

NEWS MAY 2019

Green light for next phase of ACG project

BP and partners have sanctioned the Azeri Central East (ACE) project, the next stage of development of the giant Azeri – Chirag – Deepwater Gunashli (ACG) oil field complex in the Azeri sector of the Caspian Sea. The \$6bn development includes a new offshore platform and facilities designed to process up to 100,000 b/d of oil. The project is expected to achieve first production in 2023 and produce up to 300mn barrels over its lifetime.

The sanction is the first major investment decision by the ACG partnership since the extension of the ACG production sharing agreement (PSA) to 2049 was agreed in 2017. More than \$36bn has been invested in the development of the ACG area since the original PSA was signed in 1994. ACG is a super – giant field that has produced more than 3.5bn barrels of oil to date. The oil is exported to world markets, primarily via the Badu – Tbilisi – Ceyhan and Western Route Export pipelines.

Commenting on the news, Rovnaq Abdullayev, President of Socar, said: ‘Today’s sanctioning marks yet another important milestone in the development of ACG... Looking forward, we expect more than 3bn barrels of additional oil production from ACG. This strategic decision supports Azerbaijan’s increasing role as an energy supplier for the regional and global markets.’

The ACE project is centred on a new 48 slot production, drilling and quarters platform located mid – way between the existing Central Azeri and East Azeri platforms in a water depth of approximately 140 metres. The project will also include new infield pipelines to transfer oil and gas from the ACE platform to the existing ACG Phase 2 oil and gas export pipelines for transportation to the onshore Sangachal terminal.

In addition, a water injection pipeline will be installed between the East Azeri and ACE platforms to supply injection water from the Central Azeri compression and water injection platform to the ACE facilities.

BP has a 30.37% stake in, and operates, the ACG PSA. Partners include Socar / AzACG (25%), Chevron (9.57%), Inpex (9.31%), Equinor (7.27%), ExxonMobil (6.79%), TPAO (5.73%) Itochu (3.65%) and ONGC Videsh (2.31%).

Production from the Caspian region as a whole is forecast to increase slightly to 6.2mn boe/d, with 2019 investment again dominated by the \$37bn Tengizchevroil expansion in Kazakhstan. Up to \$8.6bn is budgeted at the megaproject phase – almost 40% of regional capital expenditure.

There are a number of oil and gas events and themes to follow in 2019.

New Azeri platform headlines regional FIDs

The Caspian’s next major capital project is the Azeri Central East (ACE) platform at Azerbaijan’s super – giant Azeri – Chirag – Guneshli (ACG) oil field, which enters its main investment phase in 2019. BP and partners are targeting first oil in 2023, peaking at 100,000 b/d of incremental output – 15% of Azerbaijan’s liquids in the mid – 2020s.

ACE will not be alone in its positive trajectory. Also anticipated is the FID for the next plateau extension initiative at Kazakhstan’s Karachaganak gas – condensate megaproject – a fourth gas re – injection compressor.

Project delivery in the remote Caspian defied conventional wisdom in 2017-2018, exemplified by phase two of Azerbaijan's Shah Deniz project launching on schedule and under budget. Can ACE build on this momentum and further challenge the default assumption of a Caspian cost premium? So far, the signs are promising. Not only are the lessons learned from Shah Deniz construction directly applicable to BP's next Azeri platform, but the ACG contract extension to 2050 has changed the targeted phasing. Pre – drilling to maximise ramp – up will be less pressing than previously.

The Caspian's logistical and subsurface complexities are undeniable. But further optimisation success at ACE will set the bar for the region's other pre – FID project.

Decision time looms for Kazakh IPO

Meanwhile, Kazakhstan's high – profile privatisation process is finally underway. Samruk – Kazyna, the country's sovereign wealth fund, listed a 15% stake in Kazatomprom – the world's largest uranium producer – in London and Astana in November 2018. KazMunaiGas (KMG), the state – owned crown jewel, is currently fourth in line for an initial public offering (IPO), after the national airline (Air Astana) and telecoms provider (Kazakhtelecom). No final decision has yet been made on the KMG listing, but the national oil company (NOC) intends to be IPO – ready by the end of 2019. A sale of 20 – 25% equity in 2020 would be Central Asia's largest – ever listing – the regional equivalent of a Saudi Aramco IPO.

