05
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areg news

Aberdeen Renewable Energy Group

INSIDE


Digital Twin illustration courtesy of 4Subsea

AREG members in a new era for renewables

According to figures published in the Department for Business, Energy and Industrial Strategy's quarterly Energy Trends report, renewable energy generated 37% of the UK's electricity demand in 2019. A record 20% of this power was provided by wind. At a global level, renewable energy is now providing more than a third of the world's power.

The energy mix is changing and with renewable energy becoming a more prevalent energy source worldwide, we will discuss how three AREG members are playing their part in this new era for renewables. 4Subsea, Balmoral and Renewable Risk Advisers were all speakers at a recent AREG Members' Showcase event earlier this year.

DIGITAL TWINS IN FLOATING WIND:

4Subsea is a leading provider of technology and services that help energy operators maintain production from subsea oil and gas fields and offshore wind farms. Within offshore wind, 4Subsea specialises in coupled analysis including aerodynamics and hydrodynamic modelling of the turbine controller and modelling of soil interaction with the substructure.

In April, the company's retrofit, autonomous sensors started streaming motion and load data from the floating wind turbine Zephyros (previously called Hywind Demo) off the west coast of Norway.

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AREG evolving for the future in partnership with members

By **Jean Morrison,** Chair of AREG

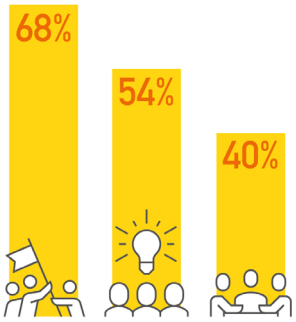
Thank you to members who took part in the recent AREG survey. We had a fantastic response through both the online and phone research which is now helping to shape our plans.

I wanted to take the opportunity to share some of the findings with you and the direction of travel the AREG board is taking in response. We are meeting regularly to ensure action can be implemented quickly.

We will update with more detail about initiatives in the coming weeks and months, but felt it was important to give you feedback as quickly as possible. Whilst it is a challenging time for all energy businesses in the face of COVID-19, AREG is here to support you.

INVOLVEMENT IN AREG

We were incredibly pleased to see that so many of you want to be more involved in AREG with over three quarters willing to support AREG in some way. 68% said they would provide time to support AREG activities, 54% were interested in contributing to the development of policy and strategy and 40% indicated an interest in joining the AREG board. AREG's board is considering the best way to involve more members directly and this is likely to include the creation of new forums and extending industry board seats. We will consult with you on these changes.



Our members want to get involved

- 68% said they would provide time to support AREG activities
- 54% were interested in contributing to the development of policy and strategy
- 40% indicated an interest in joining the AREG board

> "Whilst it is a challenging time for all energy businesses in the face of COVID-19, AREG is here to support you."

THE BIGGEST BARRIERS MEMBERS REPORTED FACING WERE:

- Information on projects in development (58%)
- Access to buyers (49%)
- Skills (34%)
- Government policy/regulation (28%)

AREG will increase the future events programme (introducing webinars in the short-term) to continue bringing you access to industry insights, with events targeted around the specific barriers members face. We will also increase the flow of information on projects to give you earlier notice of developments. AREG will continue to respond to governments on policy consultations and give you notice when your voice can make a difference.

AREG VALUE

It was great to hear that so many of you are getting value from the weekly AREG bulletins, newsflashes and newsletters. A close second for satisfaction was the member directory followed by networking, the website and member meetings. This was then followed by briefings and introductions. These are all areas that AREG is looking to develop as we want to ensure we are not only sharing information and influencing, but also robustly representing your views and encouraging collaboration. Please get in touch with any further suggestions of what you would like to see happen. Find out more about becoming an AREG member here: https://www.aberdeenrenewables.com/members/#myaccount

Biggest barriers that our members face

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New addition to the AREG team

AREG is delighted to welcome Beverley Stainton as your new membership officer. An invaluable asset to our members, she is here to support you so please do not hesitate to contact her with any queries or issues you may have.

Beverley recently moved from Canada where she spent the last eight years as operations manager at the British Columbia Climate Action Secretariat. Originally from South Africa, she is looking forward to working with so many inspiring people and to engaging with existing and new members in the future.

Beverley can be contacted on BStainton@aberdeencity.gov.uk.

AREG Board

Philip Bell, AREG director

Philip became the Scottish Conservative councillor for the Lower Deeside ward in Aberdeen City in May 2017. He has worked in the oil and gas sector for 35 years at some of the North Sea's major operators including BP, Chevron, Shell and Maersk; engineering firms Amec and Wood; and consultancies Core Oil & Gas Ltd and Genesis. Philip runs his own consultancy, PABE Ltd.

Richard Sweetnam, AREG director

Richard has over 20 years' experience working in economic development across the UK in the private and public sector. He has been working in Aberdeen since 2015 and plays a pivotal part of the City Council's senior management team, with a remit including developing the Aberdeen city economy.

Gordon McIntosh, AREG director

Gordon was Aberdeen City Council's director of economic development for more than 20 years. He held many other senior positions at the City Council including overseeing the enterprise, planning and infrastructure department. He is currently deputy minister of natural resources for Newfoundland and Labrador in Canada.

Morag McCorkindale, team leader international trade and investment, Aberdeen City Council

Morag established AREG in 2003 through her work with Aberdeen City Council's economic development service. She was also key to securing a EURO €40 million grant for the EOWDC. Prior to joining the council, Morag was a business advisor with Aberdeen Enterprise Trust where she supported more than 1,500 entrepreneurs and assisted 102 businesses to start up.

Jean Morrison, chair of AREG

Jean was a Labour Councillor on Aberdeen City Council for five years before stepping down in 2017.

For the past 32 years, Jean has managed and developed SCARF, a registered charity tackling fuel poverty and promoting energy efficiency in the north-east of Scotland. She was awarded an MBE for her services to energy

Hydrogen in Aberdeen

By Philip Bell, AREG Director

Aberdeen City Council (ACC) embarked on its hydrogen journey in 2014 when it entered into a venture with eight partners which included the Scottish Government, Transport Scotland, the British Oxygen Corporation (BOC), the hydrogen bus manufacturer Van Hool and the European hydrogen fuel cell joint undertaking (FCH-JU).

The deliverable from that project was the Kittybrewster refuelling station producing green hydrogen from an electrolyser built and operated by BOC, together with ten hydrogen fuelled single deck buses.

The station was designed for fast refuelling and initially supplied hydrogen at -40°C and 350 bar (5,000psi) pressure. The Kittybrewster station was upgraded in early 2019 to supply hydrogen at 350 bar and also 700 bar (10,100psi). In January 2020, after five years and 1.1million passenger miles, the most successful first-generation bus fleet in Europe was retired. ACC plan to take delivery of second-generation UK manufactured double deck buses, a world first, later this year.

