## Summer 2022 8 ENERGIES

The magazine for the UK offshore energy industry

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#### Welcome to Offshore Energies UK #53

more important.

elcome to our newly rebranded publication: Offshore Energies UK Magazine. The previous name – Wireline – served us well. But the new one better reflects the changing UK industry and a changing representative body too. Under either flag, though, the magazine shows that the need for reliable, home-produced oil and gas and other energy resources has rarely been

It may seem almost unimaginably remote from today's standpoint, but 2050 is hurtling towards us. Our magazine will continue to reflect the diversity of this expanding industry as it moves rapidly to embrace the opportunities of the transition, while also continuing to produce the oil and gas that the UK needs. Because while the UK's oil and gas production profile continues its overall decline, new fields must continue to be brought on stream to support our energy needs. Our publications will also cover other offshore energies in greater depth than before: these are a vital partner.

Upstream mergers and acquisitions have picked up this year, with a couple of deals raising confidence in the basin as relative new-comers move in. Among the assets now under new management is the Cambo oilfield (see page 9). Tullow and Capricorn – formerly Cairn Energy – have also merged. Meanwile, Russia's decision to cut pipeline exports to Europe, where regulated output cuts have hugely reduced the amount of gas available for storage injection, has left the continent in a difficult position as the next heating season approaches (see p14). Switching to cheaper coal is only part of the solution and it will dent Europe's emissions reduction plans.

Achieving the 2050 carbon goal will therefore require a Herculean effort and unprecedented collaboration between industry, regulators and government. Only in May the government introduced the Energy Profit Levy that has shattered the fragile faith in fiscal stability just when the security of affordable energy supply is at the top of the agenda.

With the heightened geopolitical tensions and advances in technology, who better to talk us through the complex choices that society faces than Professor John Underhill, the new head of Aberdeen University's inter-disciplinary Centre for Energy Transition? He hopes to help solve the dilemma of decarbonising while improving the quality of life we've all enjoyed for decades.

The growth in offshore decommissioning activity, with its steady supply of recyclable steel, has also caught ArcelorMittal's eye: the Luxembourg steel manufacturer has bought John Lawrie Metals (see page 26).

A relatively easy way to add barrels is to reduce operating costs: in a feature on page 24, Proserv explains how the intelligent use of digitisation and engineering can help wring more oil from ageing wells, bring new ones on stream at lower cost and anticipate equipment failure.

We also spoke to our industry's chaplain: while over the years operational safety has improved, working conditions offshore remain difficult for many. Disbursing funds is a practical way to relieve the stress on affected families. And solace and advice from a sympathetic and neutral ear at the right time can also make a huge difference. See page 34 for a glimpse of another side of life offshore.

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Offshore Energies UK hosts the Aberdeen Breakfast Briefing, sponsored by Deloitte, on the topic of Energy Security.



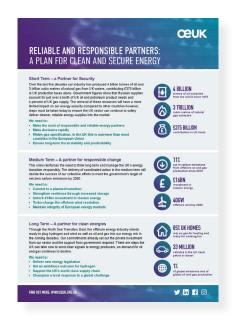
## Upstream tax a blow to UK E&P spend

The passage of the Energy Profits Levy Act risks starving crucial North Sea projects of tens of billions of pounds of investment, said Offshore Energies UK, urging ministers to work with industry to minimise the damage.

At the very least it creates unwelcome uncertainty, coming as it does when the government is focusing on security of supply. There are fears of winter blackouts in the coming few years if gas supplies fall short. Russian flows of pipeline gas are a fraction of previous years, leaving Europe more dependent than ever on LNG deliveries.

The combined rate of tax on oil and gas production profits is now 65% – by far the highest tax rate faced by any business sector. Windfarm operators have benefited from the high gas price: as the marginal fuel, it sets the power market price. But they are not affected.

The UK's offshore oil and gas industry produced the equivalent of 38% of the nation's gas and 82% of its oil in 2021. It also supports about 200,000 jobs across the UK. Deirdre Michie said she recognised that surging energy bills meant an exceptionally tough year for consumers, so help was vital – but funding that help through sudden new taxes risked long-term damage to the UK's



businesses and its energy security.

She said OEUK's members need the UK's fiscal rules and other regulations to be stable and predictable but they are already the UK's most highly taxed industry. "When new taxes are introduced suddenly, like this one, it makes the UK look like a riskier place to invest," she said.

"I would urge the government and our eventual new prime minister to work with us to do everything possible to reassure investors and minimise the impact of this enormous tax increase."

#### Message from our CEO



Deirdre Michie

The dreadful war in Ukraine and the cost of living crisis have pushed energy security and affordability to the forefront of both UK and European concerns.

In the previous issue of our magazine, published some months before the Russian invasion, I said we must continue to do what we can to explain to all our stakeholders the many advantages of a home-grown oil, gas and low-carbon energy sector. That is even more important today.

Our domestic resources are vital if we are to protect energy security while at the same time drive forward the energy transition in a managed and affordable way.

The UK government has responded to the ongoing issues with several policy releases. One is the Energy Security Strategy which reinforces support for the sector and aims to reduce dependence on "power sources exposed to volatile international prices we cannot control, so we can enjoy greater energy self-sufficiency with cheaper bills."

While the document shows government understanding that the companies operating in our sector are needed for the transition, it has also introduced the Energy Profits Levy. This levy risks significantly damaging investor confidence in the basin and therefore long-term energy security.

So, while industry remains committed to the transition through the delivery of the North Sea Transition Deal, it is vital that government works closely with the sector to build back confidence and protect energy security and the transition.

Eighteen months on from the signing of the Deal, there has been much progress, from big cuts in emissions to the appointment of a Supply Chain Champion. And as our new report on carbon capture and storage shows, there is much opportunity to be seized if the political will is there.

The Deal is an important and positive step forward for the sector and will help attract the investment needed for the long term. But if it is to be a fair and successful transition, it needs to be continuously supported by government.



Deirdre Michie

#### News

Right: The new Offshore Energies UK Membership stand at

Below: Irene Bruce, ESA Manager with two signatories to the ESA agreement: Scottish Labour leader Anas Sarwar (L) and Unite representative John Boland (R). Opposite page: Mark Wilson, HSE Director OEUK.

#### **NSTA** appoints next CEO

The North Sea Transition Authority, the upstream regulator, has appointed its director of supply chain, decommissioning and HR Stuart Payne as the successor to Andy Samuel, who steps down at the end of this year. He takes up the post in January. Both have been at the regulatory agency - formerly the Oil & Gas Authority - since it was set up as the independent regulator eight years ago.

Then, its sole mandate was to ensure the maximum economic recovery of UKCS resources without any conflict of interests with government. Since then its reach has extended to helping the UK achieve its netzero carbon goals.

Stuart co-chairs the industry's Supply Chain and Exports task force and is a member of the Scottish government's Oil & Gas & Energy Transition Strategic Leadership Group.

His work will include supporting the industry on vital projects involving electrification, carbon storage, energy hubs and exploration, liaising with other organisations with interests in the North Sea and working even more closely with government and industry in light of challenging global politics.

The chairman of NSTA and one-time Conservative energy minister Tim Eggar said Stuart "has the right skills, experience and personality to guide the NSTA and the industry through this crucial time."

Stuart said: "It has been a pleasure working for Andy who has made such a big difference in our sector and it is a great honour and privilege to take over the leadership of the

OEUK CEO Deirdre Michie, who also leaves her position at the end of 2022, thanked Andy Samuel for his excellent leadership and "warmly welcomed the news that Stuart Payne has been appointed to lead the NSTA at what continues to be a crucial and challenging period for the industry."



#### **ESA marks its first** anniversary

Offshore Energies UK marked the first anniversary of the Energy Services Agreement (ESA) in February. The ESA is a collective bargaining agreement between operators, contractors and employees.

In its first year, the ESA reduced the complexity and increased the transparency for all stakeholders, by focusing payment on the time worked. It also standardised the annual review process, shortening the negotiating time by 97%.

OEUK ESA manager Irene Bruce said the commitment shown by all ESA signatories to work collaboratively had enabled problems to be solved quickly, removing the risk of further escalation. "I'm proud to be leading the further development of the ESA and look forward to speaking to other companies who want to work with us to take the lead and challenge the future together," she said.

A trade union representative said that the improved industrial relations had led to greater efficiencies and productivity. Workforce engagement continues to be a cornerstone of the agreement and increasing the network of workforce representatives will improve this still further, he said.



#### New faces join **OEUK**

EnQuest's former health & safety director Mark Wilson has taken up the HSE directorship at OEUK with effect from February, succeeding Trevor Stapleton.

Wishing him a long and happy retirement, OEUK CEO Deirdre Michie thanked Trevor "for his tireless work" and "unwavering commitment to upholding the highest health and safety standards."

Before joining Enquest in 2018, Mark Wilson held related roles at ConocoPhillips, including as Group enterprise risk co-ordinator and emission management.

He has also supported the oil and gas industry more broadly, through the development of the Safe Working Essentials toolkit with Step Change in Safety. He also chaired OEUK working groups aimed at preventing hydrocarbon releases. And he is the Energy Ambassador for the Aberdeen and Grampian Branch of the Institute of Directors.

Separately, Petrofac's head of new energy services John Pearson has joined OEUK's board. With overall accountability for developing Petrofac's global portfolio in low-carbon projects, he leads initiatives that convert waste to energy. That followed 28 years in senior management roles at Amec Foster Wheeler and five years at the US major, Chevron.

He also co-chairs the North Sea Transition Authority's Supply Chain & Exports Taskforce, which brings together industry trade associations, government and regulators. Deirdre Michie said his expertise in new energy projects would be a great asset to the OEUK board.

OEUK has also appointed Findlay Anderson, General Counsel at Baker Hughes, as the chair of the OEUK Diversity & Inclusion (D&I) Task Group. He succeeds Craig Shanaghey of Wood, who led the Task Group since its creation in 2019.

OEUK CEO Deirdre Michie said that he was taking over at a challenging but ambitious time for the industry. "D&I is at the heart of our sector's ability to transition to cleaner

technologies, while underpinning energy security - we need to attract and retain a diversity of talent, skills and experience, as well as ensure inclusive and collaborative ways of working," she said.