Many observers have maintained a healthy dose of scepticism about the plans, but could this prove misplaced? KMG does have a strong investment story to tell, thanks to its equity in Kazakhstan's three upstream megaprojects and the 2018 buyout of its cash – rich KazMunaiGas EP subsidiary. Corporate governance is improving and finances are no longer stretched. But an IPO many still only work in the most benign market conditions.

Chevron evaluates an Azerbaijan exit

Megaproject mergers and acquisitions (M&A) could return with a bang in 2019. Chevron has publicly confirmed that its Azeri portfolio is up for sale – a 9.57% stake in the super – giant offshore ACG field and 8.9% in the related Baku – Tbilisi – Ceyhan (BTC) oil pipeline. Speculation also surrounds ExxonMobil's Azerbaijan position – 6.79% in ACG and 2.5% in the BTC, the latter only bought in 2017. Azerbaijan has not seen a billion – dollar deal since 2015, when Equinor (then Statoil) divested a 15.5% Shah Deniz stake to Petronas for \$2.25bn.

Like recent disposals in the North Sea, the respective Azeri assets are natural candidates for divestment – non – operated stakes in a non – core country, irrespective of the long – term entitlement value and volume that ACG offers to production sharing contract (PSC) expiry in 2050. Pre – emptio rights.

Apply and appetite from existing ACG partners, such as ONGC, is plausible. However, interest is also expected from other Asian NOCs.

Should further rationalisation of the majors' regional exposure be expected? Operated Caspian assets – the core of the core – are close to untouchable: from BP's presence in Azerbaijan to Tengizchevroil for Chevron and ExxonMobil. But this is yet another reminder of the harsh competition for capital that Caspian projects will continue to face. This is particularly true in portfolios where the marginal dollar can alternatively be spent on US tight oil or deepwater hotspots.

Georgia and Uzbekistan broaden investment horizons

Notable memoranda of understanding (MoUs) and cooperation agreements were signed in 2018 for both Georgia's small upstream industry and Uzbekistan's mature, but re – remerging sector. Repsol and ExxonMobil are carrying out onshore studies in Georgia, while Schlumberger has drilled a deep well on its operated acreage. In land - locked Uzbekistan, the list of interested parties also continues to grow – from BP and Total, to ONGC. Perhaps 2019 will bring a transition from non – binding agreements to new contracts with international oil companies (IOCs)?

Alongside direct talks, Georgia may hold an offshore licensing round in 2H2019. Inclusion of Black Sea acreage would heighten international interest, amid hopes of analogues to recent discoveries in Romania and Bulgaria.

Our take on this is that Georgia and Uzbekistan are at the region's frontiers, and not just geographically. Both are taking firm strides to reinvigorate IOC appetite, albeit from very different starting points. In recent years, each has risked and over – reliance on certain types of operator – a dominant NOC in Uzbekistan and poorly financed small – caps in Georgia. But are there opportunities of sufficient scale and value to compete for capital? A new tender in Georgia must be more successful than the country's 2017 onshore round, which did not attract any sizeable international players. For Uzbekistan, much depends on further gas market reforms and a willingness to offer discovered resources in the country's Amu Darya basin heartland.

Azerbaijan confirms much – needed domestic gas supply

After the launch of the Southern Gas Corridor in 2018, it will be another big year for gas in Azerbaijan – this time focused on future domestic supply. Progress must be made in 2019. With IOC partnerships vital to commercialise Azerbaijan's offshore gas resources and avoid a shortfall in the 2020s.

But with pre – FID projects is Azerbaijan prioritising? Firstly, expansion at the 2tn cf Umid field. Socar held lengthy talks with Total in 2018, but a farm – in is yet to be agreed. Secondly, 4tn cf of uncontracted non – associated gas at the super – giant ACG field. Negotiations with the BP – led oil consortium have intensified since 2017. We expect a long – awaited initial agreement on commercial terms in 2019, paving the way for signature of a risk service agreement or PSC.