ACC's second hydrogen station called Aberdeen City Hydrogen Energy Storage (ACHES), capable of refuelling at 350 bar and 700 bar, was built in Altens in 2018. 350 bar is used for buses and heavy goods vehicles (HGVs) whilst cars and vans utilise hydrogen at 700 bar. Each Van Hool bus is refuelled in 13 minutes and requires 22kg of hydrogen for a full day's work. Each car requires 4kg of hydrogen for a range of about 300 miles and is refuelled in 4 to 5 minutes. Both refuelling stations are available to the public and are currently the only stations in Scotland supplying hydrogen at 350 bar and 700 bar. Aberdeen currently has 65 vehicles which are operated by ACC, the fire service, Grampian Health Board and the Co-Wheels Car Club. The range of vehicles includes cars, vans, a road-sweeper and soon there will also be a refuse lorry.

Hydrogen assisted cargo bicycles should appear toward the end of 2020.

The Aberdeen-located TECA conference centre and hotels are powered and heated by the largest hydrogen fuel cell in Europe. Aberdeen's current hydrogen ambition is to build a hub producing 1.5 tonnes a day of green hydrogen for the same fuel cost as petrol and diesel. A recent study demonstrated that there would be future demand for 145 buses, 700 cars and 70 HGVs consuming 3.5 tonnes of hydrogen per day in Aberdeen by 2030.

Connecting to global markets

By Morag McCorkindale, Team Leader, International Trade and Investment at Aberdeen City Council

As we are all too aware, in the current situation we need to work together to tackle challenges, identify solutions and co-operate for mutual benefit where we can. Our energy sector, and AREG in particular, has been doing this for a long time and we need to continue to do so.

To create the future we need, we will need to work closely with the global markets and projects that we have been exploring. AREG was an active partner in the first phase of the Europe Leading Blue Energy (ELBE) project. This seeks to position Europe as the world technological and industrial leader in the blue energy technologies - deepwater fixed and floating offshore and wave and tidal.

Over the last two years, AREG has worked closely with a consortium of organisations, which included Flanders' Maritime Cluster (Belgium), Offshoreväst (Sweden) Offshoreenergy.dk (Denmark), under the co-ordination of the Basque Energy Cluster in Spain. Phase one created new relationships between the clusters and identified business opportunities for AREG members in the emerging global offshore wind, wave and tidal markets - worth a potential €653bn between 2010 and 2050 (source: Ocean Energy Forum).

The overall purpose of ELBE is to define a joint cluster internationalisation strategy to be launched in the second phase and I'm pleased to say we have signed a partnership agreement for phase two of ELBE and that AREG will again be at the forefront of the project . The project will be strengthened by new partner Pole Mer Mediterranee (France) and associate GCE Node (Norway).

The overall purpose of ELBE is to define a joint internationalisation strategy to be launched in the second phase and I'm pleased to say we have signed a partnership agreement for this and that AREG will again be at the forefront of the project . ELBE will be strengthened by new partner Pole Mer Mediterranee (France) and associate GCE Node (Norway).

We expect that the ELBE project will begin in earnest in September this year and I think this is timely for reaching out again to international markets. We will be working on developing plans between now and then so keep an eye on communication about this.

> "To create the future we need, we will need to work closely with the global markets and projects that we have been exploring"

If you would like to register an interest in active participation in this project, please contact Catherine Caird at **Ccaird@aberdeencity.gov.uk**

Plans for Aberdeen's Net Zero Vision agreed

By Councillor Jenny Laing, Aberdeen City Council Co-Leader

We are proud to say that a plan has been approved to position Aberdeen as a climate positive city. By leveraging our unique assets and capabilities, we will help lead the world on the rapid shift to a net zero future and support the global energy transition.

The plan positions Aberdeen as having to respond, as a city and place, to the environmental imperative and also considers its role as a world leader in the energy sector as an economic driver for the city, region, Scotland and the UK. Green recovery will be a big part of how the Aberdeen economy responds to COVID-19.

The city is a world-leader in energy technologies providing a major economic stream locally and nationally while already embracing the global energy transition. We have an enviable track record of leading on deploying climate friendly actions including the EOWDC and H2 Aberdeen, and now in working collectively on leading the transition to net zero activities.

This provides an opportunity for the city to become an exemplar in the energy transition towards net zero and lead the way in how to change in a dynamic and thoughtful way. It also aligns to the objectives of World Energy Cities Partnership and its work around climate change.

With the effects of COVID-19 and a fall in oil price, the city's recovery phase will not be like previous downturns and makes the case for Aberdeen's role in the energy transition even more compelling to the UK Government and the Scottish Government.

The council's report has five co-dependent strategic objectives that will support the economic imperative to transition to a different energy future beyond oil and gas - leading the global transition, accelerating transition demand, be a resilient, productive and dynamic place, be climate positive exemplar, and putting people first.

To achieve this journey to net zero, actions in the 2020s and 2030s are needed and may represent a step-change in ambition for Scotland requiring urgent action towards meeting the ambitions, and every sector of the economy must contribute fully.

> "To achieve this journey to net zero, actions in the 2020s and 2030s are needed and may represent a step-change in ambition for Scotland"

We look forward to the future and working with public and private sector partner organisations and companies to achieve net zero together.

Aberdeen at a Crossroads...again

By Gordon McIntosh, AREG Director

In 1997, as the director of economic development for Aberdeen, I was asked to speak at a conference in London and announced that it was the city's intention to grasp the opportunities that the nascent renewable energy industry could provide to diversify our world-class oil and gas supply chain.

I stated that we were intending to move on from being an oil and gas capital to seek to be a world energy capital. The following week, I was lambasted by local and national oil and gas industry leaders for daring to suggest such a thing.

It took another four years for AREG to be born with the All-Energy Conference soon to follow. It is fair to say that from the beginning, the principal focus for AREG was to develop and support an integrated oil and gas and renewable energy supply chain.

The message from Aberdeen and AREG has been consistent over the past twenty years. We support an energy industry in an energy city that is a shop window globally for a supply chain that reaches every part of the UK and beyond.

Fast forward to today, and it is pleasing to see industry leaders (some who were critical 20 years ago) embracing the opportunities being offered through the energy transition at a time of unparalleled global challenges. The oil and gas companies of today are vying to be the energy companies of tomorrow.

> "We support an energy industry in an energy city that is a shop window globally for a supply chain that reaches every part of the UK and beyond"

AREG has worked closely with the city council on major projects such as the European Offshore Wind Deployment Centre, the Hydrogen Bus Project and the Renewable Energy Centre at TECA amongst others. An effective hydrogen infrastructure has been established for the city but now it is time for others to step up to the mark and invest in the next steps in the energy transition in the north east.

The next phase must move away from demonstration and education to mainstreaming the shift in areas such as the phasing out of gas in new housing and the move to electric and fuel cell vehicles of all types.

In the recent survey, our members clearly indicated their enthusiasm to be at the heart of the transition. The AREG board is now considering how best to position the organisation to work with partners for the next 20 years but we know that whatever road we choose, we must seriously embrace the transition that is now upon us.

Power to the platforms

By David Clark, group energy director at Lloyd's Register

With a race to net zero emissions by 2050, all sectors of the UK economy must play their part in the energy transition. The electrification of platforms is one way in which the oil and gas industry can make a positive start, says David Clark, group energy director at Lloyd's Register.

The scale of the challenge in decarbonising our economy cannot be underestimated. Every aspect of our lives is under the microscope, and every industry will be involved. Oil and gas will remain an important part of our energy mix for the foreseeable future – the "Net Zero" report by the Committee on Climate Change recognises our demand for gas will continue, with a projected decline of just 32% by 2050.