Findlay said this year was shaping up to be busy, which has proved sadly to be an understatement.



John Pearson of Petrofac joins OEUK board.



**Exploration & Production** 

#### **Equinor adds to** its gas output

Equinor and its partners have taken new steps to meet demand for non-Russian gas in Europe. The region will struggle to fill its storage facilities ahead of next winter and prices are accordingly very high.

The announcement came two days after the Norwegian state company joined a number of its peers with a pledge to exit its joint ventures in Russia.

"In close dialogue with the authorities and our partners we are now taking steps to maintain the high production level from the winter," it said in the spring.

The Oseberg gas field will be allowed to produce an additional 1bn m<sup>3</sup> to September 30 or 15%-30% for the current gas year, and the Heidrun field may produce another 400mn m<sup>3</sup> for this calendar year. And it has decided to postpone maintenance work on the field from May to September to accelerate production by slightly less than 500mn m<sup>3</sup> from September to May.

The Troll field, used to swing production to cover drops in production elsewhere, is also to be worked harder, all subject to safety requirements, adding about 1bn m3 for the current gas year (October-September), or slightly less than 3%.

On top of that, the Hammerfest LNG terminal came back on stream in early June, after a prolonged repair operation. It processes more than 6bn m³/yr of gas output from the Snohvit field.

#### **Neptune drills** for growth

Privately owned explorer Neptune Energy will spend over \$1bn over the next five years to boost energy supply and speed up the transition to net zero. It is considering carbon capture and storage, hydrogen production and platform electrification plans, it said May 10.

Pete Jones, CEO of Neptune Energy, said: "Securing lower carbon energy supplies is a national priority for the UK and Neptune has an important role to play. The government's

Energy Security Strategy gives clarity on the key role of the North Sea in providing this security and its importance in the energy transition."

The biggest item is the \$1bn Seagull development (Neptune 35%), which will add around 50,000 barrels of oil equivalent/ day for the UK from 2023, using existing infrastructure to bring production forward quickly and efficiently.

Neptune and partners will spend another \$120mn on an appraisal well in the second half of this year at the Isabella prospect (Neptune 50%) in the Central North Sea. Should it prove economic to develop, Neptune and its partners would invest a further \$1bn to bring the development onstream.

It also plans to spend around \$300mn in the next three years developing the Gjøa hub in Norway which exports gas to the UK via St Fergus terminal. It has also confirmed its interest in the UK government's plans for a new licensing round. It said it would focus its efforts in areas around its core assets in the UK North Sea.

#### **IOG brings** Saturn Banks gas to shore

UK operator IOG confirmed mid-March it had delivered the first gas from its Elgood and Blythe fields, part of Phase 1 of its Saturn Banks Project. Elgood has been developed as a subsea tie-back to the unmanned Blythe platform, which is controlled from the Bacton terminal. It shares the equity with CalEnergy, which is ultimately controlled by Warren Buffett.

It expects second-half gas production in the range of 45-60mn ft<sup>3</sup>/d along with 250-350 b/d of condensate.

Separately, the company said it has improved the terms of its gas sales agreement with the buyer BP so that it can benefit more from the high spot price. The new terms apply to its equity gas from all Phase 1 fields, plus the Nailsworth and Elland fields which are part of Phase 2.

CEO Andrew Hockey said: "Developing further UK gas resources is the right thing to do both from an environmental and energy security perspective. We are encouraged

by the recent government discussions with industry and ministerial comments on supporting further investment in domestic gas supply, which is exactly what IOG stands

#### **BP invests** in Flylogix

BP has made a £3mn equity investment in Flylogix - a pioneering unmanned aerial vehicle (UAV) business that uses drones to detect methane leaks (see Wireline #52). The investment is part of the UK major's plan to half its methane intensity.

Flylogix combines its UAV with artificial intelligence, satellite communications and methane sensor technology, from partner

Flylogix, which holds the UK record for the longest commercial drone flight, has worked with the major since 2018, monitoring its UK assets. It said it would use the investment to move into new regions, including the US, Norway and Trinidad & Tobago. BP produces gas offshore in those countries too.

BP Ventures said: "We are investing in companies that can help us with our net zero ambition and aims.... Accurate emissions measurements are the basis upon which mitigation plans are based - we look forward to continuing our partnership with Flylogix as it expands into new regions."

The CEO of Flylogix Charles Tavner said BP's endorsement was "a vote of confidence." The financial injection was part of a £6mn funding round led by Amati Global Investors.

#### Decarbonisation

#### **Ineos starts** decarbonising Grangemouth

Petrochemicals company Ineos has invited major engineering design contractors to bid for the next stage of the design of a worldscale, carbon-capture-enabled hydrogen production plant and major associated infrastructure at its Grangemouth site.

This will replace hydrocarbons with clean, low-carbon hydrogen. The brief is to

design both a state-of-the-art hydrogen production plant; and an extensive suite of related infrastructure projects. The CO<sub>2</sub> will be routed to the Scottish Cluster's Acorn CO<sub>2</sub> transport and storage project, cutting emissions by more than 1mn tons/yr.

Ineos has already committed over £500mn to projects at the site, including investment in a new power plant. When operational in 2023, it will use efficient technology to power all its site operations and cut emissions by at least 150,000 mt/yr. The plant will then be converted to run on hydrogen, further reducing emissions.

Over 1mn mt/year of  $CO_2$  from the hydrogen plant will be sent directly offshore Scotland through existing gas pipelines to be sequestered deep below the North Sea.

#### Petrofac mulls floating wind turbine work

Petrofac has signed a memorandum of understanding (MOU) with Dutch engineers Seawind Ocean Technology to collaborate on floating wind projects.

Petrofac will initially support design verification of the system and then provide engineering and construction services for Seawind's first 6.2-MW demonstration turbine. It is due for deployment in European waters by Q1 2024.

Seawind has developed proprietary twobladed floating wind turbines integrated with a unique concrete floating structure suitable for installation in all seas, including cyclonic regions and ultra-deep waters.

The two will work together on early offshore wind plant concessions, initially in the Mediterranean Sea but later elsewhere in Europe and globally, and the electrification of other offshore energy assets.

Petrofac said more than half the Scotwind awards were granted for floating wind projects, which it considers a major source of growth in the new energy sector.

Petrofac has been engaged in renewable energy projects since 2008 and has designed and built a number of offshore wind substations.

#### Kent, CGG link up in CCS

Engineering company Kent has agreed with French geoscience technology firm CGG to work on carbon capture and storage (CCS) projects and hydrogen production and supply. Kent and CGG will be providing customers in the energy and industrial sectors with "end to end" services across the life cycle of the projects. For example, from subsurface characterisation for storage screening and evaluation all the way to project engineering, planning, construction, and commissioning, they said April 5.

Kent has been involved in more than 50 CCS projects worldwide and was a key player in one of the world's largest operational CCS projects at Boundary Dam, Canada. Kent also have more than 50 years' experience on hydrogen projects, including HyNet, an integrated CCS and hydrogen gridinjection project in the UK northwest, led by Progressive Energy.

Kent CTO John Kent said that the partnership would help both companies and their clients to move at a faster pace on the energy transition journey. "No one company or organisation can do it alone," he said.

#### Corporate

#### Ithaca buys more UK assets

Israel-listed Ithaca Energy has agreed to pay up to \$1.5bn -- of which \$1.1bn is up front -- for Siccar Point Energy's North Sea oil and gas assets. This would help position it as a major UK North Sea operator, it said April 7. The assets include an interest in the producing Jade gas field and the Schiehallion and Mariner oil fields, both in the top ten UK oilfields by size. They also include the Cambo and Rosebank oilfields, two of the largest undeveloped and most strategically important discoveries in the UK continental shelf.

Ithaca announced the deal the day after the UK Government issued its Energy Security Strategy (see above).

Ithaca has been on the acquisition trail for almost six months with its purchase of Summit E&P in late February and Marubeni Oil & Gas last November.

The deal doubles Ithaca's recoverable reserves and supports production of at least 80,000 barrels of oil equivalent/day through the next decade. Ithaca is owned by Delek Group.

#### Altrad buys Sparrows Group

Altrad has agreed to buy specialist engineering firm Sparrows Group, broadening both companies' scope for growth and giving Altrad a way into the fast-growing renewables service market. Sparrows focuses on mission-critical, engineering-led operations & maintenance services in stable and resilient production-phase activities.

The transaction is expected to close in this summer, subject to customary regulatory approvals, when the 2,000 employees and its management team will move across.

In a March 2 statement, Altrad's president Mohed Altrad said: "Sparrows' over 2,000 skilled and knowledgeable people will be a valuable addition to our group and we are looking forward to welcoming them to the Altrad family."

The CEO of Sparrows, Stewart Mitchell, said the transaction "will deliver many advantages for our clients and employees as we continue on our diversification and growth trajectory."

Altrad was advised by BNP Paribas and Squire Patton Boggs. Evercore served as financial advisor, and Freshfields served as legal counsel to Sparrows.

The deal comes a few months after Altrad completed its acquisition of Muehlhan's oil and gas business, giving it a foothold in Denmark. Some 750 staff were part of that transaction.

#### AIS, Mobideo link up in STO management

Industrial asset specialists Asset Information Services (AIS) has joined forces with digitisation specialists Mobideo. Their strategic partnership aims to provide clients with a single portal for managing

their shutdowns, turnarounds and outages (STO), the James Fisher group company said March 11.

The two will deliver "innovative and connected solutions that support next generation project management, analytics, artificial intelligence, workforce-based work-execution for monitoring and industrial assets," AIS said.

AIS has a digital twin platform for planning STOs which, combined with MobideoSTO Operating System for workforce planning, scheduling and execution, means customers can seamlessly integrate into a full suite of processes and project management across the STO lifecycle. Capabilities further extend to daily maintenance, inspections and operator rounds.

Spanning the oil and gas, petrochemicals and new energy markets including offshore wind, bio-fuels and hydrogen, the partnership's combined customers include the majors Chevron, ExxonMobil and BP.