Timing is of the essence for Azerbaijan's future domestic gas mix. Socar is confident it can end its call on Russian and Turkmen gas imports in 2019 -2020, but clarity on new sources is needed for long – term self – sufficiency. Domestic gas prices are high enough to offer an acceptable return, even if these projects lack the high condensate yields that underpin Shah Deniz and Absheron economics.

Rival bids for Anadarko Acquisition

Following Chevron's announced deal to acquire Anadarko Petroleum, Anadarko received an unsolicited proposal from Occidental Petroleum. Under the proposal, Anadarko shareholders would receive \$38 in cash and 0.6094 shares of Occidental common stock for each share of Anadarko common stock, roughly 20% more than Chevron's earlier offer. Anadarko says its board of directors are carefully reviewing Occidental's proposal to determine the course of action that it believes is in the best interest of the company's stockholder.

Commenting on this latest development. Zoe Sutherland, Corporate Analyst at Wood Mackenzie, says: 'The proposed deal would put Occidental alongside ConocoPhillips in a peer group to two, as a "super – independent". The deal underscores Occidental's need to scale up in the Permian Basin. If the deal goes through, it would give the company ExxonMobil or Chevron – like – Permian scale, and set them up to join the million boe/d Permian club in the late 2020s, according to our base case. The

deal highlights that diversity is still valued by US independents, and would mark Occidental's entry into the deepwater Gulf of Mexico and LNG.'

She Adds: 'Financially, the deal would be a big stretch for Occidental. Its gearing ratio at the end of the fourth quarter was 25%. A potential transaction would materially increase the company's leverage ratios and stretch its balance sheet.'

Meanwhile, commenting that the earlier announced Chevron deal was 'reflective of multiple trends that are becoming increasingly evident in the global energy market', Jarand Rystad, founder and Chief Executive of Rystad Energy consultancy, says: 'Energy giants recognise that they need to invest more in the shale sector and in renewable energy. At the same time, due also to the lower cost of capital prevalent today, it makes sense for modern E&P companies to favour higher leverage and lower equity share, and instead use debt capital fund investments and operations, while enhancing shareholder value through share buy – backs and higher dividends.'

He Adds: 'This acquisition represents a golden opportunity for Chevron to achieve a more leveraged capital structure that is better suited for the lower risk energy projects of the future.'

Looking at the respective asset portfolios of Chevron and Anadarko, Rystad Energy founding partner and Head of Research Per Magnus Nysveen, remarks: 'We have always considered Anadarko as having the best positioned acreage in the sweetest spot of the Permian Delaware Basin. Combining these shale assets with Chevron's strong legacy position in the same area, we will now see Chevron emerging as the clear leader among all Permian players, both in terms of production growth and as a cost leader.'

Nysveen continues: 'The combined entity will be by far the largest producer in the Permian, which is the fastest growing basin in the world, well ahead of ExxonMobil. By 2025 the merged entity will be able to produce as much 1.6mn b/d of oil from the Permian Basin alone.'

Chevron and Anadarko, which currently rank as the world's 10th and 41st largest producers of oil and gas, respectively, will climb to seventh place after the merger. The new entity will jump ahead of Shell and BP in the rankings, and will trail only ExxonMobil and the five biggest national oil companies.

Rystad Energy also sees strong synergies between the two companies in the US Gulf of Mexico, where the merged entity will become the largest producer, surpassing current leaders BP and Shell, Synergies are also apparent in East Africa, which is emerging as a vital region in the buoyant global market for LNG. Chevron and Anadarko also have overlapping portfolios in Latin America.

Jonathan Markham, Upstream Oil & Gas Analyst at GlobalData, notes: 'The (Chevron / Anadarko) deal is the largest acquisition by a supermajor since Shell acquired BG Group for \$53bn in 2015. It will shake up the US upstream sector, creating a company that rivals ExxonMobil domestically. Its will also create opportunities in the international space, with Chevron targeting \$15 – 20bn of divestment in the next four years. Key deals could include Chevron's assets in the UK, Denmark, Thailand, Indonesia, Nigeria and Angola, as well as Anadarko's operations in Algeria and Ghana.'