It is therefore timely that the Oil and Gas Authority (OGA) has recently published Phase One of its UKCS Energy Integration report which examines the technical feasibility of a range of low carbon build-out options – with the goal of reducing CO2 emissions in the sector. The report, led by the OGA, working with the Department for Business, Energy and Industrial Strategy, The Crown Estate and Ofgem, and completed by Lloyd's Register, identifies actions the industry can take for a more integrated offshore energy sector.

AN EARLY WIN

Platform electrification offers the opportunity for the most straightforward early win. Today, the power demand for UKCS platforms is around 24TWh per year – which accounts for about 2% of UK power demand and over 10% of total power plant emissions.

There is the potential to capitalise on the synergies within the UK's offshore wind sector, with the sharing of infrastructure and knowledge. We predict a significant build of wind farms in the Southern North Sea, with further leasing rounds guaranteed to drive activity northwards into deeper water and proximity with oil and gas infrastructure.

POWER TO THE PLATFORMS

The report's CAPEX analysis suggests that the most attractive investment opportunities will be connecting platforms direct to shore, linking to offshore wind farms and tying into interconnectors. Retrofitting these solutions to existing platforms will be costly, and the report suggests the case will be strongest for new fields such as West of Shetland where production will continue for decades.

We can take encouragement from current progress, such as Equinor's Johan Sverdrup field in the Central North Sea which is powered predominately by hydroelectric power from shore. This cuts emissions to 0.67kg per barrel, meaning that the field will reduce CO2 emissions by 20,000 tonnes annually. If this initiative can be replicated in the UKCS, the impact will be significant.

ENSURING THE WORKFORCE IS SKILLED FOR THE FUTURE

This transition to an integrated energy future requires a skilled workforce, the ability to attract new talent and the development of expertise across the value chain of all energy sectors.

The foundation of our team at Lloyd's Register is engineering excellence, married with data, analytics and the effective utilisation of technology. As well as recruiting experts in low carbon, we are developing our people who have a background in oil and gas. Many now have applied their experience across the energy mix. Electrification of our oil and gas platforms is one positive step we can take towards a greener future.

Preparing your patent portfolio for a transition to renewable power

By Tomas Karger, associate at Marks & Clerk LLP

In Scotland, the wind, solar and tidal energy sectors are playing an increasingly important role in the renewable energy revolution.

Firms, such as Equinor, Shell, Total and BP, are getting involved in this revolution by increasing their market presence in renewables. Oil and gas suppliers and service providers are following suit, with further commercial offerings in renewable power.

During this transition period, it is important that intellectual property (IP) portfolios are prepared for this market expansion. Ensuring that intellectual property assets are fit for purpose and do not become vulnerable to exploitation is essential for market growth. This is particularly relevant for patent portfolios.

The scope of protection that you are afforded by a patent is defined by the wording of the patent claims. Now is the time to check if the patents that you have originally filed for the oil and gas market will protect any new commercial activity you undertake in renewables.

For example, a patent filed for a clamp device designed "for securing buoyancy elements to underwater flowlines" might relate to flowlines for offshore oil and gas structures, or perhaps powerlines from offshore wind turbines.

But would this patent cover a clamp device suitable for attachment to a submerged power structure? The key is in the patent claim wording which defines the invention as "a clamp device suitable for attachment to a riser".

A competing product may only infringe this claim if it has all the elements recited in the claim of this patent. If a competing product was designed for use on a submerged power structure, it could therefore be argued that there is no infringement of the patent.

There are a number of similar examples in this technology space. A European patent for an "adjustable buoyancy clamp for hose" includes patent claims that state "a buoy device for a marine hose or the like...". This raises the interesting question of whether this patent would capture use in a power line in the renewables sector. Another patent for "a float integrating a measuring device" mentions "floats useable at great depth, in particular for adjusting the buoyancy of submarine equipment, in particular underwater equipment oil facilities". However, this patent appears to cover use in other markets, as claim 1 in the patent defines the invention as a "float comprising a float body...", suggesting that it is not limited to oil and gas.

As illustrated by these examples, it is crucial that energy companies protect any investments in the growing renewables market by ensuring that their existing patent portfolio covers their renewable market expansion. Furthermore, businesses must be forward-thinking and ensure new IP considers and captures applications of R&D solutions in both oil and gas, and renewable markets.

AREG members in a new era for renewables

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The project aims to prove significant cost reduction potential in offshore wind by using a digital twin of the substructure to measure actual loads and fatigue on the turbine. The main goal of the project is to analyse the potential for reducing the levilised cost of energy in the offshore wind industry. 4Subsea's operating philosophy is founded on continuous research and technology development to improve the understanding of how underwater assets age over time when exposed to hydrodynamic, aerodynamic and operational loading.

4Subsea has previous experience in delivering digital decision support with digital twins to the oil and gas industry. With similar soil support, scouring, corrosion, and fatigue challenges, the company has been able to utilise modified versions of their algorithms, artificial intelligence agents, and trained models in the offshore wind sector to extend the life of substructures, predict cable repair and replacement, and reduce production downtime with anomaly detection.

To monitor offshore wind turbines, 4Subsea has developed a new generation of sensors for structural integrity and performance monitoring. Different technology components from fish telemetry, micro drones, and telecommunications have been combined in order to make a solution dedicated to subsea assets in oil and gas and now for offshore wind turbines.

The sensor package combines a 6-axis inertial measurement unit and four strain sensors for the monitoring of wind turbine towers and substructures. Sensor data will be combined with weather information and other data sources. The interpretation of the data will be available on 4insight.io, which is a digital service on Microsoft Azure. This enables the combination of many large data sets and cloud computing as a platform for machine learning and artificial intelligence.

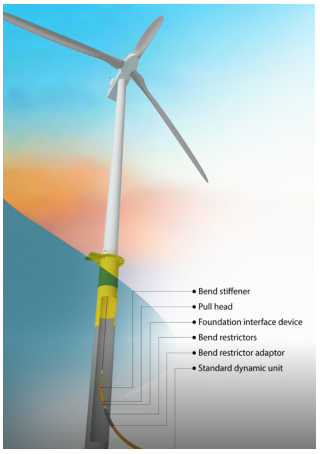
PATENTED CABLE PROTECTION SYSTEMS DESTINED FOR GLOBAL DEPLOYMENT

Balmoral is a trusted partner in the global offshore energy sector, designing and manufacturing advanced cable protection systems (CPS), bend stiffeners and restrictors, flexible and retrofit J-tubes and pre-terminated cable covers for the global offshore wind sector.

The company offers a range of CPS solutions for inter-array and export cables for fixed and floating offshore wind installations. The CPS solutions are provided for varying apertures on monopile installations as well as J-tube and I-tube options for jacket structures, including quayside pre-installation to minimise offshore vessel time and costs.

Sales manager, Ian Milne, has responsibility for taking the company's renewables products to market:

"Our patented CPS solutions comprise standard dynamic units that are highly suited for working in dynamic situations, typically created by scour development. The technology offers a wide installation window and displays excellent free-span performance when such scour development occurs."



Balmoral

CREDIT: MINESTO

The company is historically known for providing buoyancy, protection and insulation product solutions to the oil and gas sector, but Milne believes that perspective is too narrow.