#### **J&S Subsea joins F40R** initiative

Subsea engineering specialists J&S Subsea has been selected for Fit 4 Offshore Renewables (F4OR), a 12-18 month long ORE Catapult programme. The F4OR cohort announcement follows the ScotWind leasing round.

Developed with input from industry and funded by the Energy Transition Zone, F4OR helps the UK supply chain to prepare bids for offshore renewables work. ETZ delivers the scheme in partnership with the Nuclear AMRC and Opergy. The companies selected come from a wide range of sectors and include services such as consultancy, engineering, health & safety and asset

With 20 out of 48 applications successful and companies completing the course seeing a 23% rise in turnover, J&S Subsea CEO Phil Reid said: "Demand is high for places on F4OR, with fewer than half of applications being successful, so we are incredibly pleased to be taking part."

Cross-sector pull was significant, with 93% of successful applicants not considering offshore wind as their primary

#### Contracts

#### **TechnipFMC lands** work on Maria project

TechnipFMC has been awarded a significant integrated engineering, procurement, construction and installation contract for Wintershall Dea's Maria revitalisation project offshore Norway, it said April 13.

The project will boost production with the installation of subsea trees, spools, jumpers, and flexible pipes.

TechnipFMC's subsea president Jonathan Landes said the award was "built on our ability to leverage our integrated front end engineering and design model. Through early engagement, we optimised the field layout and maximised the benefits of integrated project execution. Our involvement helped reduce the carbon footprint of the revitalisation project by modifying existing infrastructure, eliminating the need for an additional 4 km of pipe."

#### **Petrofac extends Spirit Energy deal**

Engineering firm Petrofac has won a twoyear operations and late-life asset support contract extension with Centrica's upstream joint venture Spirit Energy. It covers operations and maintenance for Spirit Energy's York platform and engineering, project, and consultancy services for all its other North Sea assets. Petrofac has supported Spirit Energy's assets since 2012. From 2018 to 2019, it took part in preparation work for the decommissioning of its Audrey and Ensign platforms.

Petrofac said the renewal of this "key contract" proves the two companies had developed a good working relationship

over the past ten years, and that Petrofac has added value in the late-life operations phase. "Our support of Spirit's recent life extension project on York, which has increased production by three to four years, is a great example of this. We look forward to continuing in this vein," it said.

#### Fraser to operate first pipeline

Fraser Well Management (FWM) and Fraser Integrity Management (FIM) - now part of Three6o - have won a contract to provide well and pipeline operator services for Bridge Petroleum. The new contract adds to FWM's expanding well operator portfolio and is FIM's debut pipeline operatorship appointment.

Bridge Petroleum has increased its interest in the Bardolino field, 162 km offshore Aberdeen, and is now the operator. The Bardolino subsea production well is tied back to the Howe subsea manifold by a 2-km, 6-inch production pipeline; a 3-inch gas lift pipeline; and umbilicals. Howe is connected to the Nelson production platform.

FWM has been providing well operator services to licensees on the UKCS since 2017 in all phases of well activity. It set up FIM to include pipeline operatorship. The Bardolino contract ensures a steady basis of work for the business and more employment at its office in Aberdeen.

Fraser said it was "particularly excited" about FIM's debut appointment as pipeline operator. Its turnkey solution for subsea tieback wells and pipelines strengthens its clients' business and increases their operational efficiency, it said.

#### **Proserv lands Dogger Bank** contract

Global technology company Proserv Controls has secured a contract from DEME Offshore to supply the inter-array cable monitoring system (CMS) for the first two phases, A and B, of the Dogger

Bank Wind Farm. In all, there are to be three phases each of 1.2 GW, making it the biggest in the world.

Proserv will harness its new ECG cable monitoring system which it developed with critical support from partner Synaptec, a power system monitoring expert.

Using intelligence from all data across an asset, the system enables predictive decision-making, improved resource use and cuts operating costs.

Proserv's Great Yarmouth team will be executing the full scope of supply, with both Dogger Bank A and B systems scheduled to be ready for dispatch in Q3 2022.

Proserv Controls said that Dogger Bank "represents one of the most important offshore wind projects under construction, so this success for our new ECG holistic cable monitoring system is a major endorsement of our market proposition, and a significant step forward in Proserv's renewables strategy." (See also feature on p18)

#### Asco extends Norway deal

Global integrated logistics and materials management company Asco has won a three-year contract extension in Norway from operator Aker BP. The Aberdeenheadquartered company will provide integrated supply base services, transport and freight forwarding services and streamline processes through digitisation. The agreement, worth up to £64mn, includes services relating to warehouse management, waste services, personnel hire within operations and helicopter coordination.

Asco established its Norwegian operations in 1994 and has bases in Tananger, Farsund, Kristiansund, Sandnessjoen and Hammerfest

Asco said: "The contract strengthens our existing activity in Norway, and forms the basis for a further development of our good co-operation with Aker BP." It added that more work was being done to

**Appointments** 

## BP senior executive joins BEIS, NZTC

BP's former head of UK operations and senior vice-president for Europe, Peter Mather, became non-executive director at the Department for Business, Energy and Industrial Strategy (Beis) March 30. And three weeks later he joined Aberdeen's Net Zero Technology Centre as senior independent director. He was "deeply involved" with BP's net zero strategy, Beis said. He has sat on government councils for decarbonisation-oriented technology and chaired the Business in the Community Climate Action Leadership team and the CBI's Climate Change and Energy Board.

#### Aker appoints new executives

Aker Solutions has appointed several senior executives this year. Paal Eikeseth becomes the Norwegian company's executive vice president (EVP) for Electrification, Maintenance & Modifications business segment. He will report to CEO Kjetel Digre. Digre said Eikeseth's extensive change management and industry experience were essential for the company's strategic development.

Separately, Trine Svalestad took up the new position of senior vice president for sustainability on May 1, reporting to Marianne Hagen, executive vice president and head of sustainability, HSSE and communications.

Svalestad earlier held management positions in Equinor, including leading compliance and governance processes, and heading the digitisation of the large Johan Sverdrup offshore field development.

And it has appointed Kjerstin Kleyne Braaten as senior vice president of aquaculture, a sector where expansion is planned. She reports to EVP Stephen Bull, head of Aker Solutions' Renewables business segment.

#### Shell appoints new board members

UK major Shell appointed Sinead Gorman as CFO with effect from April 1, following the resignation of Jennifer Uhl. Gorman, previously the head of finance in Shell's global upstream business, has joined both the executive committee and the board of directors. Uhl will stay on at the company until June 30, ending 17 years' service.

Uhl had been the key architect of Shell's recent strategic changes, including the simplification of the company's share structure and the relocation of the corporate headquarters from The Netherlands to the UK earlier this year. But she could not move to the UK in the long term herself for family reasons.

Separately, Shell appointed Ed Daniels to the new role of Strategy, Sustainability & Corporate Relations Director with effect from February 15. CEO Ben van Beurden said that this was "the right moment to bring these three strategic capabilities together in one Executive Committee directorate." He said that "with more than 30 years' broad, relevant industry and leadership experience, Ed is perfectly placed to lead this work, and to bring additional strategic insights and perspectives to the executive committee."

### Well-Safe appoints Shell exec

Well decommissioning company Well-Safe Solutions has appointed Mark Davison to lead its subsurface team, the Aberdeen-based company said January 12. The former executive at Shell's global geomechanics team joins as Well-Safe Solutions expands its services to all aspects of subsurface plug and abandonment (P&A) design.

Well-Safe Solutions' director of well abandonment James Richards said: "Mark's compelling track record makes him a clear fit for Well-Safe Solutions, and we're thrilled to welcome him into his new role."

Davison, who has three patents relating to well completion and production engineering

to his name, said: "Well-Safe Solutions continues to go from strength to strength.... Together with my new colleagues, I look forward to developing robust well P&A and subsurface isolation strategies."

**Awards** 

#### Mintra's larger library wins award

Mintra's expanded maritime-specific e-learning library won the training category at the SMART4SEA Awards.

The addition represents 66 hours of new training, covering a wide range of safety, regulatory, operational and technical subjects.

The awards recognise people and organisations that have made the most significant contribution to any aspect of safe, smart and sustainable shipping. Mintra was announced as winner of the training accolade following a public vote.

COO Gareth Gilbert said it was a "very special award for us. We're extremely proud of what we've created. It's a solution that both supports the industry on its digital journey and makes maritime a safer place for millions of sea-farers."

#### **Fennex lands** awards, contracts

Energy technology specialist company Fennex has won two contracts worth over £250,000 that take it into new parts of the globe. The Aberdeen-based company designs, builds and implements digitisation solutions for critical industry processes.

Wins over the last six months include an integration solution to support the rig startup of a major new project offshore Mexico, the first for Fennex in the region. The company also recently developed a bespoke extreme weather software solution.

Fennex founder and CEO Adrian Brown said his company's approach to problem-solving allowed clients to engage their global workforces and have more visibility over their operations as the sector adapted to

new ways of working.

Fennex also won awards at the SPE Aberdeen Offshore Achievement Awards in March, for its Digital Innovation accolade. Its software saved a client 15,000 manhours by automating a traditional safety card system and increased reporting and workforce engagement by 30%. Strategy director Nassima Brown said the award "brightens the future outlook not just for our business, but for the tech companies that are working so hard to drive a digital shift in the energy sector."

#### **Add Energy wins** \$6mn Canadian contract

UK - based asset and integrity management consultancy and software firm Add Energy has secured upwards of \$6mn of new work in Canada. The contracts mark "a successful start to 2022 in line with the company's ambitious growth plans in this region," it

A number of oil and gas operators and distribution companies have appointed it to support the transition to new computerised maintenance management systems and conduct big data structuring and enhancement, among other services. Commenting on the recent multi-million

dollar contract awards, Add Energy's North America head Afia McClenaghan said that landing new scopes of work from existing clients testified to the strength of the relationships it had, "and that, in turn, speaks volumes about the value and performance gains our technology and people can deliver."

#### **John Lawrie Tubulars wins Oueen's Award**

John Lawrie Tubulars has won a Queen's Award for Enterprise, it said April 21, for its excellence in Sustainable Development.

