs is well services (p10). *Wireline* talks to two companies active in the field – Expro Group and READ Cased Hole (p12).

We also hear from Apache North Sea and TAQA about how they've made a success of acquiring interests in and extending the productive lives of brownfields (p28) and from the team behind the Peterhead Carbon Capture and Storage proposal (p25).

These projects reiterate the importance of ingenuity and innovation for the continued success of our industry, a theme that is the focus of the Q&A section in this issue with BP's Trevor Garlick (p20) ahead of the 'Innovation Nation' debate to be held on 15 October.

That event forms a part of Oil & Gas UK's campaign to raise awareness of the industry's contribution to job creation, innovation and energy security. Some of the people who have joined the campaign share their story with *Wireline* (p22). If you have not yet done so, I do encourage you to get involved.

Malcolm Webb,
Chief Executive,
Oil & Gas UK

QUICK LINKS

Look out for this symbol in the magazine and scan the accompanying QR code with your handheld device for easy direct links to online material. Download the QR code reader from your app store.



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

We want to hear your views on our magazine so please send us your feedback as well as ideas for future articles to Rupal Mehta, editor, on rmehta@oilandgasuk.co.uk.

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1.

SUMBURGH HELICOPTER ACCIDENT

On Friday 23 August, four offshore workers tragically lost their lives in an accident off Shetland involving a Super Puma L2 helicopter.

In response to the understandable sensitivities following the tragic accident, the helicopter operators recommended a temporary suspension of all Super Puma passenger flights as a time out for safety. This position was supported by Step Change in Safety's Helicopter Safety Steering Group (HSSG), comprising duty holders, helicopter operators, trade unions and regulators. This temporary suspension was ended on 29 August and a phased return to flight for all variants of the Super Puma fleet is now in progress, involving company-specific programmes of workforce engagement and confidence rebuilding. This decision was based on confidence in the helicopters expressed by the European Aviation Safety Agency (EASA), the Civil Aviation Authority (CAA), the pilots' union BALPA and the Norwegian CAA. It was further underpinned by the fact that the regulator has at no time placed any restrictions upon these aircraft.

Companies remain sensitive to workforce concerns and work to rebuild trust and confidence has begun; Step Change in Safety has issued guidance on workforce engagement, including a 'Boots On' campaign to address the issue.

FOR MORE INFORMATION

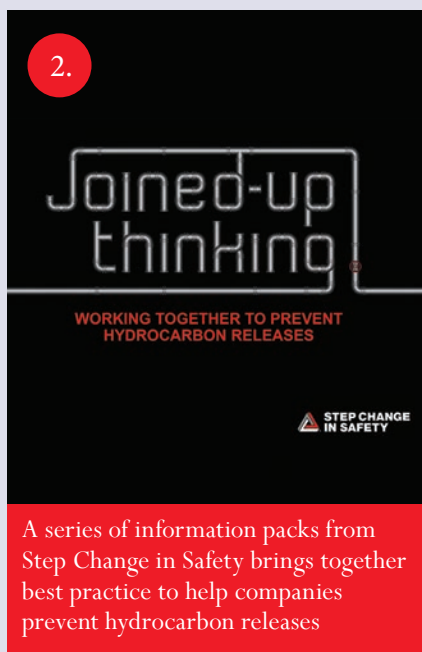
For the latest details in response to the accident, and for information on the 'Boots On' campaign, please visit www.stepchangeinsafety.net or scan the QR code below with your mobile device.



2. NEW TARGET SET FOR HYDROCARBON RELEASE REDUCTION

Following the decrease in hydrocarbon releases (HCRs) by nearly half between 2010 and 2013, Step Change in Safety is challenging the industry to achieve another 50 per cent reduction by March 2016. This ambitious drive to reduce HCRs still further is supported by a commitment from the industry to share and apply lessons learnt from the past.

For more information, contact Les Linklater on les@stepchangeinsafety.net or visit www.joined-up.thinking.co.uk.



A series of information packs from Step Change in Safety brings together best practice to help companies prevent hydrocarbon releases

3. EU OFFSHORE SAFETY DIRECTIVE

The EU Directive on the safety of offshore oil and gas operations came into force on 18 July, with a two-year transposition period to implement the legislation on a national level. This will be undertaken in the UK via a consultative process.

Oil & Gas UK is carrying out gap analysis to identify where the Directive articles are similar to current UK regulatory provisions, where regulations may require fine tuning, and where new regulations are needed. When the necessary changes are in place (around July 2015), installation operators will then have three years in which to comply with the new requirements.

For more information, please contact Robert Paterson on rpaterson@oilandgasuk.co.uk.



4. REMEMBERING PIPER ALPHA

Relatives, friends and colleagues of the 167 men who lost their lives in the Piper Alpha tragedy on 6 July 1988, along with many of the survivors, were amongst the 800 who attended a moving remembrance ceremony on Saturday 6 July at the North Sea Memorial Garden in Hazlehead Park, Aberdeen.

A special honorary fly past by a Sea King search and rescue helicopter from D Flight 202 Squadron RAF Lossiemouth opened the ceremony, which was led by the chaplain to the industry, Reverend Gordon Craig. A roll call of those who perished was read and a lament played by a lone piper marked the start of a minute's silence paying respect to the men.

Floral tributes were laid at the garden's central memorial statue while Aberdeen's Bon Accord Brass Band played.

The ceremony also marked the completion of the memorial garden's refurbishment, funded largely by Oil & Gas UK members as a tribute to those who lost their lives in the tragedy.



About 800 people attended the ceremony on 6 July to mark the 25th anniversary of the Piper Alpha disaster



Lord Cullen gave the keynote speech at the Piper 25 Conference

5. LORD CULLEN GIVES KEYNOTE SPEECH AT MAJOR SAFETY CONFERENCE

Fittingly, Lord Cullen, who led the public inquiry into the Piper Alpha disaster, gave the keynote speech at Oil & Gas UK's major offshore safety conference to mark the 25th anniversary of the Piper Alpha disaster. The event, held from 18 to 20 June, brought together over 700 delegates and more than 80 international speakers to reflect on the lessons learnt from the tragedy, review how far offshore safety has evolved since and to reinforce and re-energise industry commitment to continuous improvement.

Lord Cullen spoke about his memories of the public inquiry, discussed his methodology and stressed the importance of both safety management and workforce involvement.

All presentations from the event are now available to download and you can also view webcasts at www.oilandgasuk.co.uk/events/Piper25.cfm.



The Workforce Engagement Toolkit can be found at <http://bit.ly/18gQhIn>. To learn more about how two Step Change and Oil & Gas UK member companies are rolling out the toolkit visit <http://publ.com/SmWNSht#25>.

6. WORKFORCE ENGAGEMENT ON SAFETY

Over 500 offshore workers at an event designed to engage the workforce on safety paused for a moment of reflection to remember the Piper Alpha disaster. The Workforce Involvement Day on 19 June was jointly organised by Step Change in Safety and the Health and Safety Executive and ran parallel to the Piper 25 conference in Aberdeen (see story above). Central to this event was the screening of a 25-minute film which was simultaneously shown to offshore workers across the UK Continental Shelf and to the delegates of the Piper 25 conference. The film aims to remind people of the underlying events that led to the Piper Alpha disaster and to challenge them to think about how these might apply to their own work.

Step Change in Safety has also received a prestigious commendation from the European Agency for Safety and Health at Work for its Workforce Engagement Toolkit, which aims to positively transform the way oil and gas companies interact with staff and improve safety. The first of its kind, the toolkit helps companies measure workforce engagement at individual worksites, identify areas of improvement and provide practical guidance on how to achieve these improvements.

Step Change in Safety's 'Remembering Piper' film can be downloaded at www.joinedup-thinking.co.uk.

7. WOOD REVIEW TO CONSIDER MAXIMISING THE UKCS' POTENTIAL

The Department of Energy and Climate Change (DECC) has launched an independently-led review of the UK Continental Shelf, which reflects the Government's recognition that the domestic oil and gas industry is critically important to Britain's prosperity. The review is being led by Sir Ian Wood, who retired from Wood Group last year after 40 years of leading the company to outstanding success as a major international services provider.

Malcolm Webb, Oil & Gas UK's chief executive, says: "With decades of experience in the sector, Sir Ian Wood is well-respected and highly knowledgeable so we look forward to a comprehensive, critical and robust examination of the pertinent issues."

For more information on the review, please visit www.woodreview.co.uk.

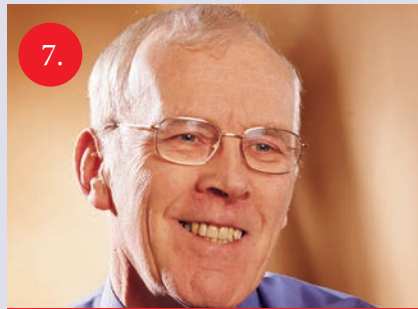
9. DRIVING FORWARD THE INDUSTRIAL GROWTH STRATEGY

Following the launch of the industry-government oil and gas growth strategy earlier this year, the first Oil and Gas Industry Council meeting was held on 3 June in London to assign industry champions to steer its delivery.