"Our oil and gas services will continue and remain a key market for Balmoral. However, we are trying to break the mould by not being recognised as either a service company for oil and gas or renewables, more as a solutions provider for the energy sector in general."

The cable protection systems include bend stiffeners and restrictors, pull head, foundation interface device and standard dynamic unit, all of which are designed, manufactured and brought together in-house before being tested on the company's test rig. With more than 500 employees at its Aberdeen facility, the company boasts a full complement of design engineers, project managers, R&D, laboratory and testing resources.

With an established global network, Balmoral is ready to bring the benefits of its system to the worldwide industry. Milne concluded:

"We have significantly increased our design, manufacturing and testing capabilities for the offshore wind sector and are genuinely excited to bring our unique solutions to the market."

INSURANCE AND RISK ADVISORY FOR UNDERWATER TIDAL KITES

Renewable Risk Advisers (RRA) was appointed to provide insurance and risk advisory services to Swedish developer Minesto's new Vestmannasund project. The project supplies tidal energy power to the Faroe Islands through underwater tidal kites, flown in figures of eight to maximise speed at the nose-cone turbine.

RRA already supports Minesto's Holyhead Deep project trialling a 500kW device and in the Faroe Islands, the initial deployment will be for a pair of 100kW grid-connected kites, with a plan to roll out to full utility scale over the coming years. Amid other international projects in the pipeline, the 100kW unit is also due to be trialled in France as part of the EU's Tidal Stream Industry Energiser project.

Minesto's design offers huge opportunities to produce power at relatively low tidal speeds with a low levilised cost of energy, since it uses much less steel than other tidal devices. The Vestmannasund project, part funded by the EU and by the Swedish Energy Agency, is now permitted and has a power purchase agreement in place with the local utility SEV.

This project should prove to be a game-changer with numerous potential sites worldwide. The experienced team is already in place in Sweden, Wales and Northern Ireland and subject to travel restrictions, installation should be completed this summer, with power exported from the time of connection.

Coronavirus mercy missions funded by wind farm community cash

Community groups are turning to wind farm cash to help vulnerable locals during the coronavirus pandemic.

The money – part of a £20 million community benefit pot paid by wind farm developers to communities in Scotland each year – is usually spent on local projects. But a growing number of groups are now repurposing the funding to support those in hardship because of the ongoing health emergency.

Community Energy Scotland co-owns a 7.5MW wind farm near Cockburnspath with Berwickshire Housing Association. It provides around £40,000 a year in community funding and is now working with a newly established volunteer action group to provide emergency grants to local families.

Foundation Scotland, which administers around 60 community benefit funds, says it is in conversation with community representatives of around 20 funds to provide similar help.

Community Energy Scotland development manager Jamie Adam said: "We have been humbled by the reaction of local communities to the coronavirus emergency, and are delighted to be able to help, if only in a small way.

"The wind farm we co-own provides around £40,000 a year in community funding, which has so far been used to support projects like a new grass cutting machine for local playing fields in Cockburnspath and development work for a new community hall in Oldhamstocks.

"We have now been contacted by a new volunteer action group who want to divert some of the money to provide emergency grants to local families who might be experiencing hardship or redundancy. This is a great opportunity for renewable energy projects to provide direct action on a pressing local issue, and we'd love to see more wind farm owners following suit."

Foundation Scotland administers community benefit payments on behalf of communities and is working with a growing number on the coronavirus pandemic.

Rachel Searle, the organisation's head of communities, said: "The ethos of community benefit funding is that it is spent on issues which matter locally, and the current emergency has really brought that to the fore for people.

"We're seeing communities trying to think creatively about how to get funds to where it's needed most. Some are already promoting availability of emergency funding, others are making established processes more flexible. And to do all this community representatives we work with are hastily embracing different digital platforms and adapting quickly to virtual ways of working to make swift decisions for the benefit of their communities.

"We have contacted a number of the wind farm developers whose funds we administer and they have all been delighted that the money is being spent in this way."

On the Isle of Lewis, community wind farm charity Point and Sandwick Trust has announced it will use all its free cash for this year to set up a pandemic support fund for the local community.

Claire Mack, chief executive of industry body Scottish Renewables, added: "Almost £21 million in community benefit payments is given to communities across Scotland every year and this unprecedented response to the coronavirus pandemic shows how industry and communities can work together on the issues which really matter.

"Scotland's renewable energy industry looks forward to continued engagement with communities as we work towards our ambitious net zero target."

Hydraulic lifting – in times of need

In 2018, Industrial and Marine Hydraulics (IMH) began consulting on a project, to develop a large-scale flood defence barrier at Boston, Lincolnshire.

Led by a joint venture between BAM Nuttall and Mott MacDonald (BMMJV) on behalf of the Environmental Agency, IMH was excited at the prospect of working on the project. The company already had a strong record in engineering hydraulic solutions for flood defence projects such as the Palmers Dam in Totnes and the Black Sluice Gate in Boston.

The Boston area had suffered severely in recent years from tidal floods, so to combat future tidal surges BMMJV devised a solution that would halve the size of the river and implement a single horizontal sector gate. The gate itself would be made from carbon steel and weigh around 330 tonnes, increasing to 730 tonnes when full of water.

This provided IMH with a number of challenges. As the solution required the barrier to be raised from flat and into position within a short 20-minute timeframe, all the while considering the forces of water and ensuring that the system could operate within huge differences in the design temperature range, between -20°C and +50°C.

In response, IMH designed and manufactured three hydraulic

Hydraulic lifting – in times of need < Continued from page 8

power units (1 x Main HPU & 2 x Emergency HPUs), the MHPU having 5-off electric motors and driving 11-off hydraulic pumps, the EHPUs having a single pump driven by a diesel engine.

The main hydraulic pump flow was designed to offer up to 202 litres per minute per operating cylinder, of which there were two, each weighing in excess of 57 tonnes. The project also required more than 800 metres of stainless-steel pipework, which IMH fabricated both on-site and at their fabrication facility in Teesside. Using Solidworks 3D modelling software, IMH was able to confirm how much steel pipe would be needed for the project, ensuring there was no overspend on materials and demonstrating how the proposed solution would save both time and money, as well as critical up-front clash detection.

IMH's managing director, James Griffiths, commented: "This project has demonstrated how we can apply our highly specialised hydraulic expertise to help customers overcome complex challenges. It has employed our deep technical knowledge and our team's innovative thinking."

IMH, headquartered in Middlesbrough, with a facility at the Port of Blyth, North East England has more than 35 years of hydraulic engineering expertise in working on complex projects across the globe.

Bringing oil & gas technology into the marine sector

Last year, Wave Energy Scotland (WES) ran a competition for quick connection of moorings and electrical cables to wave energy convertors. The WES programme seeks out ideas to specific challenges, with some being selected for investment as they progress through a competitive stage gate process.

For Apollo's marine and offshore renewables director Nigel Robinson, the oil and gas market was the obvious place to look for ideas:

"Over the last 20 years, there have been vast learnings around what works and what doesn't work in floating production moorings, especially for harsh environments. It only made sense to draw on all of that experience".

Bombora Wave Power Ltd.

The result was Apollo's Plug and Lock Mechanism (PALM™) design concept, which cuts vessel time when hooking up energy convertors to their moorings.