Employing 38 people with operations in Montrose, Scotland and Scunthorpe, England, John Lawrie Tubulars Ltd is one

of the largest purchasers and suppliers of steel tubular products in the UK.

Following the commission in 2020 of a completely bespoke life cycle assessment (LCA) based on its own unique steel tubular management processes, the company can formally detail that every metric ton of repurposed steel tubulars represents a CO<sub>2</sub> equivalent saving of 97.21% relative to newly manufactured products.

CEO Vic Sinclair said the company aimed always to keep the business moving forward and to make a real difference, so to receive this acknowledgement is a deeply proud moment. The company said: "We share our greener credentials with our suppliers and clients, to show the carbon emissions saved thanks to using our products and services, and the response has been incredibly positive." (See also feature on p26)

#### An invitation to submit your member news

Members are invited to submit their news to our editorial team, via email.

Selected stories are published in OEUK magazine, and in our Member News section of the Offshore Energies UK website.

Please note: member news is subject to editorial review with no guarantee of publication.

For more information please contact our editorial team.

Email: editorial@oeuk.org.uk Website: oeuk.org.uk/membernews

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#### UK plays a defensive hand as Putin's war grinds on

The Russian president's brutal onslaught on Ukraine is having a profound and immediate impact on the rest of the continent, including its attitude to energy trade and security.

Conservative Party leadership contest has taken much of the British public's attention this summer - but the energy industry's quarterly financial results and the parallel cost of living crisis have dominated the national media agenda.

By early September the leadership contest will be over but the energy crisis is likely to keep on growing. If costs rise as predicted and inflation mounts then ever more households will be plunged into poverty and more businesses will close.

That means energy will become our new Prime Minister's first major crisis - and the companies supplying that energy will be on the political front line as never before.

What, though, has been driving the profits in those quarterly results? The most obvious answer is the Ukraine conflict. Apart from the risk of damage to major transit pipelines, the Kremlin alone could decide how much gas, if any, to flow, impacting global supply.

There are, however, many other factors at work too. Long before the war, energy prices were rising. The sharp, legislated reduction in supplies from the Dutch Groningen gas field and nuclear plant closures in Germany created additional demand for gas imports and so pushed up prices. Some Asian economies were also rebounding faster after Covid-19, leading to bidding wars for LNG. Liquefaction capacity had also under-performed. And all this played out against the background of the "lower for longer" mantra of the 2015 crash and the subsequent plunge in upstream

There are also questions over the impact that new environmental rules have had on the amount of money flowing into new oil and gas projects worldwide. Investment funds and Covid-19 have, between them, taken \$1 trillion away from projects, Ben van Beurden, CEO of Shell, estimated at his company's second-quarter results presentation. This also leaves a bigger share of oil and gas output in opaque, non-OECD countries.

This would not be such a problem if there were sufficient despatchable energy supplies to make up the shortfall with low-carbon output. But there is not.

#### Tax 'a drop in the ocean'

The energy operator's increased profits have generated widespread comment, most of it critical. But what those critics often forget is that those same companies were making big losses a couple of years ago. Energy is a long-term business - and judging it just on the latest results is always misleading.

What's more, these new earnings are already feeding into additional revenues for the Treasury. The oil and gas operators were contributing £22mn/ day to the Treasury up until May 26. Since then, the introduction of the Energy Profits Levy means that has increased to around £35mn/day - forecast to be about £11bn this calendar year.

OEUK pushed hard against the government's original proposals for EPL and achieved a number of key concessions but the published law will still deprive the offshore sector of tens of billions of pounds of investment, it said.

One of OEUK's key criticisms was that changing the fiscal framework in which the industry operates at such short notice was inherently destabilising whatever the scale of the impacts. The oil and gas industry already faces many risks, ranging from the technical problems in finding and extracting hydrocarbons to the constant changes in global prices. That means stability in the fiscal and regulatory regimes is essential in giving companies the confidence to take on those other risks. Changes in those rules risks driving investors away.

While it is important to help consumers, "funding that help through sudden new taxes risks long-term damage to the UK's businesses and its energy security," said CEO Deirdre Michie.

# "We need to boost our energy resilience, reduce our dependence on expensive imports and slash emissions. The Future System Operator will do just that." - Greg Hands

#### A new energy system

While the tax was imposed after months of opposition, the government acted more swiftly to steady the energy market in the longer term. Soon after the start of war, it announced a plan to set up a Future System Operator (FSO). It will co-ordinate the different forms of electricity generation, which will be needed if power output from offshore wind generation is to find its way to market, for example.

Energy minister Greg Hands said: "Russia's appalling aggression in Ukraine amid escalating global gas prices has shown the vital importance of strategic change to the UK energy system. We need to boost our energy resilience, reduce our dependence on expensive imports and slash emissions. The FSO will do just that."

As a state-owned entity the FSO will look at the British (Northern Ireland is managed separately) energy system as a whole, integrating existing networks with emerging technologies such as hydrogen production, carbon capture and storage and offshore wind. It will be based on the existing capabilities of National Grid's Electricity System Operator (ESO), and, where appropriate, National Grid Gas (NGG), but spun off from it. National Grid is reducing its involvement in gas distribution as it sells off gas networks to focus on electricity.

The government also launched an energy security strategy that includes a very ambitious new-build programme for nuclear energy. It expects gas use to be a quarter of today's level by 2050, following a 40% cut by 2030. Describing gas as "the glue that holds our electricity system together," it said that "there is no contradiction between our commitment to net zero and our commitment to a strong and evolving North Sea industry. Indeed, one depends on the other."

#### Rough Storage back for winter

UK producer Centrica Offshore is preparing to resume gas withdrawals from the depleted giant Rough reservoir this winter, having had approvals to reopen it as a storage facility.

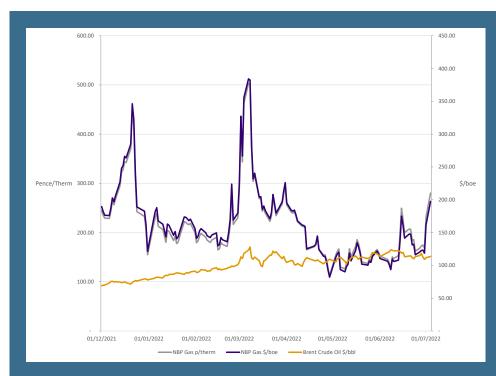
The wholesale market regulator Ofgem in early August approved Centrica's request for an exemption from the non-negotiated capacity tariff regime, in the interests of time: storage withdrawals normally begin in late October.

As it is, only about a quarter of the original plant's withdrawal capacity will be available this year: about 800mn m³. For the same reason, Ofgem also skipped its customary consultation process.

More capacity will be available next year at the site which used to account for 70% of total UK gas storage.

The approval means Centrica can start gas storage operations without having to allow all gas shippers access to the facility.

Ofgem said its approval would further enhance Britain's security of energy supply this winter and beyond. "This is in addition to the regulatory reforms and plans we are progressing to help reduce Britain's "reliance on expensive foreign gas imports and accelerate the transition to more affordable, home grown, cleaner energy supplies and our work to ensure energy suppliers are held to more account," it said in early August. Centrica began selling off the cushion gas in 2018 once the storage licence had lapsed. To convert Rough back into a storage facility will be expensive but as it is technically a new facility, Centrica was able to apply for the exemption from the standard regime. Refusal could have meant Centrica not proceeding with the investment in time for winter. One of the criteria for determining if exemption is appropriate is that without it, the investment will not go ahead. Rough was considered beyond economic repair after decades of use, as the winter-summer price difference was not big enough to cover the cost. While some other European countries have strategic storage requirements for gas suppliers, the UK government had said that the market should decide whether or not to invest. UK and European hub prices have become disconnected on occasion this year as there is not enough pipeline capacity for the UK to export all the gas flowing into the grid from offshore gas and the regasified LNG imports. LNG facilities on both sides of the Channel have been working overtime as traders search for alternatives to Russian gas.



#### NBP gas price cuts adrift from oil, continental gas

The price of gas for day-ahead delivery at the National Balancing Point has been equivalent to over \$350/barrel of Dated Brent this year. Capacity constraints have also pushed the NBP lower than the continental benchmark.

Local distribution zones (households been taking very little gas during the prolonged heatwave and some industrial demand has also been priced out of the market as there is no price cap for that class of customer. But the power generation sector has taken up some of the slack, often running on gas for over half its output during periods of high pressure.

#### Alarm bills ringing

The additional tax take from the EPL was intended to fund much of the government's scheme to aid the crisis for those worst off in society. However the impact of this global supply crisis has since worsened.

Consultancy Cornwall Insights said in early August that market regulator Ofgem's default tariff cap is expected to average £3,500/yr from October 1 "until at least the end of 2023." Cornwall Insights said: "While the government has pledged some support for October's energy rise, our cap forecast has increased by over £500 since the funding was proposed, and the truth is the £400 pledged will only scratch the surface of this problem."

It will also be variable every three months, instead of six and the January bill increase is likely to be even

Ofgem says the change will provide a "better reflection of current gas and electricity costs, allowing energy suppliers to better manage their risks, making for a more secure market." But at time of press, one non-executive director had resigned over the structure of the cap. In recent years dozens of suppliers have gone bankrupt.

The government is now consulting on how to further support energy-intensive industries such as steel and glass making. It fears that electricity policy costs, on top of already high prices, could see those industries lose out to trade overseas and cause carbon leakage.

Unlike electricity where supply and demand have to balance in real time, there is daily balancing in the gas grid. Some major energy users will also have back-up supplies of other fuels as well to improve the flexibility. O

#### **EU prepares for rationing**

On the continent, the threat of a sudden cut in Russian gas – which over the years has risen to meet up to 40% of Europe's demand - have led policy-makers to prepare for rationing in continental Europe.

The European Commission, hoping to forestall a winter crisis, introduced in the spring a plan to ensure storage stocks begin winter at 80% full, rising to 90% for following years. Storage operators must undergo certification to prevent "outside influence" over storage infrastructure. The alternative is to cede ownership or control of EU gas storage facilities.