Many of the actions are underway, including work to help stimulate interest in engineering careers and comprehensive mapping of the supply chain to identify where best to promote growth and further expand its capabilities, both domestically and internationally.

Oil & Gas UK also exhibited in the lobby of the Department for Business, Innovation and Skills (BIS) at the beginning of September to raise awareness of the industry's role in fostering innovation and creating jobs (see box right).

The industrial strategy is available to download at www.oilandgasuk.co.uk/news.cfm. For more information and to get involved, please contact Stephen Marcos Jones on smarcosjones@oilandgasuk.co.uk.



Sir Ian Wood is leading an independent review of the UK Continental Shelf



Oil & Gas UK's *Economic Report 2013* is the definitive guide to the performance of the UK offshore oil and gas industry

8. INDUSTRY GIVES BOOST TO ECONOMY

Investment on the UK Continental Shelf is at an all-time record this year of £13.5 billion, according to Oil & Gas UK's *Economic Report 2013*, resulting in thousands of jobs being supported across the UK. In 2012-13, £6.5 billion was paid in tax on production, representing over 15 per cent of the Exchequer's total receipts of corporate tax. The oil and gas supply chain generated £27 billion in sales and is estimated to have paid an additional £5 billion in corporate and payroll taxes. In all, the industry supports 450,000 jobs across Britain. Production is forecast to fall to 1.2-1.4 million barrels of oil equivalent per day (boepd) this year, before rising to two million boepd towards the end of the decade.

The report is available to download at www.oilandgasuk.co.uk/2013-economic-report.cfm.

*Also see page 18 for more key facts and figures from this year's *Economic Report*.*



Business and energy minister, Michael Fallon MP (second from left), reviews an exhibition on how oil and gas is 'Energising Britain' in the lobby of the Department for Business, Innovation and Skills (see box below for more details)



SPOTLIGHT: ENERGISING BRITAIN

OIL AND GAS EXHIBIT IN GOVERNMENT DEPARTMENT LOBBY

From 2 to 13 September, an exhibition at the Department for Business, Innovation and Skills (BIS) showcased the importance of oil and gas to the UK's economy, energy security and innovation.

Entitled 'Energising Britain', the exhibition was co-ordinated by Oil & Gas UK with its member companies highlighting their work in different disciplines as follows: Schlumberger (drilling), Technip (subsea), PGS (seismic), Halliburton (production – wells and reservoir) and FMC Technologies (operations production and maintenance).

Also see page 20 for an interview with Trevor Garlick of BP on the role oil and gas innovation plays in the UK economy.

10. TACKLING THE DEMAND FOR SKILLED PERSONNEL

About 350 delegates attended a breakfast briefing in Aberdeen on 26 June to learn about the programmes being developed to sustain a supply of skilled workers for the industry. Delegates also heard the results of Oil & Gas UK's 2013 *Offshore Workforce Demographics Report*, which aims to improve understanding of the workforce profile (see box below).

Scottish energy minister Fergus Ewing MSP and Dave Stewart of Wood Group PSN described government and company initiatives to address the skills challenge. Alix Thom, Oil & Gas UK's employment and skills issues manager, outlined work being carried out with the Ministry of Defence and other sectors to help skilled mid-career professionals enter the industry. The breakfast was attended by representatives from the armed forces, providing delegates with the opportunity to discuss current employment programmes and reservist policies.

Webcasts from the event are available to view at www.oilandgasuk.co.uk/news/2013_june_breakfast.cfm. For more information on the industry's efforts to address the skills demands, visit www.oilandgasuk.co.uk/peoplepower.cfm and <http://publ.com/SmWNSht#14>. Also contact Alix Thom on athom@oilandgasuk.co.uk.

SPOTLIGHT: OFFSHORE WORKFORCE PROFILE

RECORD NUMBER OF WORKERS OFFSHORE

Oil & Gas UK's *Offshore Workforce Demographics Report* reveals that the number of core workers who spend over 100 nights per year offshore has grown to around 26,000. The total numbers travelling offshore is nearly 57,000. These are the highest figures recorded since the data were first analysed in 2006. Of the total workers who travelled offshore in 2012:

- The average age was 41.1 years, similar to previous years.
- The number of people aged under 30 grew by 14 per cent compared with 2011.
- Over 80 per cent were of British nationality.
- Four per cent were female.

The full report is available to download at <http://bit.ly/16ulkOb>.



Oil & Gas UK's 2013 *Offshore Workforce Demographics Report* was launched at a breakfast briefing in June on skills shortages (see box below, left for more details)

11. ENERGISING THE NATION'S FUTURE CAMPAIGN RAMPES UP

Too many people underestimate the achievements of our industry and Oil & Gas UK is trying to change that. Our Energising the Nation's Future pilot campaign was launched this year to raise awareness of the sector's importance to the UK economy, innovation and energy security. Over 1,000 employees have since got involved in the campaign by registering online, mapping their location and jobs in the sector, and telling us why they are 'Proud to be in Oil & Gas'.

To find out more and to join the campaign, visit www.energisingthenationsfuture.co.uk.

Also see p22 to find out more from employees throughout the UK who have joined the campaign and revealed why they are 'Proud to be in Oil & Gas'.



Oil & Gas UK staff have been on the campaign trail holding roadshows over the summer at our member companies to raise awareness of the Energising the Nation's Future pilot campaign. (Pictured) Press and PR officer Lucy Gordon (centre) led a roadshow at Sparrows Group. Image courtesy of Sparrows Group

12. AN AUDIENCE WITH ENERGY SECRETARY EDWARD DAVEY

Edward Davey MP, the secretary of state for energy and climate change, addressed delegates on the subject of 'Delivering a Successful UK Offshore Oil and Gas Industry – Government Policy in Practice' at a special Oil & Gas UK breakfast briefing in London on 9 May.

He emphasised that oil and gas will remain a vital part of the UK's energy mix and economy for decades to come, and paid tribute to the sector which operates in some of the toughest conditions to be found anywhere in the world and spearheads revolutionary technology.

Webcasts from the event are available to view at www.oilandgasuk.co.uk/news/Edward_Davey.cfm.



Energy secretary Edward Davey MP at a special breakfast briefing in London

13. OVER 63,000 ATTEND OFFSHORE EUROPE

Over 63,000 industry professionals turned out at Offshore Europe in Aberdeen from 3 to 6 September at what is the largest industry gathering outside the USA. The conference speakers included top industry executives and discipline specialists, as well as senior government ministers, for example, the chancellor of the exchequer, George Osborne MP, business secretary Vince Cable MP, energy secretary Edward Davey MP and first minister of Scotland Alex Salmond. The event was chaired by Oil & Gas UK's chief executive Malcolm Webb and focused on 'the next 50 years'. There were also over 1,500 companies exhibiting.

Malcolm says: "At the biggest Offshore Europe ever, we've addressed the key themes that will require industry focus to sustain activity in the UK Continental Shelf."



Chancellor of the Exchequer George Osborne with Oil & Gas UK's Malcolm Webb at Offshore Europe

14. LEGISLATION PASSED GUARANTEEING DECOMMISSIONING TAX RELIEF

The Decommissioning Relief Deeds, contracts between Government and companies, are being rolled out after the legislation providing certainty on decommissioning tax relief become UK law in the Finance Act 2013 in July. This guarantee of future access to tax relief for decommissioning costs will provide the industry with much needed reassurance, speeding up asset sales and freeing up capital for investment and production.

For more information and advice on fiscal policy, Oil & Gas UK members can contact Claire Ralph on cralph@oilandgasuk.co.uk.

Also see p28 for an article on asset transfers and the 'Changing face of the UK Continental Shelf'.



15. SHADOW MINISTERS VISIT INDUSTRY SITES

Oil & Gas UK hosted a group of shadow ministers in Aberdeen from 13 to 14 June to raise awareness of the oil and gas industry. Margaret Curran MP (shadow secretary of state for Scotland), Chuka Umunna MP (shadow secretary of state for business, innovation and skills) and Tom Greatrex MP (shadow energy minister) attended a dinner with Oil & Gas UK Board members followed by a programme of site visits at TOTAL, Halliburton and Wood Group.

Mr Umunna says of the visit: "I was pleased to have the opportunity to see first hand the operations of companies in the oil and gas sector, which is a crucial strength for the UK economy."

For more information, please contact Ashley Shackleton on ashackleton@oilandgasuk.co.uk.



