

## **NEWS AUGUST 2020**

### **Norway offshore cutting CO2 emissions**

Eight fields on the Norwegian Continental Shelf (NCS) currently receive power from the onshore Norwegian power grid, with a further eight planned, cutting some 3.2 mn t/y of CO2 emissions, according to a new report published by the Norwegian Petroleum Directorate (NPD)

‘In a few years, power from shore can allow us to avoid CO2 emissions equipment to 10% of total Norwegian greenhouse gas emissions. At this point, almost half of Norway’s oil and gas production will be running on power from shore, ‘says NPD Director General Ingrid Slyberg. ‘Companies are also working on several projects that could provide additional emission cuts beyond this.’

Today, the Troll, Gja, Ormen Lange, Valhall, Goliat and Johan Sverdrup fields have facilities supplied with power directly from shore. Vega is also operated with power from shore via its host installation. Gjoa, and Hod via Valhall. In addition, the Martin Linge field, which is under development, will be supplied with power directly from shore while the Edvard Grieg, Ivar Aasen Gina Krog. Solvelg and Hanz fields will receive power from the area solution on the Utsira High, which is part of the Johan Sverdrup field’s second phase. The Duva and Nova fields will be operated with power from shore via Gja. Power from shore to these 16 fields will lead to a 3.2mn t/y reduction in CO2 emissions compared to what they would otherwise have been, reports the NPD.

In addition to the 16 fields that are either operated with power from shore or where this has been adopted, six other projects have reached an advanced stage of the planning phase- on Troll B, Troll C, Oseberg Field Center and Oseberg Sr, Sleipner and the are adopted, some 4.9mn t/y of CO2 emissions will be avoided.

An investment decision was made for power from shore for Sleipner in May 2020 and the project is now under regulatory review. The project will also provide power from shore to the Gudrun, Sigyn, Gagne and Utgard associated fields.

‘Electrification of the shelf will have consequences for the power system both in the form of somewhat higher electricity prices and a need for increased investments onshore. ‘notes Kjetil Lund, Director General of the Norwegian Water Resources and helped prepare the report, along with the Norwegian Environment Agency and the petroleum Safety Authority. The six projects in advanced stages of the planning phase are expected to increase annual power consumption in Norway by up to 4 TWh.

### **Global half-year discoveries fall to 4.9bn boe**

Global discoveries of conventional resources volume reached just 4.9bn boe in 1H2020, Rystad Energy estimates, the weakest-performing first half of the 21<sup>st</sup> century. The resource volumes were 42% lower and the number of discoveries was down by 31% compared to the same period in 2019.

The average monthly discovered volumes so far this year are estimated at 810mn boe, a 314% drop from the same period last year, reports the market analyst. It also predicts that this year could be on track to repeat the 2019 predominance of gas discovered so far being categorized as gas. The top five largest discoveries account for about 68% of the total discovered volumes. The monthly average was pulled down primarily by onshore discoveries, adding around 16mn boe in discovered volumes. January and May were the most successful months in 1H2020 due to significant discoveries such as Jebel Ali in the United Arab Emirates, Maka Central in Suriname, Uaru in Guyana and 75 Let Pobedy in Russia.

'Last year we saw the highest volumes of discovered resources since the last downturn. Based on the large number of high-impact exploration wells planned for this year, 2020 was meant to follow the same path. But then COVID-19 struck and the oil market crashed in 1Q2020, resulting in delays and cancellations as operators cut budgets,' comments Rystad Energy's Upstream Analyst Taiyab Zain Shariff.

Russia, South America and the Middle East account for about 73% of the total discovered resources so far in 2020. Africa and Australia seem to have taken a back seat this time, with less than 1% of the total discovered resources. Close to 70% of the resources were discovered offshore.

There were a total of 49 conventional oil and gas discoveries during 1H2020, of which 27 were announced during the global lockdown and travel restriction period. While these travel bans and the associated logistical issues didn't have much of an effect on projects in the testing and completion phase, they did cause delays for projects in the initial and ongoing drilling phase that required crew changes. This could be one of the reasons for the lower number of discoveries in May and June 2020, comments Rystad Energy.

Shariff adds that although more exploration wells are planned to be spudded before the end of this year a few delays may still arise because that may come up as a result of the expected second wave of the pandemic.

Unpredictable oil markets and operator budget cuts on top of COVID-19-related logistical issues may see global offshore exploration activity this year reaching its lowest point in 20 years, with discovered volumes falling even lower than they were in 2016, warns Rystad Energy.

#### **Aibel awarded Oseberg portfolio agreement**

Equinor (operator, 49.3%) has awarded Aibel a portfolio agreement for the Oseberg fields for the period 2020-2026, with a view to ensuring a holistic approach to planning and Oseberg fields.