The European Council also adopted a regulation in August calling for a voluntary 15% reduction in member states' winter gas demand relative to their five-year average. It will enable the Council to trigger a 'Union alert' on security of supply, making the reduction mandatory.

There are some exemptions depending on the particular situations of member states. These include their dependence on gas for electricity and the extent to which their export capacities and domestic LNG infrastructure are redirecting gas to other member states. Member states can also limit their reduction target if they have overshot their storage target or they are heavily dependent on gas as a feedstock for critical industries.

Measures include fuel switching in industry and power generation and market-based measures such as auctioning between companies.

#### The new investments need deep pockets

Oil companies have been cautiously expanding their operations into renewable energy for many years, but the pace has accelerated since the Paris Agreement of COP 2015 and the rise of environmental, social and governance criteria and the related EU taxonomy on finance.

Acquisitions of existing projects or of promising technology offer a quick and lower-risk early way in but this has fuelled inflation, as too much capital has been chasing too few opportunities. Buyers are also contemplating meagre utility rates of return, propped up where possible by advantageous long-term power purchase agreements.

Both these factors may discourage oil companies from moving too fast. It is the strong revenues from oil and gas production and global commodity trade that fund wind, solar and other projects. These have long lead times and payback periods are uncertain. Nevertheless there have been some high-profile plans.

One such is Scotwind, where a number of international oil companies have bid for the rights to build offshore wind generating capacity. The devolved government there is working on its Innovation and Targeted Oil and Gas decarbonisation round. These will be used to electrify oil and gas infrastructure as well as supply power onshore, allowing a reduction in emissions by displacing gas or diesel as fuel something that is routine in typically hydro-rich Norway.

In a consortium with ScottishPower, Shell bid £50mn for an option on two seabed sites for MarramWind (3 GW) and CampionWind (2 GW) wind-farms. These will allow access to deeper waters and will be the largest-scale deployment anywhere in the world.

Shell said the projects would bring new skilled jobs, manufacturing opportunities and boost local supply chains. "Floating wind plays to our strengths in deeper offshore projects, and we are well placed to help advance the wider take-up of this important clean energy source," it said. Fellow UK major BP jointly with Germany's EnBW similarly bid for rights to build the Morven wind farm, which will have 2.9 GW of capacity. BP also announced that Aberdeen would be its global centre of excellence for offshore wind and green hydrogen, and it would invest in harbours, support vessels and other projects that would create up to 120 jobs and generate some £40mn/yr to the economy.

In England, Norwegian Equinor has this year sold down its stake in Dogger Bank A and B, the UK's largest wind farm project. That leaves it and SSE Renewables with 40% apiece and Italian Eni with 20% in the two, 1.2-GW phases. Equinor and SSE remain the sole and equal owners of the 1.2-GW Dogger Bank C, which is on a different timetable. Equinor is to publish its decarbonisation plan this spring.

And in the Humberside region, northeast UK, Shell and the German-Finnish utility Uniper plan to operate up to 720 MW of blue hydrogen capacity. They will use steam to reform the methane and capture and sequester possibly as much as 1.6mn metric tons/yr of CO<sub>2</sub>, in their Humber Hub Blue project.

Announcing the project in early April, they said they hoped to take it to front-end engineering and design by 2023. The agreement follows a memorandum of understanding signed by both companies in 2021 to explore the development of a hydrogen economy in Europe. And another hydrogen plus CCS project, Northern Endurance project is led by BP with partners Shell, TotalEnergies and Equinor.

Eni has announced it is leaving that one, but it is itself involved in the HyNet project, to which it will contribute its depleted Liverpool Bay gas fields as CCS sites. HyNet has been granted access to priority public funding, as part of the UK's decarbonisation plans. The start of activities is expected by 2025, allowing access to a tariff-regulated business model. Eni has 19 provisional industrial suppliers of CO<sub>2</sub> lined up, and the storage capacity is 10mn metric tons/year at full capacity, starting off with 4.5mn mt/ yr. It has also applied for a licence to convert depleted fields in the Hewett licence in the southern North Sea, where production ended in 2020. This too could become a hydrogen production hub.

The East Coast Cluster, owned by Zero Carbon Humber, Net Zero Teesside and Northern Endurance Partnership, was last year selected as one of two CCS clusters to receive initial government support (see *Wireline #52*).

## Asset optimisation: the win-win answer for Proserv

Stuart Harvey and Preston Clarke of Proserv explain how data analytics and innovative technology can bring operators substantial environmental and financial results.





Two Proserv technicians inspecting a monitoring solution for remote onshore and offshore wells.

arly this year, Proserv won its first renewable energy-related subsea cable condition monitoring contract from DEME Offshore, a contractor on the Equinor/SSE-operated Dogger Bank Wind Farm. Proserv will be supplying its trademarked ECG solution, which can holistically monitor the condition and integrity of the export and inter-array cables on an asset.

Going further than traditional cable monitoring systems, ECG not only employs distributed temperature and distributed acoustic sensing but uniquely engages distributed electromechanical sensing allowing it to collate a wide range of relevant information and so, via data analytics modelling, predict the possibility of failure. The concept is rather like echo cardiograms – analysing data and other metrics to gain visibility of the health of the human heart. "It is like a doctor wiring up a patient," Proserv's subsea technology manager, Preston Clarke told OEUK.

"A temperature curve moving a few degrees higher, along with a bit of vibration, could be the first warning sign of a problem developing. We can stop things from deteriorating by harnessing the monitoring and predictive capabilities of ECG over the system," he said.

Engaging the power of data analytics to underpin condition monitoring is a major strategy for the company right across the energy spectrum. This can have direct benefits for carbon footprint and emissions reduction. As boardrooms of companies operating in many sectors are focusing on environmental, social and governance (ESG) strategies, this is highly relevant.

Proserv's digital innovation director Stuart Harvey said that there are three key indicators which, if detected, can prevent damage to the environment as well as enhance company performance. These are discerning poor equipment performance, potential equipment failures or potential human errors in processes. He explained: "If a company has the technical capabilities to deliver these three core elements across their assets, with a consistent disciplined approach, they are on the road to success.

"However, like any technology, its growth and return on investment requires alignment with culture, and digital technology is no exception! I believe that all too often this is forgotten and that getting these factors aligned is arguably one of the biggest challenges the energy industry faces today, if we are serious about delivering on our digital and energy transition ambitions."



"We can stop things from deteriorating by harnessing the monitoring and predictive capabilities of ECG over the system."



#### Putting the 'E' into ESG...

Prosery's objective and philosophy is to deliver a competitive advantage to asset owners and operators through digital solutions, enabling them to outperform their competition.

Stuart cited multiple examples particularly around chemical injection and the management and understanding of dosing. "We have come across cases where chemical injection rates have fluctuated considerably and, in some situations, have steadily increased over a number of years up to significant levels. In such instances, it is typical this information is known by the offshore team. But their focus tends to be short-term and therefore this data is not usually visualised to the onshore reliability team in a way that enables them to easily trend multiple factors which, for example, may impact performance or corrosion.

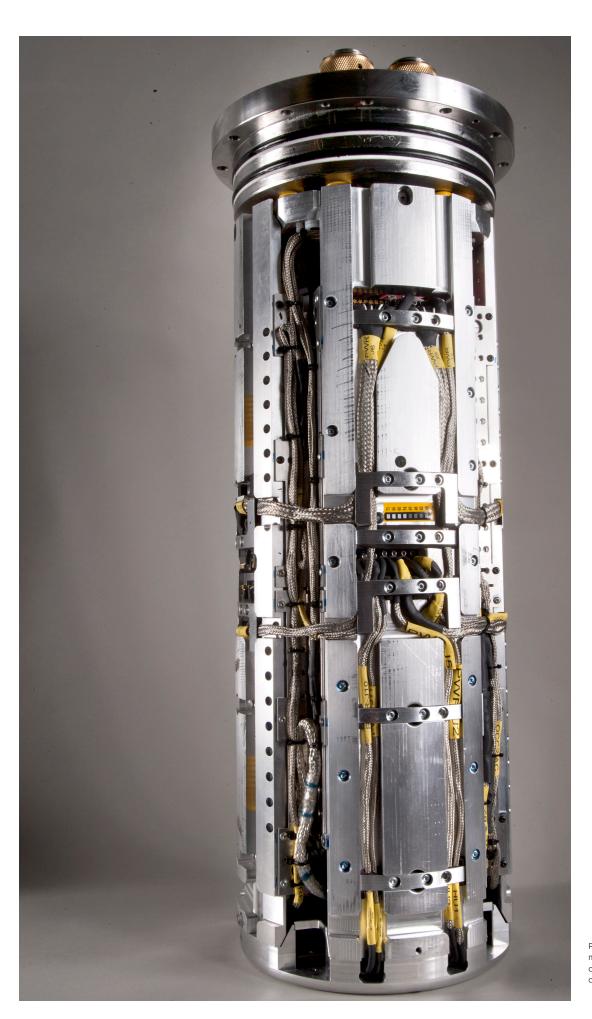
"We're changing that by working collaboratively with clients to reimagine how these feedback loops can not only be analysed but, more importantly, visualised in a way that challenges the status quo of control room alarm and trip design philosophies.

"As well as the financial and local environmental costs, there is also the carbon footprint of getting chemicals to an asset, not to mention the  $CO_2$  footprint of producing the chemical in the first place," he added. "It is through the use of data analytics and new visualisation techniques that we can positively identify and bring these events to light."

#### ...and the 'S'

For Stuart, data-visualisation is a key focus. He suggested that making an interface intuitive to the users is where Proserv is helping onshore reliability and maintenance teams improve their own human performance.

"Having an interface which is intuitive and powerful also helps with bringing teams along on the digital journey. This philosophy, combined with working collaboratively with the users, has become really



Proserv's subsea electronics module, the Artemis 2G, can offer coexistence capabilities.

The interviewees (L-R): Preston Clarke subsea technology manager, Proserv

Stuart Harvey, digital innovation director, Proserv.



"We are demonstrating the value of challenging that status quo, but without the risk. I am confident it is only a matter of time before some of these new techniques will find their way into the control room."

impactful. We deliberately avoid mimics of any visualisations that are already found in the control room and instead focus on more innovative designs and recognition techniques.