Shadow secretary of state for Scotland, Margaret Curran MP, and shadow secretary of state for business, innovation and skills, Chuka Umunna MP, talk to some apprentices at Rolls Wood Group, a joint venture between Wood Group and Rolls-Royce plc

16. HIGH DEMAND FOR UK WELL SERVICES

The UK well services sector generated gross revenue of more than £1.9 billion in 2012, the highest since records began in 1996, according to Oil & Gas UK's *Well Services Contractors Report 2013*.

The total number of technicians and graduate engineers employed increased to 2,231 and 1,703, respectively. Well services contractors are also spending between 40 and 90 per cent of their annual capital investment on technological innovation.

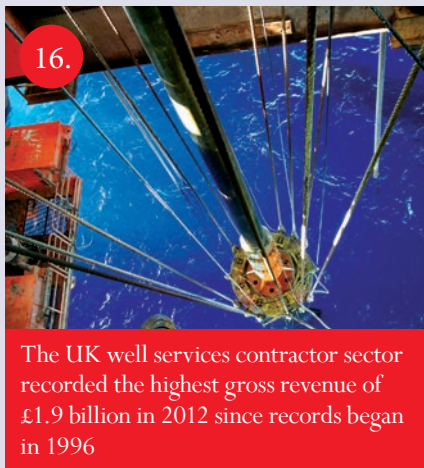
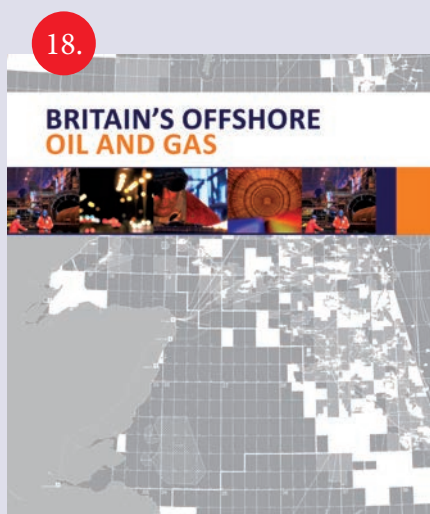
The full report is available to download at <http://bit.ly/1dzoB2s>. Also see p12 for more on the growth of the UK well services sector.

18. BRITAIN'S OFFSHORE OIL AND GAS BOOK – NEW EDITION AVAILABLE

Oil & Gas UK has published a new edition of its book on Britain's offshore oil and gas as a great introduction for those entering the sector.

The publication covers the geological setting and the processes involved in exploration and production. It also considers the health, safety and environmental regime, future requirements for oil and gas as an energy source, and the business environment required to maximise recovery.

You can order copies of the book online at www.oilandgasuk.co.uk/Britains_Offshore_Oil_and_Gas.cfm.



16. The UK well services contractor sector recorded the highest gross revenue of £1.9 billion in 2012 since records began in 1996



17.

17. COMPETENCY BENCHMARKING FOR OIL AND GAS DATA MANAGERS

Common Data Access Limited (CDA), the UK oil and gas industry's shared data management service, is introducing an industry first Competency Management System (CMS) for data managers. This follows a pilot earlier in the year of the online competency profiling system for data managers, which will help to develop benchmarks for recruiting to such roles and will assist in certifying data managers with a view to defining a global industry professional standard. Oil & Gas UK member company Lexonis Limited will manage the CMS, which will be available globally and marks an important milestone on the road to professionalise the role of petroleum data managers.

For more information, please contact Malcolm Fleming on mffleming@cda.com.

MEMBERSHIP MATTERS

NEW MEMBERS

Oil & Gas UK is delighted that its membership has now grown to 376 companies, ensuring that the organisation remains the leading representative body for the UK oil and gas industry. We are pleased to welcome the following companies who have joined Oil & Gas UK since the last issue of *Wireline*.

Aberdeen Drilling Consultants, Baudy Oil & Gas Lubricants and Services Ltd, Bisham Consulting, Blace & Black Limited, BusinessPort, Capital Document Solutions, Centurion Radiation Safety Ltd, City Engineering, Crondall Energy Subsea Ltd, Currie & Brown UK Ltd, Deepdale Engineering Ltd, EV, Fleetwood Nautical Campus – School of Offshore Operations, Grayling, Ince & Co, Independent Forging & Alloys Ltd, Innovative Health Solutions (IHS) Ltd, Intertek Energy & Water Consultancy Services, JSP, JT Limited, Lux Assure Ltd, Maggie Braid Associates Ltd, Morrison Gas & Petroleum, NEL,

Offshore Resilience Ltd, Peak Global Consultancy, People Factor Consultants, Petrotechnics, Process Safety Solutions, QualiTrol, Ropax Ltd, RMRI, Sevron, Score Europe Ltd, Scottish Enterprise, Seal Tite LLC, SPEX Services, SPX Bolting Systems, Strategic Fit, Unmanned Production Buoy (UPB), Tiorco LLC, Venture Information Management and WL Gore & Associates.



Eddy Winters, membership manager, is committed to ensuring that our member benefits are tailored to members' needs.

Please contact Eddy on ewinters@oilandgasuk.co.uk.

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.

For further information, please visit www.oilandgasuk.co.uk/events



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Aberdeen

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10 October

Occupational Health Seminar

Aberdeen

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6 November

PILOT Share Fair

Aberdeen



7 November

Oil & Gas UK Awards

Aberdeen

Principal sponsor



12 November

Annual Review of Challenges in the Development of the UK's Oil and Gas Sector

London

Jointly organised with



22 November

Oil & Gas UK Roadshow

Norwich

In association with



28 November

Annual Environment Seminar

Aberdeen



29 November

Access to Capital Event

London



BREAKFAST BRIEFINGS

8 October 3 December

Aberdeen Breakfast Briefings

21 November

London Breakfast Briefings

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Expro is making significant investments to double its size and build on its expertise in the UK

Investing in the tools for growth

To say UK well services contractors are ‘doing well’ is playing down the extent of their current success. With gross revenue at a record high in 2012 at £1.9 billion and strong optimism for the future, it seems the opportunities for further growth are there for the taking. *Wireline* talks to Expro Group and READ Cased Hole about their ambitions at the leading edge of well services.

“Our vision is to be the market leader in well flow management, using the industry’s best people to deliver the highest standards of safety, quality and personalised customer service,” asserts Neil Sims, UK area manager at Expro Group.

To meet this goal, Expro is making significant investments to double its size and build on its expertise in the UK. The company is investing £13 million in new build well testing equipment, is bolstering its fleet of rigs, and opened a new well intervention facility in Dyce,

“Our growth is related to security of supply to the operators, making sure we have the right equipment and people.”

Aberdeen, earlier this year. The Carnegie and Young facilities at Dyce will house a team of around 200 people, and combined with the renovation of the Bruce building to house subsea qualification facilities, this represents investment of a further £5 million over the next 12 months.

Neil explains that Expro's expansion is to "meet the push" to increase oil and gas production from the North Sea. The multi-faceted growth programme covers technology, products, services, infrastructure and staff. "Our growth is related to security of supply to the operators, making sure we have the right equipment and people."

Over the past year, the company has recruited more than 150 new employees in the UK, bringing its headcount to over 1,100. It now operates out of 12 buildings in Aberdeen, housing a number of key product and business areas, including well intervention, well integrity, well testing, subsea safety systems, drill stem testing and tubing conveyed perforating. The aim is to be able to measure, improve, control and process flow from high-value oil and gas wells, ensuring mature field production optimisation and enhancement.

The company's UK activity also provides equipment, services and support across its global operations, including North America, Latin America, Sub-Saharan Africa, Asia and the Middle East, and acts as the main hub for the firm's global well

intervention, subsea and well test training and development programmes.

It seems the company's strategy for development is working as it celebrated 40 years of operations this year with its best ever annual results worldwide, including in its European unit where revenue grew by over 13 per cent in 2012. This was driven by the well testing business in the UK and subsea and drill stem testing activity in Norway. The result was that Expro was ranked among the top 100 British private companies for sales figures in the *Sunday Times* BDO Top Track 100, published in June. Expro is 78th in the listing, up 13 positions from 2011.

Onwards and upwards

Having a clear vision and the drive and ambition to follow through will certainly be important for the continued success of the UK well services sector.

"The nature of the UKCS, comprising a number of complex wells, calls for a proactive understanding of how the reservoir is evolving and adapting."

Donald Mackay, CEO of READ Cased Hole based in Aberdeen, discusses the company's plans to double its size over the next three years. The business is focused on down hole well assurance services for integrity and flow profiling throughout the well's

life cycle. It offers data analysis and recommendations to help operators enhance production, accelerate operational decisions and plan effective well intervention campaigns.

On the UK Continental Shelf (UKCS), READ Cased Hole supports major and independent operators with particular demand from brownfield operations. Donald notes that with increased activity in brownfield intervention there is real scope to expand the business further. "We are increasingly being called to support these projects," he says.