'There will be an increased level of project activity at the Oseberg of project activity at the Oseberg fields in the coming years. With one main supplier, we will be able to synchronise the different projects schedules, utilize synergies between parallel projects and optimize personnel on board,' explains Peggy Krantz-Underland, Equinor's Chief procurement Officer. 'The portfolio agreement will allow us to work with Aibel on Oseberg in an integrated way, focusing on safety, continuous improvement and cost efficiency. It will also create predictability and continuation for supplier's personnel and sites.'

Equinor has also awarded Aibel a front-end engineering and design contract (FEED) for the Oseberg Gas Capacity Upgrade and Power from Shore (OGP) project, as the first call-off under the portfolio agreement.

The OGP project aims to maximize Oseberg asset value through timely low-pressure production and increased gas export, and to reduce the Oseberg carbon footprint by partly electrifying the Oseberg field center and Oseberg South with power from shore. Increased gas capacity through the OGP project will increase the value of future tie-ins to Oseberg.

Equinor and partners Petoro (33.6%), Total (14.7%) and ConocoPhillips (2.4%) are working towards a final investment decision (FID) in late 2021.

'Oseberg is a legacy field that has played a key role in developing the Norwegian Continental Shelf and will continue to be an important hub in the North Sea towards 2040, 'says Geir Sortveit, Senior Vice President for operations West in Equinor.

Neptune Energy and its partners have announced the discovery of hydrocarbons at the Dugong well (PL-882) in the Norwegian sector of the North Sea. A contingent side-track may be drilled to further define the extent of the discovery. Dugong is located at a water depth of 330 meter and is closed to the existing production facilities of the Snorre field. Dugong has been drilled by the Deepsea yantai, a new semi-submersible rig, owned by CIMC and operated by Odfjell Drilling. Dugong Partners are Neptune Energy (operator, 40%) Concedo (20%), Petrolia NOCO (20%) and Idemitsu Petroleum Norge (20%).

MOL has discovered significant gas condensate reserves in the TAL block in Pakistan. The Mamikhel South-1 exploration well reached a total depth of 4,939 meter and flowed gas and condensate at a rate of 6,516 boe/d (16.12 mn cf/d and 3,240 d/b respectively). Further has made 13 oil, gas and condensate discovered over 400mn boe hydrocarbon reserves. As the operating shareholder (8.4%), it is responsible for 89mn boe/d gross production in the TAL block, one of the largest hydrocarbon producing block un Pakistan. Partners include OGDCL, PPL, POL and GHPL.

Argentina's government has unveiled a new plan for subsidizing oil and gas production in the face of the current COVID-19 crisis, which has resulted in lower oil refining inputs and placed additional pressure on the sustainability of the country's natural gas supply. However, according to Adrian Lara, Senior Oil & gas Analyst at Global Data. 'The Government's plans for a subsidized price of \$45/b of oil and \$3.5/mn Btu of gas carries no certainty of incentivizing production in a significant manner. In particular, for natural gas, the subsidized price seems to be enough just to avoid a steep cut in production but insufficient for sustaining larger developments that require new drilling campaigns and associated infrastructure.

Eni (operator) and partners BP and Total have made a gas discovery in the North El Hammad licence, on the Bashrush prospect in the Nile Delta, offshore Egypt. The discovery 'demonstrates the significant gas and condensate potential of the Messinian formations in this sector of the Egyptian offshore shallow water... and further extends to the west the gas potential of the discovered and produced from the so-called Great Nooros Area,' report Eni. The companies plan to fast-track production through synergies with the area's existing infrastructure.

Even during the current COVID-19 crisis of lower economic activity. Natural gas imports from Mexico have remained at levels of around 5,300 mn cf/d during 1Q202. Accordingly to GlobalData. The US is the primary exporter of natural gas to Mexico, with volumes reaching an all-time high of 6.2bn cf/d in July 2019. Mexico is expected to remain highly dependent on natural gas imports from the US in the future report the market analyst.

BP (49%) and Reliance Industries (RIL; 51%) have announced the start of a new Indian fuels and mobility joint venture, Reliance BP Mobility Limited (EBML). Operating under the 'Jio-BP' Brand, the joint venture aims to become a leading player in India's fuels and mobility markets. Indian is expected to be the fastest growing fuels market in the world over the next 20 years, with the number of passenger cars in the country estimated to grow almost six-fold over the period. RBML aims to expand from its current fuel retailing network of over 1,400 retails sites to up 5,500 over the next five years. The joint venture also aims to increase its presence from coming years.

The UK's automotive industry is set to benefits from a £73.5mn government investment to develop green technologies and safeguard jobs. A total of 10 projects across the UK will receive a share of

this new investment to develop cutting-edge technology for the next generation of electric taxis, cars and vans – including recyclable batteries advances electrical systems and ultra-lightweight components.

BP is to sell its global petrochemicals business to Ineos for a total consideration of \$5bn as part of the company's 'reinvention' process and to further strengthen its balance sheet and deliver its target for some \$15bn of divestments a year earlier than originally scheduled BP's petrochemicals business is focused on two main businesses- aromatics and acetyls – which have interest in 14 manufacturing plants in Asia, Europe and the US and, in 2019, produced 9.7mn tones of petrochemicals.