"When you take a step back and look at the bigger picture, it is clear to me why this approach is so powerful. Visualisations and human-machine interfaces (HMI) in control rooms struggle to innovate because by their very nature they are closely regulated. Any changes or updates are highly controlled and rightly so. That environment is performing the critical control function of an asset.



"That is why Proserv's strategy is to deliver new innovative analytics and visualisation techniques with agility, outside of this environment. In doing so, we are demonstrating the value of challenging that status quo, but without the risk. I am confident it is only a matter of time before some of these new techniques will find their way into the control room."

Stuart said this approach is also having wider positive impacts for clients, "First, because of the environment our analytics and visualisations are being deployed in, the onshore reliability and maintenance teams have been able to intercept events that would have become alarms or trips in the control room before they occurred. This reduces the workload and stress for the offshore team actually in the control room environment. Second, this approach is fostering a cultural shift by bringing teams closer together and having open conversations around root causes of events and continuous improvement, thanks to the visualisation that is now available."

#### Coexist and thrive

Proserv's evolving digital service offering reflects a growing industry need for better real-time monitoring as operators seek to extend the life of equipment, maximise performance - and optimise assets.

But the team has built its long-standing reputation for technology around its controls capabilities. Here too, via unique innovation, it offers significant capabilities to improve reliability and prolong life.

Over time, operators experience obsolescence problems with subsea controls equipment that was supplied by an original equipment manufacturer (OEM) perhaps only five or ten years earlier. Preston explained: "The electronics become unsupported, or obsolete, as the OEM has moved on to a new version or model. If it is left unattended, this equipment would become more and more unreliable. So, we have developed a methodology to overcome obsolete controls and regenerate them. This ultimately improves both the economic and the environmental gains for its operators.

## "The operator can keep everything running while we upgrade modules as required over time, spreading out costs, avoiding the intensive impacts of the replacement and extending the life of the equipment."

"The solution and approach that we have come up with is known as augmented controls technology (ACT) – which adds our subsea electronics technology to the existing OEM infrastructure. This prolongs the life of an asset and so maximises its potential value. Second, it upgrades the infrastructure by increasing functionality and capability; and third, it enables operators to avoid the cost, and environmental drawbacks, of full system replacements.

"Our communications capabilities can 'coexist' on the same umbilical line as the existing equipment. This avoids replacing everything and keeps the field alive, combining augmented Proserv technology with the legacy infrastructure that is already there."

Proserv takes failing control modules into its facility and completely refurbishes them. Preston stressed that, given the current thinking about waste reduction and streamlined operations expenditure, the team's capabilities in this area are particularly relevant, always seeing "replacement as the last resort".

The ability to be OEM-agnostic also opens up possibilities for customers:

"If an operator has all of its subsea control modules from one particular OEM vendor but wants to add a well or extension, we can offer it a control module that can coexist, or talk, to all of those existing modules. This avoids the problem you can have with competing mobile phone operating platforms, for example, that cannot communicate with each other.

"Alternatively, if subsea control modules installed a decade ago fail and the OEM no longer supports them, it is in that supplier's own interests to recommend replacing the entire system. Proserv's 'coexist' capabilities enable the operator to switch out any unreliable modules and instead deploy our electronics, bypassing the waste of a full system upgrade. This shows the benefits of being OEM-agnostic."

#### **Environmental and economic win-win**

Preston referred to a project in southeast Asia involving subsea modules that were some 20 years old. The operator wanted to tie in a new field, as an

extension. Unlike the other proposals that would have required the operator to tie directly all the way back to the platform – with a new umbilical and additional controls – by engaging its ACT capabilities, Proserv retrieved the old modules, enhanced them with its Artemis 2G subsea electronics modules and lowered them back into place. This meant a tie-in of just a few kilometres to the asset, rather than a new umbilical all the way back to the platform which was 12 km away.

From an ESG perspective, a less intrusive solution offers obvious savings but equally the bottom line is also well protected, creating "a win-win".

In an extreme case, an operator might have to upgrade the entire field, perhaps replacing 30 or 40 subsea modules on its wells if it returns to the OEM for a replacement solution. This would be very expensive, not to mention the environmental consequences of the manufacturing of the new equipment and the footprint of a large campaign offshore, involving support vessels, to replace them.

"With Proserv, the operator can keep everything running while we upgrade modules as required over time, spreading out costs, avoiding the intensive impacts of the replacement and extending the life of the equipment and the asset," said Preston.

"We can also add in new instrumentation when we carry out upgrades and increase bandwidth capability. As a case in point, an operator had an issue with a very small gas leak. We hooked up a camera to monitor the subsea wellhead to detect its source, using our coexistence abilities, as the OEM system did not have enough bandwidth to support the video camera.

"This allowed us to determine whether the leak was actually confined to inside the well, as that meant the operator could continue production. If not, there would have been environmental consequences. The alternative solution would have been to send a vessel to drop a remotely operated vehicle down, which would have been on station with dozens of people on board with all the subsequent time, costs and carbon emissions that would entail." O

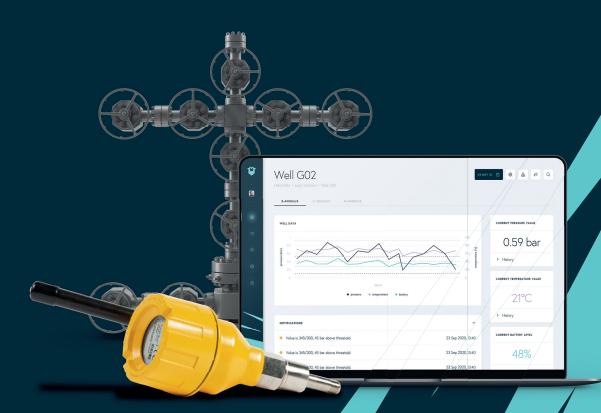


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FIND OUT MORE



## John Lawrie Metals' strategy pays off

John Lawrie Metals is a major contributor in the drive towards a circular economy through its recycling business. Now the high-grade scrap metal aggregator is also the proud holder of ISO 50001, a testimony to its corporate energy-saving initiatives.

cquired earlier this year by major steel company ArcelorMittal (see box), the company is seeing healthy business growth: not only did it continue operating through the pandemic, recycling being one of the essential industries where employees were exempted from lockdown; but its order book is filling up for the year ahead, thanks to decommissioning work.

"2020 was a good year and 2021 started strong as people were returning to normal," the company's head of decommissioning and projects Julian Foley told OEUK. "We have been busy this year too. There is a lot in the pipeline and an increase in decommissioning work being tendered for." The company is not chasing business for jackets or platforms specifically, but it expects to be part of bidding consortiums that are looking for a partner to handle some of the recycling.

Being headquartered in Aberdeen, about a half of the business' work comes directly from the oil and gas operators with a fair proportion of the rest coming from the sector by way of third parties. "If it's from offshore, the chances are, it will end up in our yard for processing," he said.

Among John Lawrie Metals' assets are quayside facilities at Aberdeen Harbour and Montrose Port, and processing yards at Aberdeen, Montrose, Evanton and Lerwick, where waste metals are processed to meet the end recycler's acceptance criteria. When the structures have been delivered to the quayside from offshore, John Lawrie Metals is able to work efficiently to clear the quayside and reduce the vessel turnaround time and thereby potentially reducing overall project costs for their clients.

"We work hard to manage the discharge allowing the vessel in most cases to leave ahead of schedule, saving the vessel downtime and allowing it to get back out to work. It is all about advance planning and preparing alternative options; assessing what requires cutting, what can be removed immediately and what team to assemble. We have a reputation for finishing problematic jobs efficiently and safely. We have been able to clear the quayside in one or two days, as opposed to weeks," he said.

#### Finding the best route to market

At first glance, shipping scrap to Spain on marine gasoil-fuelled ships seems out of keeping for a company that has been awarded ISO 50001 for its overall energy efficiency and emission reduction measures. But a few short journeys to the quayside and efficient use of shipping yields significant environmental savings relative to the cost and safety of road transportation.

He told OEUK that short sea journeys are the most efficient way to transport scrap metal directly to the European smelters. There is no smelting industry in Scotland. Spain, on the other hand, has a range of smelters that use electric arc furnaces powered by renewable energy. And with the first year of trading outside the European Union, he said there have been no hiccups as a scrap exporter to date.

Unfamiliarity with the Scottish metals industry, with the way things are done in continental Europe and with the complexity of the smelting industry all contributed

#### ArcelorMittal sees high-grade scrap supply growth

Arcelor Mittal (AM) bought John Lawrie Metals for an undisclosed sum in late February. AM said it had identified strong potential for growth in the ferrous scrap processing business, with demand growth in Europe facilitated by the European Union's initiatives to achieve higher metal recycling rates, reduce  ${\rm CO_2}$  emissions and underpin the EU's netzero ambitions. The acquisition represents a further step in its strategy to increase the use of scrap steel across its steelmaking sites, it said.

John Lawrie Metals has access to diversified sources of high-quality scrap steel from the UK's oil and gas industry and these are likely to grow significantly over the coming decade as decommissioning work expands: oil and gas infrastructure accounts for about half its material.

Increasing the use of scrap steel in both the electric arc furnace and blast furnace routes of steelmaking, is one of the five key levers of ArcelorMittal's decarbonisation roadmap.



"We have a reputation for finishing problematic jobs efficiently and safely. We have been able to clear the quayside in one or two days, as opposed to weeks."



to the positive gloss on the potential for a local smelting industry, which was published late last year in a report by Scottish government-funded entity Zero Waste Scotland. In a bid to promote a homegrown industry, it concluded that the benefits of smelting at home would be better than exporting scrap. Among the assumptions was the notion that half the smelting abroad would be done in coal-heavy Turkey.

John Lawrie Metals is working closely with Zero Waste Scotland and the Scottish Policy Group of the British Metals Recycling Association to rectify the errors in the report and produce an updated version which correctly reflects the state of the Scottish market.