"The nature of the UKCS, comprising a number of complex wells, calls for a proactive understanding of how the reservoir is evolving and adapting... ultimately moving towards extending the life of a field and maximising production, with safety the primary focus."

Though the company has a history of more than 25 years in the industry, READ Cased Hole was formed in 2011 when READ Well Services divided its operations into two sister companies – READ Cased Hole and READ Expandables. Each has distinctive >



Now employing 40 people in Aberdeen, READ Cased Hole expanded its team of data acquisition specialists last year

growth strategies appropriate to its respective product lines, technologies and client requirements, while benefiting from the advantages of a shared infrastructure.

Now employing 40 people in Aberdeen, READ Cased Hole expanded its team of data acquisition specialists in February 2012, recruiting seven professionals varying in ages from 20 to 38 and all from technical backgrounds. "This investment in people will support our continued growth in new and existing markets," explains Donald. The company also serves the global market from its base in Aberdeen, with further hubs now established in Norway, Denmark and Qatar as the company continues to expand.

Professional development

However, with on-going concerns throughout the oil and gas industry about the availability and retention of skilled professionals, both Neil and Donald insist that training the workforce is an essential ingredient for sustained growth.

Neil points out that the UK is the base for Expro's training activities. "We have a significant programme and have invested £2.5 million into training and development in 2013."

This activity encompasses a fast-track conversion programme for ex-army



READ Cased Hole notes that increased activity on the UK Continental Shelf is creating scope for expanding the business. Pictured is an abstract image of a spinner array which is run as part of a production logging tool string and specifically identifies individual fluid velocities

service personnel, a graduate training scheme, foundation technician courses and management development programmes. "In addition, we take on 30 to 40 apprenticeships each year, to ensure we have a continued supply of young, enthusiastic and skilled employees," explains Neil. "By the end of this year we will have trained more than 100 people."

Donald echoes this emphasis on staff development. "Our policy is to bring in people with the right mental outlook and train them."

The company has an in-house training programme, which offers a detailed insight into the oil and gas industry for new recruits followed by an on-going focus on professional development and mentoring. Donald notes that "this is quite an overhead but it is important for staff retention and also contributes to client satisfaction".

He believes that a stable workforce is a key element in READ Cased Hole's strategy and that creating a positive environment to work in is essential to ensuring a motivated and loyal workforce.

This approach is no more important than now. As the UKCS becomes more attractive to investors, following the positive tax changes in 2012, the domestic well services sector stands to benefit with involvement across all stages of exploration, appraisal, development and production. It's no wonder the contractors are optimistic about the future. ^W

For more information, please visit <http://exprogroup.com/> and www.readcasedhole.com/New-index.htm.

Also see p10 of this issue for more on the findings of Oil & Gas UK's Well Services Contractors Report 2013.



Over the past year, Expro has recruited more than 150 new employees in the UK, bringing the total headcount to over 1,100



Mike Wood is only nine months into his career in oil and gas and he loves it. As project manager at Heerema's Hartlepool yard, he is overseeing fabrication work for the Cygnus gas field in the southern North Sea

At the cutting edge

Mike Wood's career has taken him from one landmark project to another. A late recruit to the oil and gas industry, he now faces the most exciting challenge of his career as project manager at Heerema Fabrication Group's Hartlepool yard. His enthusiasm for the sector is an inspiration. *Wireline* catches up with Mike to find out more.

It has been 15 years since Mike Wood was responsible for overseeing the completion of 'Angel of the North', the 200 tonne landmark in Gateshead, Newcastle. Now, he is project manager at Heerema Fabrication Group's Hartlepool yard, working

on the manufacture of topsides for the Cygnus gas field on the UK Continental Shelf.

It is clear why the two projects, as different as they are, are the highlights of Mike's career. On the one hand, you have one of the UK's best-loved

pieces of public art; on the other, is one of the UK's most important economic developments. The £1.4 billion gas project is the largest in the southern North Sea for a quarter of a century, and with more than 80 per cent of the investment to be spent with UK-based contractors, >

Project managing the completion of the 'Angel of the North' landmark in Gateshead, Newcastle, has been one of the highlights of Mike Wood's career

it is estimated that it will generate 4,000 direct or indirect jobs.

The sheer scale makes Cygnus the largest project Mike has worked on. Only nine months into his career in oil and gas, this is a significant achievement, and quite simply, he loves it. "I ask myself now why I didn't get into oil and gas before," he enthuses. "It is the best job I have ever had. I enjoy the variety and I love the teamwork which exists at Heerema.

"My son is about to go off to Northumbria University to do a maths degree and, uncertain as young men are at that age of their intended career, I am suggesting oil and gas is an avenue he should consider."

Strong track record

Mike's career in civil and structural engineering spans nearly 30 years. He has worked on public and private sector projects and his passion for and pride in these 'creations' is clear. "I point to the Angel of the North every time I travel to the Metrocentre [the shopping and leisure centre in Newcastle] with my wife Sue."

After leaving sixth form college in Middlesbrough, he applied for a job as a trainee engineer at Middlesbrough Council, which sponsored him to complete a four-year civil and structural engineering degree at Teesside Polytechnic, now Teesside University.

His time with the council involved projects on sewer works, bridge works, industrial estates and other areas associated with the responsibilities of a local authority. But when he reached 25, he decided it was time to broaden his horizons. "My intention was to go out into the private sector to get some experience and then return to the local authority



which I felt was suffering from too many people who had only ever worked there," he says.

However, the private sector provided challenges the public sector could not and he never returned.

"I ask myself now why I didn't get into oil and gas before. It is the best job I have ever had. I enjoy the variety and I love the teamwork which exists at Heerema."

With Structures Teesside, a local steelwork fabricator, he travelled the country as a contracts manager, having gained experience in this area at Middlesbrough Council. He oversaw petrochemical works contracts and was also involved in another landmark structure, this time in his home town – the Middlesbrough Transporter Bridge.

Mike says: "Because of the expertise we gleaned on that bridge, we were

successful in winning another major contract in Newport, refurbishing the legs and the gondola on the only other transporter bridge in the UK over the River Usk."

After eight years with Structures Teesside, he deviated for a short time into pipeline services with a subsidiary of Northumbrian Water. But he quickly returned to his original area of expertise with Hartlepool Steel Fabricators and spent two years working on the Angel of the North project managing over 150 people.

"I enjoyed the interface with the sculptor, addressing the engineering and budgetary challenges, the media attention and just the general management of all of the disciplines associated with bringing what you now see on a hillside in Gateshead," he recalls.

He says there were many similarities with the job he now does on Cygnus. "There is the involvement of multiple disciplines, the transport, the craneage and the general management of people, timescales and budgets."

From there he moved on to help set up a fabrication company on the River

Tees and then ran his own property development and general construction company for nine years. But the lure of the oil and gas sector was always in the background. He explains: "I had wanted to get into oil and gas for a while because the salaries and opportunities are so good.

"I remember saying 30 years ago that there were another 30 years left in the UK oil and gas industry and still now there are at least another 30 years with the new technologies which are advancing. I suspect that when I'm 80 we will be looking at it lasting until I'm 110."

Scaling up

He first dipped his toes into the oil and gas sector in 2012 when he went to work for Able UK at Graythorp in Hartlepool as a destruct engineer, supervising the decommissioning of a rig. While there, the opportunity to manage the Cygnus project arose and he grasped it with both hands.

He says: "Being in control of something so big and so varied had great appeal. This is a mammoth project."

Heerema's Hartlepool yard is expected to build three of the four topsides for offshore platforms on the Cygnus field, with work currently underway on the first 1,600 tonne Cygnus Alpha Wellhead Platform.

The total anticipated future scope of the contract is about 10,500 tonnes of fabrication work. Involving about 50 times more steel than the Angel of the North, it offers Mike one of his most exciting career opportunities and challenges to date.

He now leads a team of around 66, which includes project engineers, discipline engineers, quantity surveyors, planners and people involved in procurement. He insists that handling so many individuals requires not just engineering skills but above all honesty and credibility.

"Perhaps because of the history of the area, the north east of England does seem to be a very good producer and developer of engineering talent."


"I always give the honest answer because if I am believable to my peers, the people who work for me and the customer, then I am always going to get a second chance."

Determination, self-belief and diplomacy are also important attributes. Mike notes: "A lot of my time is spent managing situations which require a calming influence when you're working with so many individuals who have different personalities. I do believe I have good listening skills, and if you use that combined cocktail of abilities in the right way, they can get you through what can be some difficult times."

Nurturing talent

Beyond his own career development, a significant revelation for Mike has been the range of opportunities offered by the UK oil and gas sector. "We need to be thinking in terms of taster days, secondments and associations with universities to encourage the best people to get into this industry because it really is a great place to work."