The PALM™ project is similar to the hawse pipe and stopper of an FPSO mooring system. It incorporates some vital changes to overcome integrity issues that have dogged some applications. Six months on and the PALM™ stage one design is nearing completion, with a FEED project in sight. Bringing learnings from one sector to another is a common theme in Apollo's renewable energy offerings. Last year, the Aberdeen-based engineering company delivered the detailed structural design for Bombora's 1.5MW mWave™ Pembrokeshire Demonstration Project, part funded by the European Regional Development Fund through the Welsh Government. mWave™ is an 880 tonne, seabed-mounted wave energy converter that uses pressure from ocean waves to pump air through a turbine. In some ways, its structural design is similar to any subsea module, but it also reflects a new loading regime, from float out to transportation, lowering and operations. Exactly the kind of challenge Apollo relishes – and not so unusual for the company.

Nigel Robinson explains:

"We had a similar situation when helping Simec Atlantis with their marine operations strategy for the MeyGen project. Tidal stream projects are installed in high current areas, but this also brings constraints. Atlantis designed their system to dock the turbines onto the foundation structures, make an electrical connection and transmit all loads within a 20 to 40-minute window between the tidal flows. Key to their solution was a mechanical wet mate system with a very unusual design basis."

Founded in 2010, Apollo has grown strongly and now has a team of 100 engineers and designers spanning a range of disciplines. Supporting offshore engineering, Apollo operates within the renewable sector, oil and gas and refineries. In 2019, Global Energy Group took a majority share-holding in the company, spurring on further company growth.

Renewable energy has been a core market for Apollo since its earliest days, explains Fraser Graham, business development manager:

"Our second ever project was a cable installation analysis for Sheringham Shoal. Today, Apollo supports offshore wind, tidal and wave energy sectors, and has just won its first piece of hydro power work."

With a base in Aberdeen, the company has access to a network of vast subsea and marine skills. Apollo is keen to use these skills to increase local supply chain content on Scottish projects.

SIMEC Atlantis Resources Ltd

Looking ahead, Apollo sees many opportunities in the energy transition, with further applications such as carbon capture, electrification and alternative fuels. Having stepped out from offshore wind into marine energy, the team at Apollo is excited about bridging from process and plant technologies into decarbonisation of oil and gas.

Offshore wind activity provides half a billion-pound boost to UK subsea industry

Growth in the offshore wind sector is a major contributor to an upturn in activity for the UK's subsea industry according to the findings of the latest Business Activity Review undertaken by Subsea UK, the not-for-profit trade body that champions the industry.

Total subsea revenues derived from renewables rose by over half a billion pounds from just over £1.3 billion in 2017 to over £1.8 billion in 2019, and the bulk of this increase relates to output from activity in offshore wind. This total reveals a dramatic increase from the £770 million reported in 2013 and demonstrates continued growth in the sector.

The majority of both SMEs and large subsea companies are predicting growth in their revenues from the renewables sector over the next three years, and offshore wind is noted as being a key future market in the short to medium-term.

Neil Gordon, chief executive of Subsea UK said: "The findings of our review, and in particular the growth of renewables-driven revenue, are very encouraging. The drive towards net zero is presenting exciting opportunities to develop solutions that accelerate the energy transition. With the largest offshore wind market in the world right on our doorstep, the UK subsea industry is well-placed to capitalise on the underwater aspects of these developments and use them to showcase our technical excellence to the rest of the world.

"However, we recognise that global industries are unexpectedly faced with significant challenges and uncertainty as the world responds to the COVID-19 pandemic. At Subsea UK, we are doing all we can to support the subsea industry supply chain. We are gathering intelligence from our 300 members to understand their current priorities and we are working closely with other industry bodies and organisations such as Oil and Gas UK and the OGA to provide clarity for subsea businesses as quickly as possible.

"We are dedicated to making sure the supply chain is kept informed of any relevant developments and opportunities, and many of our planned events will now take place via online platforms. We are hopeful that events scheduled for later in the year will still take place."

UTEC's GAVIA autonomous underwater vehicles reduce environmental impact and improve efficiency of survey within offshore wind

UTEC, an Acteon company, has a long history of delivering survey, positioning and digital data management solutions to the energy sector. Having owned and operated a fleet of Teledyne Gavia autonomous underwater vehicles (AUV) since 2011, UTEC's technical authority Trevor Pugh discusses how Gavia AUV technology can support the offshore wind industry.

WHAT IS GUVIA AUV?

A Gavia AUV resembles a 3.5 metre long torpedo. An unmanned underwater robot, it can operate independently of humans as a self-guiding and self-powered vehicle. They dive from the sea surface to above the seabed to perform surveys of an area or route. Gavias are scalable, which enables customers to choose which sensors to attach depending upon project objectives.

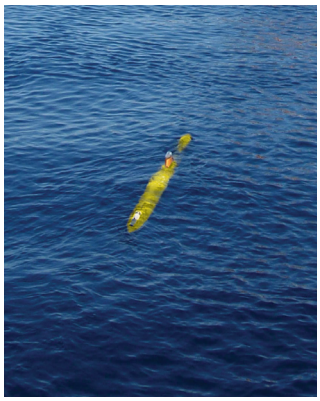
Constructed from a series of small, portable modules which allow for ease when shipping to worksites, Gavias weigh 120kg which allows their deployment and recovery with any small crane or davit rather than requiring the dedicated launch and recovery system of larger AUVs and ROVs. This ease of shipping and mobilisation has seen the vehicles dubbed as "low-logistics".

HOW IS GANIA AUV LAUNCHED AND RECOVERED?

Gavias can be launched and recovered from a crew transfer vessel (CTV), jack-up barge or construction vessel by lowering a floating garage onto the sea surface. From vessels of lower freeboard, the vehicle can be launched and recovered by crane.

WHAT ADVANTAGES DO GAVIA AUVs BRING TO THE OFFSHORE WIND INDUSTRY?

Gavias can be operated in parallel with other CTV operations. Their autonomy enables the launched vehicle to transit away from the support vessel, performing surveys independently before rendezvousing with the support vessel for recovery. A Gavia can be programmed to



perform scour surveys around turbine foundations and jack-up legs with a "safety gain" over similar close approach surveys done from a vessel. A Gavia can even pass between jack-up legs to acquire data which would be inaccessible to a survey boat.

In addition to the advantage of surveying independently from the support vessel, the Gavia also acquires data at the optimum height above the seabed and data quality is not degraded by waves or swell - unlike vessel mounted sensors. The independent operation, data quality and better weather capability makes Gavia AUVs a cost-effective solution to both short and long-term offshore wind farm survey work scopes.

> "A Gavia can even pass between jack-up legs to acquire data which would be inaccessible to a survey boat."

As offshore wind activities move into deeper water depths and harsher environments further from shore, a greater emphasis is being placed on the deployment of technologies that enable greater efficiency and cost reduction.

The use of AUV technology offers many advantages to the offshore wind industry. GAVIA AUVs remove the requirement for vessels, enabling companies to reduce diesel emissions and environmental impact. In addition, their ability to operate in bad weather conditions where traditional vessel-based surveys may not, enables companies to realise significant benefits and cost savings.