#### John Lawrie Metals wins ISO 50001

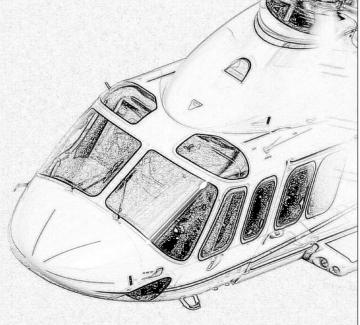
John Lawrie Metals was awarded ISO 50001 this year for its management and reduction of energy consumption. This standard requires full engagement with the workforce including training and the creation of an energy management committee. "Having this standard differentiates us from our peers," Julian said.

"John Lawrie Metals has made a demonstrable commitment to reduce its energy use putting us ahead of the curve: not many companies have 50001 in place despite many already having the safety and environment ISOs. We have added energy management sections to our supplier questionnaires as we invite any company who works for us to consider their own impacts."

The standard requires the company to benchmark its future emissions against today's as part of its continuous measuring of progress. O

"We have added energy management sections to our supplier questionnaires as we invite any company who works for us to consider their own impacts."

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## OEUK interview: Professor John Underhill

The University of Aberdeen appointed leading geoscientist John Underhill to head its new inter-disciplinary Centre for Energy Transition (CET) from March 1.

OEUK caught up with him to gauge his views on the evolving role of the Centre, the next steps on the transition journey and oil workers' reclamation of hero status.

ohn Underhill is clear that the Centre for Energy Transition that he chairs will have an important influence on the transition agenda. "There's a critical need to address climate change by reducing greenhouse gas emissions, but that needs to be balanced by an appreciation of our present energy needs," he says.

"The tension between those two aims is one of the key global challenges of our time. I believe the centre has a huge part to play in addressing the fundamental question: how do we decarbonise, but at the same time retain and even improve the quality of life we've all enjoyed for decades?"

The CET is the university's focal point for energy-related research and education, facilitating internal collaboration between numerous disciplines and leading external engagement with industry and academic partners. It is also responsible for delivering the university's energy-related education and skills programmes in pursuit of decarbonisation goals.

"It's a tremendous opportunity to help lead academic research and training as we pivot towards and upskill for the transition," he adds.

"Given the importance of the role that Aberdeen has played in energy, the city's ambition to be at the forefront of the transition and the academic talent and experience here, I think there's an appetite, relevance and synergy across the university, city and wider industry – and it's very exciting to be part of that."

He believes that delivering on the goals of the CET and partner organisations will ease the anxieties of industry workers contemplating what the transition means for them. In fact, he believes it is a welcome opportunity for the oil and gas industry to be an integral part of the conversation and have the chance to counter reputational issues.

"Oil and gas people were effectively treated as heroes 50 years ago when they first went offshore, into a dangerous North Sea environment, to help get us out of the energy crisis and the wider economic stress of the time," says John, referring to the oil crisis Britain faced in the 1970s.

#### Energy transition as a pivot for the oil industry

"We've largely forgotten or taken that commitment for granted over the decades and, moreover, the industry is now painted in some quarters as the villain of the piece – from hero to zero, if you like. What the energy transition offers is an opportunity for those associated with the industry to earn a wider appreciation again. Society is increasingly aware that our energy needs, the security of its supply, and many of the transition solutions lie with those same people and that same industry."

"Oil and gas people were effectively treated as heroes 50 years ago when they first went offshore, into a dangerous North Sea environment, to help get us out of the energy crisis"

#### John Underhill CV

John Underhill previously held professorial posts at the University of Edinburgh and Heriot Watt University, where he was Chief Scientist. The recipient of numerous awards in the fields of geoscience and geology, John was also a member of the UK Energy Minister's Technology Leadership Board and serves on the UK Exploration Task Force, the Scottish Government's Science Advisory Council and its Just Transition Strategic Leadership Team.

The principles of collaboration that underpin the CET's work are also evident in John's leading role in the UK Centre for Doctoral Training (CDT). The oil and gas focused partnership involved 17 universities as well as eight companies who supported a 20-week training programme that ran alongside the centre's PhD research. All 125 of its PhD students went on into specialist industry roles and the CDT's work was ultimately valued at £14mn from an initial £3mn funding award.

It was succeeded by the current GeoNetZero CDT, a £5mn university-industry collaboration exploring the role of geoscience in the energy transition addressing the challenge to meet net zero targets. John is the Executive Director of the programme, that will ultimately support 48 PhD students and is the only academic entity identified in the North Sea Transition Deal.

"Without those data we would be guessing about the subsurface, but instead we've an unparalleled opportunity to characterise the basin and repurpose it"

John's background is in geoscience - he describes himself as a geophysically-minded geologist - and he believes the data acquired by companies within his discipline - and across others - over the last 50 years will be key to future success.

"It's an incredibly invaluable asset for the transition and that archive - be it seismic data, well-log data, core data or whatever - is fundamental in terms of what we seek to do with the North Sea and other parts of the UK's Continental Shelf, for example West of Shetland.

"Without those data we would be guessing about the subsurface, but instead we've an unparalleled opportunity to characterise the basin and repurpose it for a quite different future: for windfarm developments, carbon storage, gas storage, hydrothermal developments and more.

"The same applies to the physical infrastructure: do we need to go into the scrap metal business and decommission pipelines and other assets, or can they be reused for other purposes? It all represents a worldleading rejuvenation opportunity."

It is part of the CET's mission to capitalise on that archive and - in tandem with scientific outputs from academic research - provide a data-led, evidence-based approach to support informed decision-making about the North Sea's future.

#### Interdisciplinary skills

The linchpin of that research work is its inter-disciplinary nature, as it brings together talent and expertise - much of it already focused on transition topics - from multiple areas. "Part of my role is to harness all areas of relevant work and link them across disciplines such that the whole is greater than the sum of the parts," adds John.

The CET brings together experts in everything from geoscience and engineering to social science and law including energy, environmental and natural resources law - to deliver fully rounded, technically sound, critical evaluations. "They can focus their attention together on a key challenge, rather than remaining in siloes where



they'll undoubtedly do great work but can't look across the piece at the dependencies and possible unintended consequences," explains John.

"Any technical case for a development also has to build in non-technical risks in terms of, for example, its regulatory or social licence implications. I'm a geoscientist by background and that discipline has an important role to play - but it is only a part of the picture, and we need to bring all areas and disciplines, ranging from engineering to law and from nature-based climate solutions to social science, together to ensure there's a safe transition.

"Critically, it also helps to ensure things move at the appropriate pace rather than going too far, too fast. That scenario could produce exemplars of market failure where people lose confidence in the industry and those who are championing the transition. We've got to get technologies like carbon storage right, and the interdisciplinary approach is key to picking the right sites for the right reasons."

The principles of collaboration extend beyond the university campus and John is especially keen to overcome any barriers that hinder research links with other higher education institutions. He said: "There's inevitably a degree of competitiveness among universities, but I think it's important to be humble, break down barriers and reach out to others with specialist expertise.

"If we're to move forward in taking on those challenges we need to be collaborative and work as partners across Scotland and the wider UK."

#### **Recruiting younger talent**

John hopes the CET's status as a hub for education and training, alongside its research remit, will enthuse a new generation of discipline specialists ready to contribute to the transition.

"It's about outreach, certainly, but it's also about

interpreting our research to inform our teaching programmes and make our modules and programmes attractive to young people to the extent they want to make a difference," he says.

"We have to articulate the positives about the industry to young people and show it's an exciting world to be in. There's work to do, because people generally associate some of the disciplines with the extractive industries. What we must do is move the message and show that many of the tools and techniques associated with those disciplines are part of the net zero carbon solution.

"We're still in the early days of the transition journey, and there are understandable tensions as evidenced by controversy over new offshore developments. Some would wish oil and gas activities to end tomorrow, but given our dependence on fossil fuels and a need for secure gas supplies that would have seriously adverse consequences for energy supply.

"It's evident from global events that we're arguably too dependent on imported gas, and there's a strong case emerging for us to continue producing gas locally during the transition as a cheap and reliable source with a lower carbon footprint than imports," he says.

John points out that bodies such as the independent Climate Change Committee and International Energy Agency predict there'll still be a need for oil and gas in 2050 - albeit once the net zero destination has been reached - and the world today still depends on oil, gas and coal for around 80% of its energy needs.

"We obviously still have some way to go," he says. "So while everyone agrees there's an urgency to address climate change, the complexity of our current situation means we have to manage the pace of change carefully." O

#### **Chaplaincy: keeping watch** on the human element

Rev. Gordon Craig, who joined the RAF in 1988, was appointed the Oil & Gas UK chaplain in 2012. He talks to OEUK about his work, a few days after the annual Act of Remembrance for an offshore tragedy.

he Church of Scotland established the chaplaincy in 1986, a unique institution for an industrial sector. The present incumbent, Gordon Craig, told OEUK the Church thought it would be a good idea to bring chaplaincy into the industry. Negotiations between the Church and industry had been hastened by the Piper Alpha disaster in 1988 and that year, the arrangement was formalised," he said.

The Church wanted to support individuals providing society's energy needs, working in lonely and often hazardous places and to put in place a process for friends and families to meet and mourn the deaths of loved ones working in the industry. Although set up by the Church, chaplaincy is non-denominational and supports those of any or no faith.

chaplaincy is unique to the offshore industry: other chaplaincies, such as those in prisons or hospitals, are funded by the state. Gordon's employer, however, is the Church of Scotland and he is responsible to a Board of Trustees, for the delivery of chaplaincy. Gordon and Lynne de Boer, the chaplaincy administrator, are based in Shell's Aberdeen offices.

The Kirk of St Nicholas Uniting, and in particular the St Johns part of the kirk, dedicated in 1990 and known as the Oil Chapel, are used for the industry's services. Aberdeen City Council owns the land and the part of the building containing the Oil Chapel.

#### Home and away

There are several strands to the chaplaincy's duties. Onshore, it distributes monies from the chaplaincy Trust Fund, most of which goes to the families of those whose lives have been blighted by long-term illness. This can be used to convert houses for newly disabled residents, for example.

Other recipients, the small minority, include the families of accident victims. And financial hardship is expected to become a growing problem with the rise of zero-hour contracts.