He recognises that developing the careers of young people is vital for the ongoing success of oil and gas engineering. He spends time talking to younger professionals in his team, encouraging them to attend project management and additional career development courses for the benefit of their careers and the organisation in the long term.

"Perhaps because of the history of the area, the north east of England does seem to be a very good producer and developer of engineering talent. People shouldn't be put off at the first hurdle. Some of the initial interviews are difficult but it is worth it when you get there." 

For more information, please visit <http://hfg.heerema.com/content/yards/heerema-hartlepool-uk>.

More details on the Cygnus project are available in Oil & Gas UK's Economic Report 2013 at www.oilandgasuk.co.uk/2013-economic-report.cfm.

CYGNUS GAS FIELD CONTRACT

'BOOST' FOR THE NORTH EAST OF ENGLAND

The ceremonial first cut of steel for the Cygnus gas field project in the southern North Sea was celebrated at Heerema Fabrication Group's Hartlepool yard in December 2012, with work now underway to fabricate the topside for the Cygnus Alpha Wellhead Platform.

The total expected future scope of the contract will be 10,500 tonnes, comprising three of the four topsides required and a compression module. Around 450 people are anticipated to be working on site on the project during 2014, including 200 new jobs.

Alan Lloyd, Heerema Hartlepool Yard Manager, says: "The assignment will possibly be our single most important award for Heerema Hartlepool.

"It will generate approximately three years of work for our facility, creating an excess of one million man-hours and additional supply chain jobs for other companies in the north east region and further afield. Securing this work is a tremendous boost for the stability of quality jobs in the north east."



Economic Report 2013

Wireline presents some of the key facts and figures from Oil & Gas UK's *Economic Report 2013*.



Today

70%

Oil and gas provides some 70 per cent of the UK's total primary energy

NOW



£27 billion

The oil and gas supply chain in the UK generates **£27 billion** in sales of goods and services, including **£7 billion** in exports



450,000

Approximate number of jobs supported by offshore oil and gas

IN THE FUTURE

In 2030

70%

of primary energy in the UK will still come from oil and gas



Resources

15 to 24 billion barrels of oil equivalent remain to be extracted from the UK Continental Shelf

Nine new fields came on-stream in 2012 and production boosted the balance of payments by

£32 billion



DOWNLOAD THE FULL REPORT AT www.oilandgasuk.co.uk/2013-economic-report.cfm

£6.5 billion



£5 billion



Producers paid £6.5 billion in tax and the supply chain paid another £5 billion in corporation and payroll taxes in 2012-13

The UK is the third largest producer of gas

and second largest producer of oil in Europe

£

Investing over **£13.5 billion**



this year in future production, more than any other UK industrial sector



45 projects have been approved by the Department of Energy and Climate Change over the last two years

In **2013**

15 new fields are anticipated to come on-stream

Innovation Nation

Head of BP's North Sea operations, Trevor Garlick, will be one of the panellists at Innovation Nation, a major stakeholder debate to be held on 15 October in London. *Wireline* chats to Trevor ahead of the event, which will examine the importance of business innovation to the UK.



Q: What role does innovation in the UK oil and gas industry play in the economy?

A: Without innovation, the UK Continental Shelf would only have produced a fraction of the 40 billion barrels it has done to date and the UK would be considerably worse off.

Without continued innovation, we simply will not maximise the UK's potential returns from its offshore resources. Today, the industry continues to drive economic growth by generating tax revenues, creating high value employment, recovering more reserves, and developing a growing export market for our expertise and technologies.

Q: In what discipline is the UK a key driver of innovation?

A: The most obvious area of leadership in the UK, at least in the last decade or so, has been in the development of the subsea industry, both the hardware and the full supply chain service. In addition to the key hardware, such as umbilicals, control systems and Christmas trees, the UK has developed

great expertise in seismic imaging, such as ocean-bottom technologies and 4D imaging, and also in technologies that allow important well intervention work to be carried out.

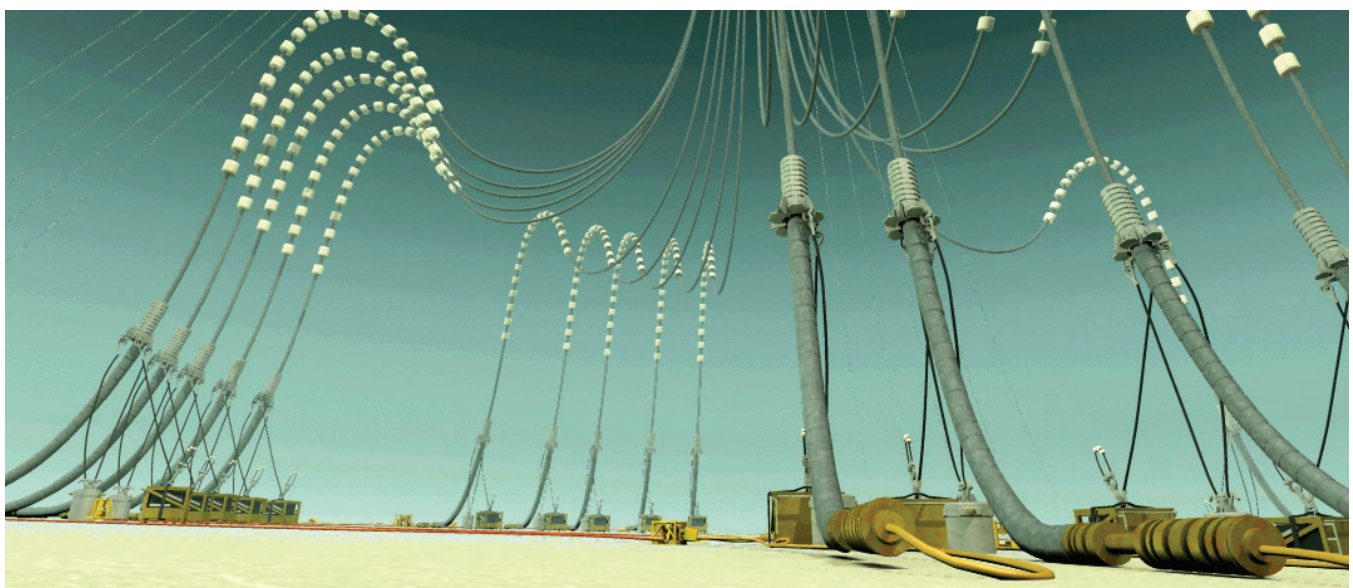
When I consider our own Quad 204 project to redevelop the Schiehallion field, I am struck by the fact that the bulk of the £1 billion plus investment in new subsea infrastructure is being supplied from the UK, from the Aberdeen area, Fife, Yorkshire, etc. The UK is also outstanding in terms of engineering design and the knowledge it has for drilling.

“When I consider our own Quad 204 project to redevelop the Schiehallion field, I am struck by the fact that the bulk of the £1 billion plus investment in new subsea infrastructure is being supplied from the UK.”

Q. What has been the most important innovation over the last 20 years?

A: If I was to single out one technology, which is pretty difficult, then it would have to be horizontal drilling. This has really enabled us to progress projects that would otherwise have been technically and economically impossible to bring forward.

Improved seismic imaging has also helped us understand our reservoirs better and enabled more effective targeting of our wells.



BP's Quad 204 project to re-develop the Schiehallion and Loyal fields involves a major contribution from the UK-based subsea sector

'LoSal[®]' ('lo-salinity') is a fundamental step-change in enhanced oil recovery (EOR). BP's scientists noticed that by lowering the salinity of the water the charged particles are released, freeing the oil from the rock surface. Pictured is an oil droplet tethered to a clay surface being released by LoSal[®] EOR

“There is a significant remaining prize, and one thing we need to do is to tell our story better – not least to attract the future generations of talent we are going to need to realise that prize.”



Q: Why do you think there is so little awareness amongst the general public in Britain of the industry as a driver of innovation and why should we address this?

A: Perhaps it is because the majority of what we do (a hundred kilometres or more offshore) isn't visible to most people, or perhaps it is the perception that the industry is concentrated solely in the north east of Scotland and is therefore a bit remote to the majority of the British population. I also think that there is a lingering perception that the sector peaked in the 1970s and 1980s and is therefore somehow seen as a dated industry employing old technology. There is a significant remaining prize and one thing we need to do is to tell our story better – not least to attract the future generations of talent we are going to need to realise that prize.

Q: What should the industry and government do to raise awareness?

A: It's quite simple really. Industry should communicate more often and more creatively, and not just to those who work in the sector! Government needs to provide a competitive, predictable and stable fiscal and regulatory regime and to be consistent in articulating the value of the industry to the UK's energy future. We also collectively need to explain the scale, the breadth and the depth of the onshore supply chain that exists throughout the UK. A really simple script that describes the industry's contribution and the priorities over the next decade would help.