Total Enters Floating Offshore Wind with a First Project in the UK

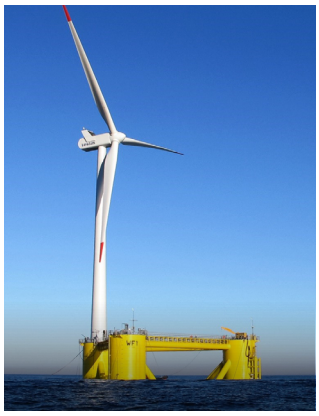
Total has positioned itself as a first mover in floating offshore wind technology in the Welsh waters of the Celtic sea. This is part of the UK's offshore wind market, one of the world's largest today, which will be expanded further with the Scotwind Leasing round this year.

In line with its strategy to develop renewable energy, Total has signed an agreement with the developer Simply Blue Energy to acquire an 80% stake in the pioneering floating wind project Erebus, located south of Pembroke Dock. The project will have a capacity of 96MW and will be installed in an area with a water depth of 70 metres.

While offshore wind has typically been developed in shallow water areas, with fixed bottom technology, floating offshore wind opens access to a wider range of potential sites offshore. This emerging technology is set for strong growth in the years to come, with less impact on the landscape and benefiting from very high wind resources.

"With its entry into floating offshore wind, Total confirms its ambition to contribute to the development of renewable energy worldwide. Floating offshore wind is an extremely promising and technical segment where Total brings its extensive expertise in offshore operations & maintenance. Total has the appropriate skills to meet the technological and financial requirements that determine the success of future floating offshore developments," said Patrick Pouyanné, Chairman & CEO of Total.

Total has integrated climate change into its strategy, and is staying ahead of new energy market trends by



building a portfolio of low-carbon businesses that could account for 15 to 20% of its sales by 2040. Total's gross low-carbon power generation capacity worldwide is currently close to 7GW, including 3GW from renewable energies.

New Member Profiles

We would like to welcome the below organisations who joined us in 2020. They are now part of a network of over 160 members, with access to market intelligence information, networking opportunities and promotion through magazines and ezines.

Aerossurance Limited
Aerossurance Limited is an Aberdeen-based aviation consultancy, specialising in air safety, airworthiness, flight operations, aviation regulation and aviation contracting support services.

Best Proactive
Best Proactive is a business relationships practice that specialises in helping companies large and small to create positive networks for doing business more effectively. Services include effective networking, representation at events, speaking at conferences, creating business links, board development, corporate planning facilitation, visioning, executive mentoring and establishing pre-contract relationships.

Biosus Energy Ltd
Biosus Energy provides Energy Supply Agreements (ESA), working in parallel with a consumer's existing power supply contract and dramatically reducing the kilowatt hours of electricity purchased on an existing contract.

Blaze Manufacturing Solutions Limited
Blaze Manufacturing is a leading provider of innovative safety critical systems, including fire safety protection, detection and loss prevention solutions. Fully resourced in-house, Blaze provides a complete engineering, procurement, installation, commissioning and maintenance package from design through to build and supply, including the ongoing maintenance of systems.

Craig International Ltd
Craig International has pioneered smart procurement for the energy industry. With an expert international team and unrivalled access to manufacturers and vendors around the world, the company has built systems and delivered economies that make procurement leaner and less wasteful.

Hawkes Health
Hawkes Health provides comprehensive risk management services to assist any organisation manage workplace health risks and protect their workforce. The company operates in the worldwide renewable sector with offices in Aberdeen, Dundee, Glasgow and Birmingham.

JBS Fabrication Ltd
JBS Fabrication Ltd subsea excavation services provide controlled flow excavation (CFE) subsea excavators and auxiliary equipment using a patented Sea Axe device. The equipment is available for lease and sale, complete with a full complement of experienced operational personnel who are available 24/7 to support Sea Axe operations globally.

Montrose Port Authority
Montrose Port Authority has an interest in supporting the renewable energy industry supply chain, construction and operations and maintenance of offshore renewable installations. Internally, Montrose Port Authority is interested in how renewable technologies can be utilised to reduce the carbon footprint of port operations in Montrose. Having been awarded the 50-year operations and maintenance contract for SSE's Seagreen Offshore Wind Farm, Montrose Port Authority's vision is to secure further wind farm contracts, cementing its position in the supply chain and service sector.

PD&MS Group
PD&MS was established in 2002 as an engineering company, specialising in brownfield topsides and drilling facilities modifications and upgrades. Since then, the company has grown to have a full, multi-discipline engineering, procurement and construction capability in-house. With an office in Aberdeen, PD&MS also has an office in Baku, Azerbaijan which services projects for BP in the Caspian Sea.

Quartzelec Limited
Quartzelec is a leading UK independent electrical engineering group delivering design, manufacturing, installation, maintenance and service solutions to customers across a broad range of industrial and commercial sectors. For over 20 years Quartzelec has established a presence in Aberdeen, developing strong industry-wide relationships by providing support for rotating electrical machines and electrical equipment utilised in the offshore oil and gas, marine and renewable industries.

Safelift Offshore Ltd
Safelift Offshore Ltd are designers, engineers and manufacturers of manual and mechanical handling equipment and suppliers of associated products and services. The company has more than 25 years' experience in this highly specialised area. The company's products are utilised in the renewables sector for all manner of access, handling, hoisting, storage or transportation applications.

Swire Oilfield Services
Global leaders in rental, sales and services for DNV 2.7-1 Offshore Container solutions. With over 40 years' experience delivering offshore container solutions across the global energy industry, Swire Oilfield Services has evolved into a fully integrated service provider. With unrivalled fleet capabilities and service offerings, Swire Oilfield Services provides complete asset life-cycle management, from creation to delivery.

Unique Group
Unique Group leads the way in providing engineering expertise, sales and rental equipment and the latest technology for the marine, diving, pipeline and subsea market sectors. The company has a local presence in the USA, UK, South Africa, India, Europe, Middle East, Singapore and Australia and employs over 500 people worldwide.

Help us drive the energy future

Click here to find out more about AREG membership.

Reducing the cost of offshore power generation as part of a net zero strategy

By Lee Senoussi, senior project engineer at Sealand Projects

When I think about the energy transition, I feel it is important to appreciate the bigger picture and use this as motivation for how we can all play our part in contributing towards a low carbon energy system and society at large.

Within the UK's energy mix, oil and gas still has a key role to play. In the short term, it works to support our energy supply needs as we bring online more renewable sources and in the long-term, it provides security of supply which can supplement renewable sector shortfalls.

Based on the long-term outlook, coupled with recent legislation for net zero emissions laid out by both the UK and Scottish Governments, our industry must adapt and rise to the challenge of reducing emissions and costs to prolong the UKCS production life. Currently, the production of hydrocarbons accounts for approximately 3.5% of the UK's greenhouse gas emissions – over 14 million tonnes CO2 equivalent per annum – with almost three quarters of this coming from power generation.

This is why, in conjunction with the Oil & Gas Technology Centre (OGTC) and its members, Sealand Projects has studied a cross section of major oil and gas assets within the UKCS to understand the power generating challenges involved in extending the life of viable assets beyond 2035. The work explores the immediate gains that can be achieved by increasing the operational efficiency of one's own generating plant through to the development of an autonomous renewable energy power source (floating wind) and the benefits of a phased development with potential to form part of an integrated energy solution with offshore renewables.