ExxonMobil makes 13th find offshore Guyana

ExxonMobil has made a new oil discovery offshore Guyana at the Yellow 1 well marking the 13th discovery on the Stabroek block. The discovery adds to the previously announced estimated recoverable resource of approximately 5.5bn boe for the block. Yellowtail 1 is the fifth discovery in the Turbot area, which ExxonMobil expects to become a major development hub. The company says

there is potential for at least five floating production, storage and offloading vessels on the Stabroek block, producing more than 750,000b/d of oil by 2025. Start up of the Liza Phase 1 project is on track to begin by 1Q2020 and will produce up to 120,000 b/d of oil, utilising the Liza Destiny FPSO, which is expected to arrive in country in the third quarter.

Liza Phase 2 is expected to start up by mid 2020. A final investment decision is expected soon. The project plans to use the Liza Unity FPSO to produce up to 220,000 b/d. Sanctioning of the third development, Payara, is also expected in 2019, with start up projected for 2023.

Shell has announced a significant discovery at the Blacktip prospect in the deepwater US Gulf of Mexico. Blacktip is operated by Shell 52.375% and co – owned by Chevron 20%, Equinor 19.125% and Repsol 8.5%.

Eni has signed an exploration and production sharing agreement and joint operating agreement covering block A offshore Ras Al Khaimah, United Arab Emirates. Eni will act as operator, with a 90% participating interest. The remaining 10% stake will be held by Ras Al Khaimah's national oil company RAK Gas.

ExxonMobil has increased its holdings in Argentina after securing, with an affiliate of Qatar Petroleum, three exploration blocks during Argentina's first open offshore bid round in more than 20 years. A total of 38 blocks were on offer. Equinor added seven offshore exploration blocks to its portfolio. It will act as operator of five of the blocks, with one other operated by YPF and the other by Total.

Saudi Aramco is to acquire Shell's 50% share of the SASREF joint venture in Jubail Industrial City, in the Kingdom of Saudi Arabia, for \$631mn. The acquisition supports Saudi Aramco's plan to increase the complexity and capacity of its refineries, as part of its long – term downstream growth strategy. For Shell, the sale is part of an ongoing effort to focus its refining portfolio, integrating with Shell trading hubs and Chemicals. The refinery has a capacity of 305,000 b/d. The main products are LPG, naphtha, kerosene, diesel, fuel oil and sulphur.

ExxonMobil has signed a sales and purchase agreement with China's Zhejiang Provincial Energy Group to supply 1mn t/y of LNG over 20 years. Zhejiang Energy is planning to develop a major LNG gateway in the Ningbo – Zhoushan region of China, and is to build and LNG receiving terminal at Wenzhou.

European Parliament backs tighter emissions limits for cars and vans

MEPs and EU ministers have agreed on new, higher targets to reduce EU fleet – wide emissions for new cars and vans by 2030. The new legislation sets targets to reduce carbon dioxide emissions by 37.5% for cars and 31% for vans compared to 2021 levels.

There will also be an intermediary step, where emissions for both cars and vans are expected to be cut by 15% by 2025.

The legislation now requires final adoption by the European Council before publication in the Official Journal.

Manufactures whose average emissions exceed the limits will have to pay an excess emissions premium. By 2023, the European Commission will have to evaluate whether or not to allocate these amounts to a specific fund in order to transition towards zero emission mobility, and to support schemes to retrain workers for electric car production.

Germany whose auto industry is the largest in Europe and fourth largest globally, remained largely opposed to the plans, as did several large automotive companies. The European Automobile Manufacturers' Association (ACEA) has called the higher targets 'totally unrealistic', asserting that they stem from 'political motives.'

In contrast, France, Ireland and Netherlands led the push for the ambitious targets which exceed the recommended 30% emissions cuts previously proposed by the European Commission. Despite this, critics have noted that even these targets do not go far enough to meet the EU's Paris Agreement obligations to cut greenhouse gas (GHG) emissions by 40% of 1990 levels by 2030 in all economic sectors.

The new law also demands that the full life – cycle of emissions from cars should be assessed at EU level.

These new regulations come in the wake of the 2015 'dieselgate' scandal, during which Volkswagen was caught tampering with emission reports. The company intentionally programmed its diesel – powered vehicles to only activate emissions controls during laboratory testing, whilst emitting up to 40 times the amount of nitrogen oxide during normal operation.