Visits to platforms are a big part of his job: he said that he had about 19 trips to make by November, entailing 62 days offshore. Offshore visits are by company invitation and are an opportunity to discuss the chaplaincy Trust Fund, as well as to offer any counselling that the crew might want. The workers might not need either, themselves; but they might know someone who would benefit from it.

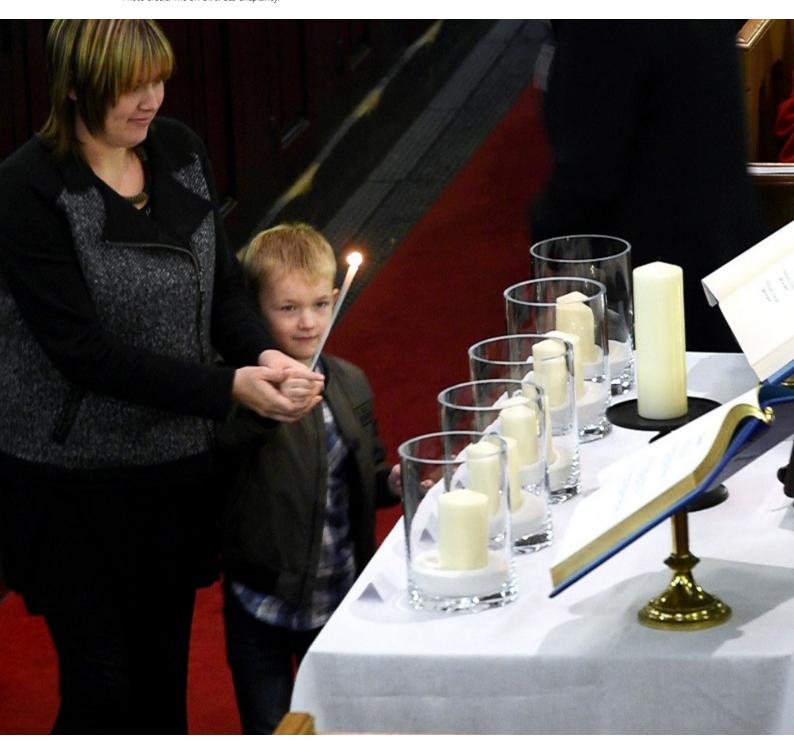
Offshore workers are all at different stages of their working life - and so are the assets they work on. Some of them are just four or five years away from retirement and their pension; others are relatively young but working on a platform that is near cessation of production. They might be wondering where the next job will be, as the overall rig count falls with the rise of decommissioning.

However, there are still platforms with plenty of life left in them. And while the workers are aware of the need to reduce the carbon emissions, they know that oil and gas production will not stop overnight, whatever the social pressure to do so.

The level of morale also varies across the industry. Generally speaking, it is probably higher than outsiders expect, he says, and is independent of the physical surroundings. "Morale on older installations with poorer facilities can still be good because in the end it is the people, the characters, onboard any installation that make a difference," he says.

Sometimes, after an incident, the operator might ask Gordon to make a special trip to support the team. Crew members do not usually confide in their colleagues about their emotions, and so his listening and counselling skills are very important. "It is hard to get people talking in a typical macho environment," he says, and depression and mental health problems benefit from early detection.

Listening to and absorbing other people's problems brings stresses of its own too. "That is something I have had to live with since 1988," he says. "I have to have supervision. I have to have someone to talk to."



"It is hard to get people talking in a typical macho environment."

#### **Acts of Remembrance**

Another element is an Act of Remembrance, in cases where the families of the victims wish it. Offshore deaths have to be notified to the police's Energy Industry Liaison Unit, and they will contact Gordon in each case. He will often be flown out to the rig for the Act of Remembrance. "This is vital. Most deaths are onshore. But by definition, any offshore death is unexpected; and it goes through the crew like a tsunami. There is a human need to try to help and I



go and gather stories about the deceased," he said.

Helicopter crashes are mercifully rare; but deaths, such as heart attacks, will always happen. These are mainly onshore.

But losing a colleague offshore can raise a raft of psychological issues, even if the deceased is not a close friend. And for the family onshore, the sense of loss is compounded by the impossibility of being close to where their loved one died.

The chaplaincy will conduct a service at the site that will include the scattering of flowers in the sea; photos of the service will be taken; and all the notes of remembrance will be collected. The family will then have a visual memorial of the occasion; they will know that the death was duly marked near the site of the death; and that, others have also shared in

As a consequence, families are always grateful to the crew for the services, he says: "It means a great deal to them." Before Gordon conducts an Act of Remembrance, he will relay the family's gratitude to the crew and this in turn helps the crew feel they have done something positive for their lost colleague.

The chaplaincy maintains a Book of Remembrance which records the names of any who die while working offshore. This book is updated every year in time for an Annual Service of Remembrance held

"Morale on older installations with poorer facilities can still be good because in the end it is the people, the characters, onboard any installation that make a difference."



in Aberdeen in early November. The families of those whose names have been added are invited to the service and to light a candle in memory of their loved one.

The importance to the family of being physically close together cannot be overstated. There were several years when the Annual Service had to be conducted remotely owing to the pandemic. "It does bring communities together," he said. "The families find services of this sort a big part of the grieving process: it reminds them that their bereavement matters and they have not been forgotten and they meet other families too. A fixed part of the service is a minute's silence, something that we rarely allow ourselves these days."

As for himself, after ten years in the role, Gordon is now thinking about this own future. It is a job that by its nature brings more than the usual amount of stresses and strains. "I always want to leave an organisation better than I found it," he says, and the chaplaincy was well established by the time he joined: "I wasn't just parachuted in." But he took the organisation further along the development path than he found it; and he hopes that his successor will do the same. O



#### **Chaplaincy Online**

For more information on the Chaplaincy Trust Fund please see

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s the Norwegian company Aker Solutions expands, it has put in place a layer of thinking that encourages greater openness of communication.

It considers four different and complementary Attitudes that its teams should strive to embody, as it embarks on a major recruitment campaign.

Safeguarders, Changemakers, Solutioneers and Cocreators all have a part to play in this new corporate ethos that seeks to empower staff and build a culture conducive to openness and collaboration and based on trust. The company has been rolling this out across its operations globally since the start of the year.

Having just emerged from a difficult period of heavy cost pressures, downsizing and uncertainty, like others in the sector, the company completed its merger with Kvaerner. It was experiencing fatigue and felt that its confidence needed to be restored. And so the company decided to renew its focus on re-establishing the basis for growth.

Aker Solutions' Executive Vice President for People and Organisation Kjetil Kristiansen told OEUK: "When we finished the merger we spent the first six months on a systematic dialogue around our strategy and culture with our offices around the world, starting in Brazil and US, working our way round to Norway and UK, and finishing in India and the Far East. We asked what we needed to do and we brought together our people to ensure learnings were shared. The management wanted to engage with the staff at the sharp end, putting an emphasis on open conversations to build trust and empowerment, ensuring teams felt secure enough to speak up.

"We should always consider our behaviours and ask if we're role modelling the kind of culture we want? We want to avoid the problem of saying one thing and doing another."

#### **Time for Renewal**

"We'd had the same values for 20 years and they worked. But we felt it was time to renew them. The previous values were quite human - people were always high on the agenda - but this was easier said than done in the tough times. Our four new Attitudes, are more action driven and relatable.

"As people, we all have different backgrounds and as we explore new approaches, we have to be good at asking questions, at being humble, and at admitting what we do not know. When we look at any team now, we ask: are we covered along all these four Attitudes? For example, we need Safeguarders but also Changemakers to challenge them. So, we ask people, "Tell us which Attitudes you embody, which ones do you relate to?"

Safeguarding, especially in health, safety and environment (HSE) is important because improving performance needs new ideas.

"We want to make people feel safe to speak up, to bring forward ideas and to identify where we need to learn. We do not claim the Attitudes are the 'be all and end all' - but they are another tool we can use to foster the psychological safety needed to empower teams to speak up. And when we hire people, we will make these Attitudes part of the process.

"We are hiring extensively this year, expanding our workforce by 2,000 globally. The old regime used to ask about an individual's alignment with the company values, but Attitudes is about a team, its gaps and strengths, as a collective. This is quite a shift of emphasis. If you have that anchored in the group it gives more precision, a better understanding of each other as individuals so we can work effectively together.

"Discussing the Attitudes has been very important from the HSE point of view, especially in terms of psychological safety. If people think they will be listened to by senior management, it brings out ideas. This helps our HSE culture to be more forward looking, ensuring every voice is listened to and respected. This is essential to psychological safety because if individuals don't feel secure enough to speak up, or stop a job, then all hazards might not be identified.

#### **Psychological safety-belt**

"Creating this psychological safety is the responsibility of everyone. We should always consider our behaviours and ask if we're role modelling the kind of culture we want? We want to avoid the problem of saying one thing and doing another. Co-creation, collaborating, building trust - that is a different style of working. It is not hierarchical.

"We need to be respectful of any strong regional differences and how they can affect the Attitudes. We addressed this by setting expectations and giving leadership of the meeting to the employees. This created a more open environment and saw much more engagement.

"The Attitudes make it easier to have discussions about which behaviours are the right ones. It gives our

Kjetil Kristiansen , Aker Solutions EVP People and Organisation.



"Going back to recruitment, it helps us to ensure we are recruiting people who can help us diversify our Attitudes mix – ensuring we attract the right people for our growth."

teams a tool to focus conversations around, something tangible to support constructive feedback and enable open safety conversations to take place. This creates a psychologically safe environment where diversity of thought can thrive.

"Going back to recruitment, it helps us to ensure we are recruiting people who can help us diversify our Attitudes mix – ensuring we attract the right people for our growth.

"Currently, we're focused on doing our part to deliver a sustainable energy transition. So, prioritising the development of low carbon oil and gas solutions and supporting the growth of renewables such as carbon capture and storage, offshore wind, and hydrogen.

"We see this as a process: we are moving away from fossil fuels gradually. Embracing diversity of backgrounds, cultures and skills will be key, but just as important is building an inclusive environment where everyone feels confident contributing. This is the essence of psychological safety and as our organisation grows, the Attitudes will help us to collectively navigate our organisational evolution." O

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