Q: How can government and businesses encourage the development and implementation of new technology to maximise recovery from the UK Continental Shelf?

A: Maximising the application of existing technologies in a more cost efficient and urgent way is vital, especially given some of the pipeline and platform infrastructure has a limited lifespan. For this to happen, we all need a way of sharing experiences and learning from each other. The various bodies

that are working on this issue need to find creative ways to stimulate more EOR (enhanced oil recovery) technology, for example, and at pace. We should also look to see if there are ways to further stimulate the application of technology through the tax system.

Q: In what areas can innovation, new technology, or better deployment of existing technology, make the biggest difference?

A: To ensure we maximise recovery from our reservoirs I think the focus needs to be on both the subsurface – applying technologies to sweep more oil and gas from the rocks – and on the infrastructure, to improve reliability and prolong its life. There are technologies available and BP, for example, is aiming to employ 'lo-salinity' water and polymer enhanced oil recovery techniques in two of its North Sea major project developments over the next couple of years. The industry needs to be willing to do more of this.

The other area I would highlight is drilling. Great strides have been made in drilling capability over the past 40 years; we now need to look at how we can drill more reliably, efficiently and cost effectively. ^(w)

Innovation Nation forms a key part of Oil & Gas UK's campaign to raise awareness about the importance of the UK offshore oil and gas industry to the economy, innovation and energy security.

For more information on the 'Energising the Nation's Future' campaign and to find out how to join, please visit www.energisingthenationsfuture.co.uk.



Also see p22 to find out more from employees throughout the UK who have joined the campaign and revealed to us why they are 'Proud to be in Oil & Gas'.



Proud to be in Oil and Gas

Karon McDonald,
Aberdeen



Proud to be in Oil and Gas

Robert Hall
Block 22A,
Hummingbird FPSO,
Central North Sea



Proud to be in Oil and Gas

Scott Clifford,
Newcastle upon Tyne



Proud to be in Oil and Gas

Natalie Robinson,
Barrow-in-Furness



Proud to be in Oil and Gas

Graeme Cook,
Great Yarmouth



Proud to be in Oil & Gas



Oil & Gas UK launched a pilot campaign earlier this year to raise public awareness about the UK offshore oil and gas industry's contribution to the economy. *Wireline* hears from just a few of the thousand employees who have voiced their support for the campaign throughout the UK.

Watch the campaign video at www.energisingthenationsfuture.co.uk/getinvolved



TESTIMONIALS

PROUD TO BE IN OIL & GAS ...



Graeme Cook,
Great Yarmouth

Managing Director,
Gee-Force Hydraulics

I'm Proud to be in Oil & Gas

because nothing else compares to the industry in terms of sheer scale, professionalism and restless innovation. The oil and gas industry is bigger and broader than most people realise. It's much more than just exploration and production. The supply chain boasts highly skilled personnel and companies up and down the UK and is integral to the success of British industry as a whole.

We work closely with companies that operate at the very heart of the industry and often they depend on us for the equipment they need to do their jobs. Last year, we took the decision to base ourselves at the heart of the southern North Sea operations in Great Yarmouth. This has quickly been vindicated and the professionalism and skills base of the area's workforce is matched by its genuinely close-knit community.

The industry and its supply chain play a huge role across the country and across communities. Despite its size, the oil and gas community has extremely close links and a recommendation from one professional to another is invaluable. That's the pride inherent in the industry.



Scott Clifford,
Newcastle upon Tyne

Service Engineer,
BEL Valves Ltd

I'm Proud to be in Oil & Gas.

I enrolled with the Rolls Royce training academy after finishing my GCSEs, knowing that I wanted to follow a career in engineering. When I found my placement at BEL Valves in 2005 I didn't appreciate that a career in oil and gas would lead to travelling the world!

On completing my time in BEL Valves' apprenticeship scheme, I joined the service team. Following my induction, my first site visit was to an offshore platform in Vietnam supporting a two week outage. The work over that period was commended by the operator who, at the time, had thought 22 years of age was too young for this kind of offshore work. I have since been to Kazakhstan, Azerbaijan, Norway, Indonesia and Russia providing service work, but I am also involved in conference calls and meetings with some senior client representatives.

I thoroughly enjoy what I'm doing, I never believed that an engineering role would take me so far afield...but it's not as glamorous as it sounds, no 5 star hotels, we tend to stay locally on camp.



Natalie Robinson,
Barrow-in-Furness

Mechanical Commissioning
Team Apprentice,
Centrica Energy

I'm Proud to be in Oil & Gas

because it's one of the most exciting and dynamic sectors in the UK. The wealth of knowledge, skills and opportunities that the industry provides through its apprenticeship schemes is invaluable and a testament to the importance of the sector.

An apprenticeship is a great way of becoming involved in oil and gas, as you get the best of both worlds – I learn the theory at college and get practical experience on site. Although apprenticeships follow a set structure, I believe that each person can have their own personalised experience. For instance, I joined a new build project on site a couple of months into my second year and I have been working as a mechanical commissioning team member ever since, which has allowed me to take on real responsibility and demonstrate my strengths. My confidence is growing all the time. A year ago, I wouldn't have been able to speak in front of a large group of people but now I find myself presenting 'toolbox talks' in front of more than 65 people on site every day without even thinking about it! In the future, I see myself as a qualified chartered mechanical engineer with a well-established role within Centrica Energy. >

TESTIMONIALS

PROUD TO BE IN OIL & GAS ...



Robert Hall,
Block 22A, Hummingbird FPSO,
Central North Sea

Apprentice Instrument and Control Technician, Wood Group PSN

I'm Proud to be in Oil & Gas

because the development opportunities seem endless. If you have a specific interest, such as travel, you just need to make it known and the support system is there. Being able to travel as part of my job was a determining factor in applying for my apprenticeship in the oil and gas industry. When I was assigned to the Wood Group apprentice scheme as an instrument and control technician, I was delighted with the global reach of the business and the chance to pursue my vision of working in as many different countries as possible.

For the first part of my four-year apprenticeship, I attended Aberdeen College three days a week and had two days of Aberdeen Skills and Enterprise Training (ASET). I will spend the remaining two years working on an offshore placement on the Hummingbird Spirit vessel. It's exciting to be working on a project that is the company's first duty holder contract, which has recently been extended to the end of 2013 with options to extend to March 2015. This two-year extension option is valued at £56 million. I am looking forward to gaining valuable offshore experience now that could lead to working abroad in the future. Wood Group PSN works in over 35 countries across the globe and I know if I put in the work, the future could see me working in Brazil, Australia or even Dubai!



Karon McDonald,
Aberdeen

Vice President of Operations and Manufacturing, Aker Solutions

I'm Proud to be in Oil & Gas

because our industry – and Aker Solutions in particular – offers an incredible opportunity to work on some of the most technologically-advanced projects for clients all over the world. A global centre of excellence for subsea control systems, the expertise and game-changing technologies honed here in the North Sea are being exported worldwide, meaning we play a unique role in helping to shape the future of the energy industry.

I oversee the work of 350 staff within our world-class manufacturing base in Aberdeen, where we have state-of-the-art equipment and high-tech laboratories building subsea control modules – more akin to something that you would expect to see in Silicon Valley than in the north east of Scotland. Aker Solutions has a proud heritage in Aberdeen, one that we aim to keep growing. Already one of the largest employers in Scotland with 2,800 staff, last year we unveiled plans to create another 500 jobs over the next two years. Our industry is constantly evolving and it is fantastic to be part of cutting-edge projects which allow us to extend the life of the UK Continental Shelf. To be able to combine that with the ability to create jobs and grow our workforce is a real privilege. 

“Nothing else compares to the industry in terms of sheer scale, professionalism and restless innovation.”

HOW TO GET INVOLVED

TELL US WHY YOU ARE PROUD TO BE IN OIL & GAS!

- Sign up to join the pilot campaign at www.energisingthenationsfuture.co.uk/joinus



- Email proud@oilandgasuk.co.uk telling us why you're 'Proud to be in Oil & Gas' – attaching an image reflecting you at work if possible.
- If you're on Twitter, follow the campaign [@ProudtobeOandG](https://twitter.com/ProudtobeOandG) and tweet using #ogproud.
- Take every opportunity to let your industry contacts know about the campaign and encourage their participation.
- If you work in communications, community/external affairs or policy, you can integrate our 'Energising the Nation's Future' messaging and media activity into your corporate communications. Request the campaign toolkit from proud@oilandgasuk.co.uk.



The Peterhead Carbon Capture and Storage project proposal is to store carbon dioxide two kilometres deep under the UK Continental Shelf and 100 kilometres offshore in the depleted Goldeneye gas reservoir

Using the shelf space

Gas will remain the largest source of heat and a major source of electricity for some decades to come. *Wireline* reports on a trailblazing UK carbon capture and storage project, which typifies the compelling, two-in-one proposition offered by gas – an ability to meet the UK’s long-term energy needs whilst dramatically cutting carbon emissions.