Transport is the only sector in the EU that did not record any significant decline in GHG emissions since 1990. Rather, road transport emissions have risen by 20% since 1990. Figures from the European Environment Agency show that of all means of transport in the EU, road transport generates the largest share of GHG emissions (73% in 2016) and is responsible for around 20% of the EU's total emissions.

Sweden 'a leader' in the energy transition

IEA's new Energy Policy Review: Sweden 2019 assets that Sweden is a global leader in building a low carbon economy, with the lowest share of fossil fuels in its primary energy supply among all IEA member countries, and the second – lowest carbon intensive economy.

The country's success is due to market – based policies that focus on energy efficiency and renewable energy, notably carbon dioxide taxation – the highest rate in the world – which has helped drive decarbonisation across several sectors, such as households and heat generation.

According to the review, Sweden's energy policy is also well – integrated with its climate objectives, which include the long – term goal of zero net emissions by 2045. However, additional action is needed to achieve these results, as the country's total carbon emissions have been flat since 2013.

The report pays special attention to the transport sector, which accounts for less than a quarter of Sweden's final energy consumption, but over half of its energy related carbon dioxide emissions. Sweden has set a target to reduce transport emissions by 70% between 2010 and 2030.

However, Sweden is not yet on a trajectory towards its 2030 target, and the IEA recommends that the government closely monitors developments and strengthens policy measures as needed. The electricity system is also critical for Sweden's energy transition.

The IEA says that electricity generation is already 'practically decarbonised' due to investment in nuclear power and hydropower, which have afforded the country stability and flexibility since the 1980s. Recently, investment in other renewables such as wind power have increased, but a stronger

transmission system is crucial to provide the reliability needed to support increased renewable energy generation.

Sweden has not taken a formal position against the construction of new nuclear plants and most existing nuclear power plants are expected to run for several more decades before being phased out. Nevertheless, there is currently little interest to invest in new reactors, says the report.

A key factor for maintaining a secure electricity supply is the regional power market. Sweden is well connected with its Nordic and Baltic neighbours and has become a large net exporter of electricity.

Renewable could meet 86% of power demand by 2050 - IRENA

New analysis from the IRENA finds that there are pathways to meet 86% of global power demand with renewable energy by 2050.

According to IRENA's analysis, energy – related carbon dioxide emission would have to decline 70% on current levels by mid – century to meet established climate targets. The agency has found that a large – scale shift to electricity from renewable could deliver 60% of those reductions – and 75% if renewable for heating and transport are factored in.

The report focuses on two pathways for the global energy system. Its 'reference case' scenario offers a projection based on governments' current plans and climate pledges, while the 'Remap case' requires stakeholders to align themselves with the Paris Agreement's 2 degree C target as soon as possible.

Under current and planned policies, the energy sector would see cumulative global investment of \$95tn over the period until 2050. IRENA notes that the transition to a decarbonised energy system will require scaling up global investment in the energy sector by a further 16% - or an additional \$15tn by 2050. In total \$110tn would be invested in the energy system, representing on average 2% of global gross domestic product per year over the period.

The Remap case would also require a cumulative reduction in fossil fuel subsidies of \$15tn below the figure projected for the reference case by 2050. However, IRENA says, the savings from avoided subsidies – and reduced health and environmental damages – would be three to seven times larger than the additional energy system costs. Total savings from the Remap case could amount to anywhere between \$65tn and \$160tn by 2050.

'By mid – century, the global economy would be larger, and jobs created in the energy sector would boost global employment by 0.2% said IRENA Director – General Francesco La Camera. 'Policies to promote a just, fair and inclusive transition could maximise the benefits for different countries, regions and communities. This would and communities. This would also accelerate the achievement of affordable and universal energy access.'

But, IRENA warns, swift action is needed to reap the economic and social benefits of systems – wide decarbonisation. The report recommends that national policies shift to emphasise zero – carbon long – term strategies and highlights the need to boost technologies innovations in energy.

The energy transformation is gaining momentum, but it must accelerate even,' said La Camera. 'The UN's 2030 Sustainable Development Agenda and the review of national climate pledges under the Paris Agreement are milestones for raising the level of ambition. Urgent action on the ground at all levels is vital, in particular unlocking the investment needed to further strengthen the momentum of this energy transformation.'