Neptune Energy has announced a major milestone for the Touat gas facility in Algeria (picture right) with operatorship having been formally passed to Groupement Touat Gaz (GTG), a joint venture between Neptune Energy (65%) and Sonatrach (35%). The Touat facility is located around 1,400 km south-west of Algiers and close to Adrar, comprising 19 development wells, a gas treatment plant for gas and stabilised condensate with a gathering network and export pipelines. The facility achieved plateau production in April 2020. Production from Touat will represent around 9% of Algeria's total gas export and will be in production for more than 20 years.

### **Production of green hydrogen could be cost competitive by 2020**

The production of hydrogen fuel produced by electrolysis a process that is electricity to split water into hydrogen and oxygen, and which can be carbon free and 'green' provided the electricity used in the process is produced by renewable – is rapidly developing from pilot to commercial scale operation in many parts of the world. Its production could become cost competitive with current predominant methods that require the use of natural gas as a feedstock as early as 2030, according to analysis by the HIS Markit Hydrogen and Renewable Gas Forum.

'Costs for producing green hydrogen have fallen 50% since 2015 and could be reduced by an additional 30% by 2025 due to the benefits of increased scale and more standardised manufacturing among other factors,' says Simon Blakey, HIS market Senior Advisor Global gas.

Investment in so-called 'power to x' projects – of which hydrogen makes up the large majority – is expected to grow from around \$30mn in 2019 to more than \$700mn in 2023. Economies of scale are a primary driver for green hydrogen's growing cost competitiveness. The average size for power – to – x projects scheduled for 2023 is 100 MW – 10 times the capacity of the largest project in operation today – according to the HIS Markit Power – to – X Tracker, which tracks hydrogen projects around the world.

Hydrogen production that uses natural gas as a feedstock, via a process known as methane reforming, currently supplies the hydrogen to the chemical and refining industries that today make up the bulk of global hydrogen demand.

'There is growing potential for hydrogen to be used in transport, heating, industry and power generation,' comments Shankari Srinivasan, HIS Markit Vice President, Global and Renewable Gas, HIS Markit. Both green hydrogen and so – called blue hydrogen – methane reforming coupled with carbon capture technology – are likely to play a role in the energy future as demand expands. 'Blue and green hydrogen are extremely complementary,' Srinivasan adds. 'If they are developed in parallel, hydrogen will be able to make a big contribution to future energy demand, especially with the ambitious goals on carbon.'

Hydrogen's overall share in the energy mix will ultimately depend on the extent of decarbonisation that is desired. In Europe, currently the primary market for hydrogen projects, hydrogen could account for as much as one third of the energy mix if the aim was 95% decarbonisation or greater.

'In Europe it is now widely agreed that electrification alone cannot deliver the level of emissions reduction that many countries aspire to,' notes Catherine Robinson, HIS Markit Executive Director, European Power, Hydrogen and Renewable Gas. 'Hydrogen is a highly versatile fuel – both in terms of how it can be transported and the variety of its potential end – use applications. The greater the degree of a decarbonisation, the greater the likely role of hydrogen in the energy future.'

#### **Aker Solutions announces merger with Kvaerner**

Norway's Aker Solutions has announced a merger with Kvaerner to create an optimized supplier company that will retain the name Aker Solutions. Kjetel Digre will take up the position of Chief Executive Officer of the combined company as of 1 August 2020.

Aker Solutions intends to spin off its wind development business and carbon capture technology business as two separate companies expected to be admitted to trading on the Merkur Market on the Oslo Stock Exchange.

'Aker Solutions has developed technology and taken strong positions in markets for offshore wind and carbon capture, utilization and storage,' says Oyvind Eriksen, Chairman of the pre – merger Aker Solutions. 'However, it has become increasingly clear that these businesses represent value creation opportunities in a world transitioning to green solutions at accelerated speed and have more potential as stand – alone companies than as an integrated part of an oil service business. Renewable and green technologies have entirely different value chains, customers, investor bases and sources of funding. Capitalizing and separating the offshore wind and CCUS business areas from Aker Solutions present a unique opportunity for growth and value creation.'

'The combined company will be a dedicated execution partner for delivery of complete projects for new energy production facilities, for example oil and gas production platforms or subsea systems, or offshore wind power installations,' adds Digre.

The new merged operation will leverage industrial software and digital technology to optimize output and improve efficiencies in customer projects and operations. It will be a dedicated supplier that adds value by offering early front – end customer engagement, concept and system solutions for renewable and decarbonisation projects in offshore wind, CCUS, electrification and emerging energy segments such as hydrogen. It will utilize its global footprint in brownfield services and subsea to enter international renewable markets.

'By combining the two companies and their complementary resources, we will be able to deliver a more complete offering to a global energy industry,' adds Left – Arne Lnagoy, Chairman of Kvaerner and the proposed new Chairman of Aker Solutions.