On the face of it the gas-fired power station at Peterhead, Aberdeenshire, Scotland, is just another power station. A supplier of electricity and heat which is so frequently taken for granted in this modern age. But the building’s quiet exterior is deceiving. In fact, it stands

tall at the front end of a programme of innovative activity that would be a world first and would herald a new era for gas in the UK (and globally).

Steered by Shell, the Peterhead Carbon Capture and Storage (CCS) project aims to recover and remove carbon dioxide (CO₂)

generated by the power station, which is operated by Scottish and Southern Energy (SSE). The proposal is to then transport the CO₂ by pipeline for storage more than two kilometres deep under the UK Continental Shelf and about 100 kilometres offshore in the depleted Goldeneye gas reservoir, which ceased production in 2012. >

“In Peterhead, the UK has the opportunity to pioneer the first industrial-scale gas CCS project in the world – we believe gas has a central role to play in meeting the global growth in demand for energy.”

PROJECT PROFILE

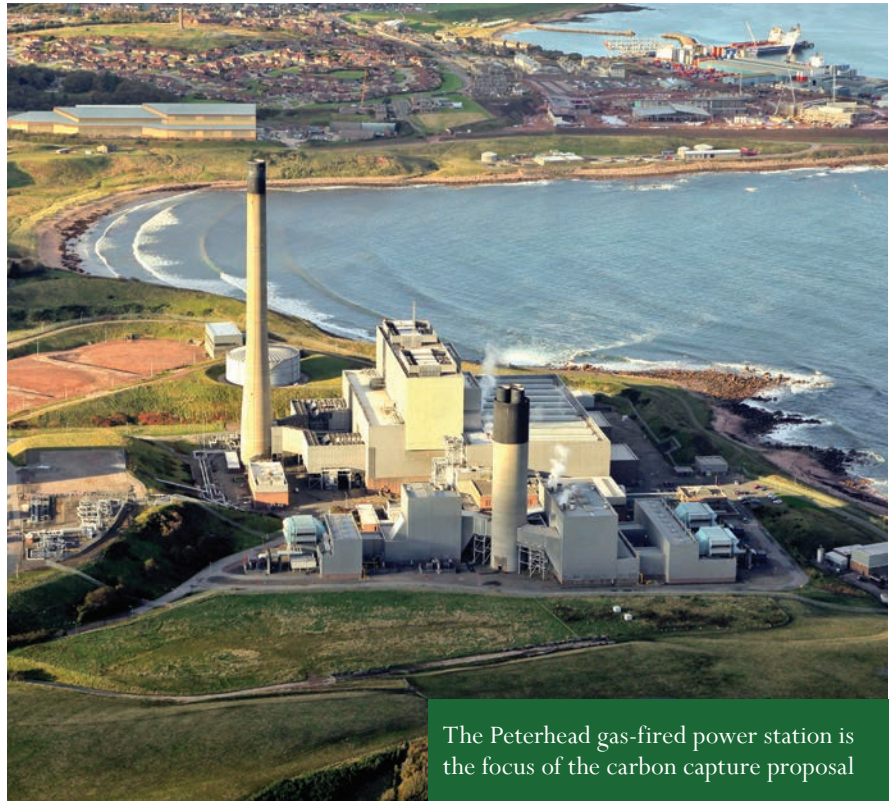
WHAT'S IN STORE?

The nature of the Peterhead Carbon Capture and Storage (CCS) partnership arrangement means both parties can focus on their respective areas of expertise.

The proposals, if realised, will see Shell construct the CO₂ capture plant and manage the subsequent operation, transport and storage. SSE, meanwhile, will provide the generation facilities and the supply of flue gas from which the CO₂ will be extracted.

The project involves retrofitting post-combustion capture equipment to an existing 340 megawatt gas turbine at the station. The flue gas stream – which would otherwise have been discharged into the atmosphere – will then be captured and the CO₂ removed or ‘scrubbed’ by filtering the emissions through chemical solutions called amines. The gas will then be transported by onshore and offshore pipelines to the Goldeneye platform (the precise transport configuration is still to be confirmed) where it will be injected into the reservoir.

“The potential of the Goldeneye field as a CO₂ store is well understood – it’s one of the best characterised reservoirs in the UK,” says Shell’s front-end developer for the project, Paul Garnham. He explains that extensive front-end engineering and design (FEED) work was previously completed by Shell for a proposed CCS scheme for the Longannet coal-fired power station in Fife. This work evaluated the Goldeneye site’s capacity and containment integrity and concluded that the reservoir was suitable for this purpose, making use of the existing infrastructure available.



The Peterhead gas-fired power station is the focus of the carbon capture proposal

The result will be the prospect of capturing ten million tonnes of CO₂ over the ten-year life of the project, reducing carbon emissions from the plant by up to 90 per cent. Gas, therefore, is not only crucial in ensuring a realistic and flexible energy supply to meet our society’s expectations, but this project will prove it has a critical role to play amid the long-term moves towards decarbonisation.

“In Peterhead, the UK has the opportunity to pioneer the first industrial-scale gas CCS project in the world – we believe gas has a central role to play in meeting the global growth in demand for energy,” asserts Shell’s front-end developer for the project, Paul Garnham. According to the Department of Energy and Climate Change, 70 per cent of primary energy in the UK will still come from oil and gas in 2030.

Paul continues: “Gas-fired power has a lower storage requirement than coal, given it emits around half the CO₂. For most countries, using more gas in power generation can make the largest contribution – at the lowest cost – to meeting their emission reduction targets in this decade.”

The UK first began to use gas to generate electricity in the 1990s. By increasing the proportion of electricity generated by gas to 40 per cent in 2011, the UK was able to meet the Kyoto target of cutting greenhouse gas emissions by 12.5 per cent from 2008 to 2012 compared with 1990.

With CCS, gas will therefore be “even cleaner,” notes Paul. The Peterhead project has been shortlisted as one of two preferred bids for the British Government’s £1 billion CCS Commercialisation Programme. Front-end engineering design studies are due to start shortly as part of that process, with a final decision expected in 2015.

Breadth of opportunities

Shell and SSE have been planning and preparing for the project for the past 18 months (see box left).

Paul notes: “CCS is an emerging technology. Some emerging technologies proceed smoothly to market, while others need finessing. The key issue with CCS is less around engineering ‘doability’, but rather public support and political will.”

He says: “The project is also unique in terms of the maturity of the design and its deliverability, as well as in terms of the broader opportunities that may arise from it.”

A commercial-scale project of the kind mooted would generate direct and indirect gains for the local economy in terms of jobs during the planning, construction and operational phases, and could also yield wider economic benefits if the technology is rolled out across the country. The area could become a strategic hub of CCS activity as the retrofitting of Peterhead Power Station could act as a model for


future opportunities across the UK's existing gas-fired plants. A study is planned to measure the project benefits in greater detail.

And, in time, Peterhead could potentially receive CO₂ for storage from elsewhere in the UK and Europe. "With its access to existing gas pipelines and well-characterised, depleted offshore gas reservoirs for storage, the project could facilitate the UK's first CO₂ capture and storage cluster, centred upon the power station and the St Fergus gas terminal," says Paul.

UK advantage

More broadly, by taking a leading position, the UK stands to accrue substantial benefits, given the scale at which CCS could be rolled out globally. Paul believes that "the UK's long history of expertise in the individual technologies used for CCS (see box left) leaves it well placed to lead the way."

He explains that the key is proving the individual elements can work end-to-end on an industrial scale. "Demonstrating CCS will put us on the learning curve, which will help bring down the cost of the technology. It will also give the public and investors confidence."

The International Energy Agency estimates that globally CCS could reduce carbon emissions by one fifth by 2050. With this in mind, the Peterhead project sends the clearest possible signal that gas is far from being a stop-gap solution in the transition to renewable energy options. 

"With its ready access to existing gas pipelines and well-characterised, depleted, offshore gas reservoirs for storage, the project could facilitate the UK's first CO₂ capture and storage cluster, centred upon the power station and the St Fergus gas terminal."

PETERHEAD CARBON CAPTURE AND STORAGE BY NUMBERS...