Undoubtably, there are challenges in proving the cost competitiveness and reliability of power from floating offshore wind in its current form. However, as the maturity of the floating offshore wind industry develops and there is a reduction in capital expenditure similar to that which we have already seen in fixed bottom offshore wind, this is when the integration opportunities with oil and gas will start to be realised.

The current situation with COVID-19 has impacted upon oil price and highlighted that now more than ever, there is a need within our industry to make new and existing projects sustainable at the lower baseline oil price.

> "...as the maturity of the floating offshore wind industry develops and there is a reduction in capital expenditure similar to that which we have already seen in fixed bottom offshore wind,this is when the integration opportunities with oil and gas will start to be realised."

Security considerations for floating offshore wind

By Richard Westgarth, head of campaigns at BMT

As we enter the third decade of the 21st Century, we are being assailed on all fronts by transformational changes in technology, business models, autonomous systems and new manufacturing technologies - all resulting from the Fourth Industrial Revolution. As a result, we will see ever increasing demand for clean energy.

As existing green energy developments start to meet restrictions around accessibility, concentration and availability of "real estate", many see floating offshore wind as a viable and necessary method for meeting these energy demands.

There are, however, challenges to be overcome. One of these challenges will be security and resilience. As the sector develops, we now need to adopt highly agile and progressive approaches to security in a collaborative manner, working with our colleagues from across the energy sector.

New multi-role technologies such as robotics, autonomous systems, data

and analytics, 5G communications and artificial intelligence (AI) and their deployment in the wind sector are being developed rapidly. This innovation is being driven by global demand in consumer markets and other civilian applications. Let's speculate for a moment about just how our offshore wind energy will look in this new advanced technology future.

We will see highly automated platforms, of ever-increasing capacity, exploiting advanced communications technologies such as 5G, with on-board sensors and intelligent systems using lightly manned semi-autonomous, and in time un-manned, and fully autonomous capabilities. New and novel architectures to implement supervisory control and data acquisition (SCADA) systems will be deployed. They will operate seamlessly with digital, inter-connected land-based infrastructure to drive up efficiency and productivity through the imaginative use of data analytics and AI.

The asset data from disparate sources both ashore and on the platforms, combined with Metocean data will be managed using technologies such as block chain to quickly, securely and accurately, connect owners, operators, maintainers and consumers through complex supply chains, with real time information about their performance and operational status.

During times of reduced energy consumption, the systems will automatically transfer to using the capacity for generating other fuels (such as hydrogen and ammonia) either locally or ashore at appropriately equipped terminals. This will lead to greatly enhanced energy productivity and operations serving the ever-increasing demand for low cost clean energy. Alongside this, we will need to drive regulatory change, enabling these potential new operating paradigms and alongside this, the need for new operating practices and procedures. A key element will be the ability to maintain and safeguard the required high levels of physical, cyber, personnel and information security in this complex environment.

As the uptake in floating offshore wind accelerates, it will give rise to several interdependent challenges. Read the full article here for more about these challenges and what your enterprise should be considering.

EC-OG makes six-figure investment

Clean energy specialist EC-OG has completed a six-figure capital investment in their battery manufacturing capabilities to support development of its innovative HALO subsea energy storage technology.

The bulk of the investment, in CNC battery cell welding equipment and automated battery module test systems, will be used to simplify the manufacturing process of EC-OG's proprietary subsea energy storage systems. This state-of-the-art battery manufacturing plant has been installed at EC-OG's research and development hub located at Nevis Business Park, near its Bridge of Don headquarters.

In addition to supporting manufacturing of the HALO and Subsea Power Hub products, the new battery manufacturing facilities will allow the company to rapid prototype new battery module designs, as well as create custom battery products to suit client requirements. This creates a new service offering for EC-OG, building on the company's existing in-house battery and subsea engineering expertise.

Jonny Moroney, projects director, said: "Having the facilities to manufacture our battery systems in-house will allow us to maintain control of our supply chain and substantially reduce the overall build time of our HALO and Subsea Power Hub products. Safety is critical, so automating the build and test process allows EC-OG to offer a higher quality product, using fully repeatable manufacturing and test processes."

"Not only will this investment allow us to improve on the high-quality standards that our clients demand, it will open up new opportunities for the company" added Paul Slorach, business development director.

"Electrification of subsea systems and the use of renewable energy technologies will mean big changes to the offshore oil & gas industry in the coming years. The industry needs to embrace clean energy and we see a number of opportunities for batteries and alternative energy storage systems within subsea oil and gas production. EC-OG is committed to being at the forefront of the industry's decarbonisation process."

EC-OG currently employs 25 people and is fully accredited to ISO 9001, 14001 and 45001 quality standards.

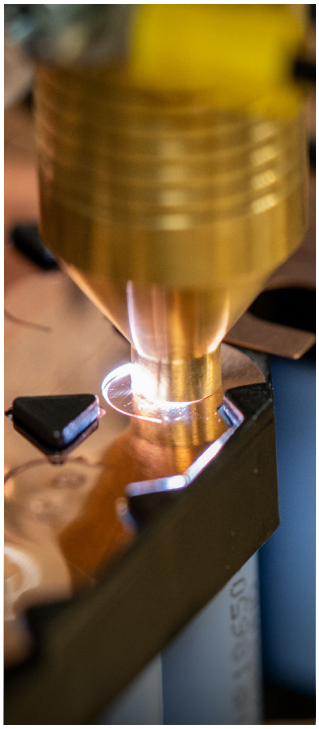


Photo Gallery

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2.


2.


3.


1. Aberdeen Science Centre has launched a Highland outreach programme to give communities the opportunity to learn about STEM. Andrew and Fiona, pictured earlier this year, are delivering the programme.

2 . Students from the University of Aberdeen MSc Renewable Energy Engineering and MSc Environmental Partnership Management at Donside Hydro station on the River Don in March.

3. Specialist medical support company, SSI Energy, has forged a strategic partnership with Texo Accommodation, part of Texo Group of companies, to deliver modular Coronavirus screening stations in the UK.

Miros sensors reduce maintenance costs by up to 80%

The offshore environment is often unpredictable, dangerous and inaccessible which can lead to costly delays for operations and maintenance procedures to offshore wind farms.

On average, offshore wind turbines are inaccessible 7.7 days per month due to adverse weather and sea conditions, with this figure increasing in the winter months. As wind farm projects begin to move further offshore, the ability to maintain operations in these conditions, whilst simultaneously ensuring the safety of personnel, is a major challenge for the UK offshore wind market.

Aberdeen-based Miros is a trusted provider of reliable, real-time ocean data to the offshore wind sector. Miros has over 35 years of experience in providing accurate ocean insights to the global offshore maritime industry. These monitoring sensors and systems provide crucial information regarding the offshore environmental conditions, which is fundamental for successful planning, decision-making, and execution of operations and maintenance (O&M) activities. Using Miros' sensors allows vessel operators to increase operability by up to 15% during O&M activities and helps wind farm operators reduce maintenance costs by up to 80% against traditionally used Wave Buoys.