10 YEARS

THE ANTICIPATED LIFESPAN OF THE PROJECT

90 PER CENT

THE PROPORTION OF CARBON EMISSIONS THAT COULD BE CAPTURED BY THE PROCESS

10 MILLION TONNES

THE ESTIMATED AMOUNT OF CO₂ TO BE CAPTURED

100 KILOMETRES

THE LENGTH OF THE PIPELINE USED TO TRANSPORT THE CO₂ OFFSHORE TO GOLDENEYE

2 KILOMETRES

THE MINIMUM RESERVOIR DEPTH AT WHICH THE CO₂ WILL BE STORED OFFSHORE



The Peterhead Carbon Capture and Storage project could facilitate the UK's first CO₂ capture and storage cluster, centred upon the power station and the St Fergus

For more information, please visit <http://bit.ly/1bRejhG> and read more on the UK energy policy and the role of gas in Oil & Gas UK's Economic Report 2013 at www.oilandgasuk.co.uk/2013-economic-report.cfm.



TAQA recently acquired the Harding field in the central North Sea, adding a new asset development and export hub to its portfolio

The changing face of the UK Continental Shelf

The face of the UK Continental Shelf has changed since 2000, with 17 operators having entered the region and many more companies investing for the first time. Taking on producing assets presents both opportunities and challenges for their new operators and requires a clear vision to maximise economic recovery of the remaining resources. Apache North Sea and TAQA share their experiences with *Wireline*.

For Jim House and John Hogg, it is all about engagement and communication. Without those two elements, taking over operatorship of an existing asset (field) would be fraught with difficulty. And as managing director of Apache in the UK and transition manager at TAQA, respectively, they know what they are talking about.

For Apache North Sea, part of Apache Corporation headquartered in Houston, USA, and TAQA, headquartered in Abu Dhabi, the acquisition of producing assets on the UK Continental Shelf (UKCS) has formed a key element of their growth strategies.

Apache entered the region in 2003 by acquiring from BP roughly a 97 per

cent working interest in the Forties field at a cost of about \$667 million. The company added to its operating interests in brownfields with acquisitions of the Mobil North Sea portfolio, which includes the Beryl, Nevis, Nevis South, Skene and Buckland fields in late 2011.

Meanwhile, most recently, this summer TAQA completed the transfer of operator

“The one guiding principle is transition and not transformation. Our role is to ensure that on the date of transfer, everything is in place...to continue the delivery of safe and efficient operations.”

interests from BP in the Harding, Maclure and Devenick fields in the central North Sea, adding to its existing assets in the northern North Sea.

The costs and rewards of extending the productive lives of these existing, more mature, fields can be significant. Having committed major investment, the new operators can secure production and employment opportunities for the benefit of the company, the wider supply chain and the UK economy, as well as contribute to energy security.

And the government’s decision to guarantee future access to tax relief on decommissioning costs has made asset transfers of this type even more attractive on the UKCS. It provides the industry with much needed reassurance and, in turn, has the ability to prevent premature shut-downs of platforms due to concerns about escalating

decommissioning costs. This will help speed up asset sales and free up capital for investment and production.

Apache’s Jim House explains: “Previous concerns that the UK Government could change tax relief provisions for decommissioning were generating barriers for asset transactions, as well as unnecessarily tying up capital. The Decommissioning Relief Deed is a very constructive measure that should provide lasting benefits for the UK by yielding more investment, creating jobs and resulting in major projects such as the Forties Alpha Satellite Platform.”

TAQA’s John Hogg adds: “The change in legislation makes negotiation [on asset deals] a lot more straightforward.”

Transition not transformation

Inevitably each asset transfer brings its own unique set of characteristics or circumstances. Indeed, prior to acquisition, carrying out due diligence, checking well data and the asset’s reservoir, and assessing technical risks, life cycle costs and investment requirements are all part of the ground work.

Once the acquisition is in progress, Jim emphasises the need to “plan – engage – communicate.” He says: “Understanding the existing organisation and helping future Apache employees appreciate what the new company has to offer is very important. Ultimately, culture drives the overall performance of an organisation.

“At Apache we have a ‘fire in the belly’ culture, where each employee is empowered to come up with new ideas and ultimately make a big difference.”

John managed the recent transfer of assets from BP to TAQA and notes that “the one guiding principle is transition and not transformation. Our role is to ensure that on the date of transfer, everything is in place – all necessary licences and consents, the required infrastructure, and a competent workforce and onshore support team to continue the delivery of safe and efficient operations.”

He explains that the aim is to minimise change and maintain a ‘business as usual’ approach, while, at the same time, introducing the TAQA principles and ways of working to staff who are being transferred to the company’s employment. This involves a comprehensive induction programme coupled with senior management visits to the platform and ‘town hall’ meetings.

Eye on the prize

John worked closely with his BP counterpart to project manage a transfer that had 12 separate but closely connected work streams, dealing with a range of functions, from operations, finance, subsea, engineering and maintenance, to health, safety and environment, I.T, supply chain, human resources, wells and sub-surface. Each work stream had an assigned leader. >



The jacket (pictured) for the new Forties Alpha Satellite Platform (FASP) was towed out offshore and lifted into place in August 2012. The FASP’s topsides were installed in June this year

Progress was closely monitored through regular workshops and meetings. Also, by work shadowing BP's onshore and offshore activities, TAQA's team ensured that vital asset knowledge was transferred.

"The organisation has to be properly structured and resourced to safely manage the transition and key responsibilities of operating an oil and gas asset," explains Jim.

While Apache does not possess a "prescriptive step-by-step manual for managing transition," Jim notes that "the most value is gained through planning where people are forced to think and reflect. Creating an organisation that possesses strategic foresight to recognise opportunities or issues with the operational discipline ultimately determines how successfully the new venture will perform".

He continues: "Interaction with all parties involved is important, as well as clearly establishing roles and responsibilities. Key attributes we look for in our leaders are hands-on management, an ability to see the big picture and translate into action, a focus on team accomplishment over personal gain, leading by example, and being decisive, committed and effective communicators."

Strategic development

For TAQA, the central North Sea acquisition represents a transformational step in the UK, providing a new asset development and export hub independent of its northern North Sea assets.

In the northern North Sea, the company's investment in North Cormorant, for example, means the field will now remain productive for 15 years beyond the original anticipated lifespan. And, in addition to the existing Falcon subsea tie-back to the Tern platform, TAQA announced in May the development of the Cladhan field also tied back to Tern. The latter is expected to produce initially over 17,000 barrels of oil equivalent (boe) per day with first oil expected in early 2015.

"Adding the second strategic hub [in the central North Sea] therefore takes us a significant step closer to achieving our vision of becoming a leading North Sea operator," explains John.

Initially, the company will focus on Harding and accelerated development of the Morrone field. "There are also significant drilling opportunities around



An offshore worker on the Forties Alpha platform. Engaging and communicating with the workers at every stage of the process was crucial for the successful transition of the former BP Forties field to Apache

Maclure," John adds. The company has plans to drill one new well each year for the foreseeable future, and in the Morrone field, drilling will start later this year.

TAQA aims to produce gas from the region from about 2020 onwards and is working on an optimal development strategy.

Jim points out that any asset acquisition is about being able to develop or capture additional value. "We like assets that have not had much capital invested for a protracted period and older fields or acreage that have not utilised the latest technology, such as modern seismic that allows our geoscientists to pinpoint areas of future value generation."

The Forties field, one of the largest and oldest oil fields, which was discovered in

"We like assets that have not had much capital invested for a protracted period and older fields or acreage that have not utilised the latest technology."

the 1970s, clearly fit this criteria. Jim says: "Plans called for the field to reach cessation of production by 2013. But Apache's application of new technology and capital investment has extended that date by at least 20 years."

Celebrating a decade of activity on the UKCS this year, Apache has so far produced over 220 million boe from Forties, compared to the 144 million boe of proved reserves when it was acquired. And at the end of 2012, estimated proved reserves stood at 120 million boe with production averaging 57,000 boe per day.

The company has invested some \$4.3 billion to renovate and upgrade facilities, and has drilled more than 114 new wells over the past ten years, providing not only increased reserve recoveries but also significantly enhanced production efficiency across the five platforms.

Most recently, Apache installed a new platform within the Forties Field, manufactured by the OGN Group in the UK. The Forties Alpha Satellite Platform (FASP) project, from concept to completion, provided over 2,000 jobs at OGN's Hadrian Yard at Wallsend and a further estimated 5,000 jobs throughout the British supply chain. The platform comes with 18 new slots for drilling additional development wells and associated facilities to handle the increased throughput production requirements.

Jim says it is important "not to let processes drive the organisation and stifle productivity, but focus on clear and measurable objectives. Listen to the people closest to the work front as they possess priceless experience and many good ideas".

For both Apache and TAQA, their achievements on the UKCS are only just beginning. @

For more information, please visit www.apachecorp.com and www.taqaqglobal.com. For advice on the decommissioning tax relief, members of Oil & Gas UK can contact Claire Ralph on cralph@oilandgasuk.co.uk.

Guidelines for Best Practice for Managing Information Transfer at the Time of Asset Sales are available at <http://bit.ly/11LHkWq>. Please note this document is being updated to reflect changes in organisation names and branding.

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