In 2019, Miros created its WaveWeather technology – a monitoring system that delivers accurate, real-time measurements of local sea state and weather conditions to any user on any device. Data gathered from windfarms is stored directly to the cloud so the information can be accessed easily and securely anywhere in the world. The remote accessibility of this data means that offshore wind managers have access to measurable parameters such as wave height, air pressure, and wind speed and direction from any location, reducing the operational costs associated with offshore wind farms as well as supporting onshore decision-making processes.

In 2019, Miros installed its WaveWeather technology at the Offshore Renewable Energy Catapult Levenmouth Demonstration Turbine (LDT) in Fife, providing insights to sea surface conditions as well as a range of meteorological parameters. Imitating the conditions found on an operational offshore wind farm site boosts bankability and investor confidence, helping to accelerate its journey to market.

"Will the energy transition be impacted by COVID-19 and the low oil price?"

Paul de Leeuw, Director of the Robert Gordon University Energy Transition Institute

The COVID-19 situation is a real wake-up call how the world can and should respond to a global challenge. Inevitably the COVID impact will be felt for a long time, but global health and wellbeing will eventually return to some degree of normality. This will require a collective change in behaviours and new ways of doing things.

A similar change in behaviours will also be required to tackle the climate emergency and to deliver the net zero agenda. With global temperatures increasing, urgent international coordination and collaboration will be required to avoid the worst impact of climate change. This will likely re-shape the energy industry across the world.

The oil and gas industry and the wider energy sector is well positioned to help shape and build this new energy future. The sector has the assets, skills and capabilities to deliver the new, lower carbon solutions at scale and at pace. The industry also has the global reach to ensure that new technology and best practices are shared, enabling other regions to decarbonise faster and more efficiently.

The oil and gas industry is a fundamental part of the solution and the role of the sector in the energy transition should reflect this. It will ensure that the sector attracts the best and brightest people to truly help to change the world's energy future.

"The oil and gas industry is a fundamental part of the solution and the role of the sector in the energy transition should reflect this."

Dr Tavis Potts, Interim Director of the Centre for Energy Transition, University of Aberdeen

This year has, and continues to be, a rollercoaster. We were barely out of the Brexit debates and shocked at the scale of the Australian bushfires when this crisis appeared.

As we collectively fightback against COVID-19 the impacts on business, government and communities will be felt for years. The post-crisis world will be different and in the context of energy some of our behaviours may be permanently changed, particularly in the way we work, travel and live.

There are signs that the crisis will place the UK economy under significant strain. Combined with unprecedented pressures in the oil and gas sector, the consequences for energy transition are profound and a stimulus will need to ensure that energy transition grows not slows. Any recovery must place a 'green deal' at its heart, supporting innovation, cost reduction, demand and scaling up of the clean energy economy at a pace that can address the climate emergency.

There is uncertainty over the shape of a stimulus. At this stage it is right that the focus is on saving lives and supporting communities. In any case, to achieve our Net Zero goals a recovery will need to respond to the energy 'quadrilemma'- low carbon generation at scale, energy security, cost and employment. In the north east of Scotland there is a window of opportunity. Our energy expertise, networks and supply chains, our institutions and our research and educational expertise is ready to move. We have world leading capacity in offshore and floating wind, the hydrogen economy and carbon capture and storage. We are experimenting with innovative financial, social and policy mechanisms to ensure a just transition that is socially acceptable. There will be difficult choices to make, but backing a green stimulus will diversify the economy, increase our resilience, and respond to the other crisis that is on the horizon.

"Any recovery must place a 'green deal' at its heart, supporting innovation, cost reduction, demand and scaling up of the clean energy economy at a pace that can address the climate emergency"

Market-leading port agency

by Paul Young, account manager - offshore energy at Clarksons Port Services

Clarksons Port Services (CPS) is known as a market leading port agency for the offshore renewables sector. Dedicated to supporting port and maritime operations globally, the UK CPS team is comprised of more than 140 experienced professionals who are working to support offshore renewables projects.

CPS specialises in port agency services - managing and co-ordinating crew changes, equipment procurement, global freight forwarding solutions, customs clearance of goods, warehousing, transport, and a highly efficient 'turnkey' offshore supply service which runs to assets in the field.

Since first supporting A2Sea on the Scroby Sands Project in 2003, CPS has gained extensive experience to provide a 'one stop shop' approach to support clients. The company has specialised in supporting the offshore renewables sector in the UK for 17 years.

A recently completed offshore wind project saw CPS work closely with clients on East Anglia ONE, Beatrice Offshore Wind Farm, Aberdeen Offshore Wind Farm and Walney Wind Farm. CPS is currently actively supporting a number of clients on the Triton Knoll, Hornsea One and Moray East Offshore Wind Farm projects.

"Since first supporting A2Sea on the Scroby Sands Project in 2003, CPS has gained extensive experience to provide a 'one stop shop' approach to support clients."

Since 2003, CPS has established itself as a key member of the offshore renewables supply chain. With 19 offices across the UK, the company offers 24/7 unrivalled support to clients across the offshore renewables sector.

AREG Event Summary

It has been a busy 12 months for AREG, working on behalf of our members to position Aberdeen as a world leader in renewable energy. The diverse AREG events calendar allows our members to network with likeminded individuals and learn from experts about market opportunities and industry developments.

In December last year, we held an event exploring the importance of investing in skills and resources to exploit new business opportunities in renewables. We invited Paul de Leeuw, director of Robert Gordon University's Energy Transition Institute and Mike Sibson, head of BGF's office in Aberdeen, to share their views.

We also hosted events welcoming overseas delegations to unearth potential collaboration opportunities with our members. In February this year, AREG members were invited to a market briefing for Japan's offshore wind industry.

In the same month, we organised a Members' Showcase event to highlight the many exciting technologies and projects that our member companies are involved in. Delegates were treated to informative presentations from 4Subsea, Renewable Risk Advisers Ltd., Wood, Balmoral, PRESSERV and Fugro.

We regularly represent our members at industry events, such as Aberdeen's Hydrogen Festival, held in October 2019, which attracted around 700 delegates from the UK and beyond.

We continued our support of the Scottish Renewables Annual Green Energy Awards in December 2019, by sponsoring an award. The ceremony welcomed more than 1,200 industry professionals for an evening dedicated to celebrating Scotland's leading renewable energy sector. It was a successful night for the north east, with AREG members Green Marine and Aberdeen City Council picking up the Outstanding Service Award and Sustainable Development Award, respectively.

During this period of uncertainty, AREG will continue to promote our local supply chain's capabilities at every opportunity. We are sponsoring the Scottish Renewables annual conference which is re-scheduled for the end of August. Additionally, we will be supporting the re-scheduled All-Energy 2020 conference in November.

In the meantime, we are looking to engage with our members through a number of informative webinars. If you are interested in taking part in an AREG webinar, please contact areg@bigpartnership.co.uk.

We will continue to bring our industry insights and high-profile speakers to you on a remote basis. Please look out for an announcement about our webinar event schedule, coming soon!

Thanks for reading

If you would like to be part of the next AREG newsletter, please get in touch with areg@bigpartnership.co.uk.

Do you want to raise your profile?

A fantastic opportunity has arisen for one company to be the exclusive sponsor of the AREG weekly bulletin which is emailed to over 900 contacts in the renewables sector.

For further information,
please contact us:
areg@bigpartnership.co.uk
or call on 01224 211 045.

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Aberdeen Renewable Energy Group