

ENERGY TRANSITION

Challenges ahead

While oil prices have rebounded to pre-pandemic levels, the energy transition potentially poses a longer-term challenge for the Caspian's hydrocarbons sector, writes *Joseph Murphy*.



The Caspian region is well-endowed in oil, gas and other raw materials, and this wealth has helped draw in lucrative foreign investment and driven economic growth in the decades since the collapse of the Soviet Union. However, this over-reliance on a handful of commodities left the Caspian countries greatly exposed to the COVID-19 pandemic and the ensuing impact on markets.

Oil prices collapsed to their lowest level since the 1990s in April 2020, when Russia decided to walk away from OPEC+ talks. Russia later saw reason, agreeing with the oil cartel's other members, which include Azerbaijan and Kazakhstan, to take nearly 10mn b/d of oil supply offline. Even that sacrifice was not enough to offset COVID-19's impact on prices, and it has taken Brent over a year to return to its pre-pandemic level.

As a result, Azerbaijan and Kazakhstan have had to scale back oil supply significantly over the past 12 months, while at the same time fetching far less for their remaining barrels. This contributed to their economies contracting by an estimated 5% and 2.6% respectively in 2020.

COVID-19 also took its toll on the gas-producing nations of Uzbekistan and Turkmenistan, both of which generate significant export revenues from selling gas to China. Chinese gas demand saw growth of 6% in 2020 despite the pandemic's effects early in the year. But the country prioritised domestic supply while slashing its gas imports, with Central Asian supplies bearing the brunt.

Considering these challenging circumstances, it is no surprise that the past year has seen muted upstream activity in the Caspian

region. Some downstream projects have also suffered as a result of the market turbulence. Citing the pandemic, Austria's Borealis scrapped plans in May last year for a multi-billion dollar polyethylene (PE) plant in western Kazakhstan. Its Kazakh state-owned venture partner United Chemical is now trying to proceed with the venture on its own.

Lost in transition

Oil and gas markets are now recovering thanks to the easing of lockdown measures and the mass roll-out of vaccines. But countries dependent on fossil fuel revenues face a longer-term challenge from the energy transition, which has gained momentum during the economic crisis.

The International Energy Agency (IEA) and others have slashed their long-term forecasts for oil and gas prices, and many of the world's leading oil companies have written billions off their books to account for the revised outlook. Should these predictions bear out, so-called petrostates like Azerbaijan, Kazakhstan and Turkmenistan stand to lose billions of dollars of economic wealth over the coming decades unless they can diversify. Indeed, a 2021 report by London-based think tank Carbon Tracker estimated that the 40 most oil and gas-dependent countries stand to lose \$9tn in oil and gas revenues by 2040 as the world shifts to lower carbon energy. It rated Azerbaijan as Tier 5, the category of countries most vulnerable to the transition, and Kazakhstan as Tier 3.

At the same time, the Western oil companies that Azerbaijan and Kazakhstan have relied on for their upstream expertise and financial capability for decades are shifting focus. For example, BP announced

plans in 2020 to scale back its oil and gas production by 40% within a decade, while increasing its renewable energy capacity 20-fold. In March 2021 the company confirmed it was dropping plans to explore three projects in the Kazakh section of the Caspian Sea, citing its change in strategy as the reason.

As part of its green pivot, BP has said it will not look for oil and gas in countries where it is not already active. This likely means it will not make a foray into neighbouring Uzbekistan either, where it signed a preliminary deal in early 2020 to explore two subsoil blocks in the western Ustyurt region. The company has not indicated that the new strategy will have any impact on its plans in Azerbaijan, where its exploratory work over the past year has been limited anyway because of the market conditions.

With Western oil firms less willing to commit to new Caspian ventures, it is conceivable that major players in the region from China and Russia will take their place.

Gas hopes

While forecasters have warned that oil demand may never again recover to pre-pandemic levels, the outlook for gas is more positive, given that many countries want to use the fuel to reduce their emissions by replacing coal-based power.

China will continue drawing significant gas supplies from Central Asia in the long term, as its indigenous supply fails to keep up with surging demand. It is a different story in Europe, however, where the IEA predicts that demand will contract over the coming decades. This does not bode well for a planned expansion in Azeri gas exports to the continent.

Azerbaijan hailed the completion of the Trans-Adriatic Pipeline (TAP)

at the start of the year, which at full capacity will deliver up to 10bn cm/y of gas to south-east Europe. BP, Azerbaijan's Socar and the pipeline's other investors want to double this to 20bn cm/y and are due to hold the binding phase of market tests for the expansion this July.

Increased gas supply into south-east Europe will help the region scale back coal-fired generation, providing cleaner baseload capacity to complement renewable sources of power. But it is unclear whether the area will need more gas, especially given the recent development of other import options such as the Krk LNG terminal in Croatia, also launched at the start of this year.

Increasingly, Azerbaijan will have to compete with other gas suppliers, not just on price but on climate credentials. This may mean the country has to make progress cutting its CO₂, methane and other emissions to convince European buyers that its gas is sufficiently clean.

The Southern Gas Corridor, of which TAP is a part, was realised largely thanks to significant EU political and financial support. But it is unlikely that the bloc would be willing to provide anywhere near this level of support for its expansion, given growing antipathy towards oil and gas, and weak demand prospects.

Clean potential at home

The Caspian nations have also followed other regions of the world in seeking to harness their renewable energy potential.

Kazakhstan was an early developer of wind and solar power,

launching its first wind farm, a 50 MW facility near Yereymentau, in 2014. That same year it also brought online its first solar power station, also with a 50 MW capacity. These initial projects were supported by feed-in tariff (FiT) legislation, which Kazakhstan crafted with the help of the European Bank for Reconstruction and Development (EBRD).

In 2019, however, the country switched from FiTs to a system of auctions for projects, where developers bid to supply power for the lowest price. In the latest round that concluded last December, Kazakhstan picked developers to build 148 MW of wind, hydropower, solar and biogas capacity, out of a tender target of 494 MW. By the end of 2019, Kazakhstan had 284 MW of wind and 542 MW of solar capacity in operation, according to the International Renewable Energy Agency (IRENA). It added a further 583 MW of renewable capacity, comprised of 12 solar, 10 wind and one hydroelectric plant, in 2020.

While not a trailblazer like Kazakhstan, Uzbekistan's progress has been significant given that its renewable energy drive did not kick off in earnest until the end of the regime of President Islam Karimov in 2016. The country held its first competitively-held tender for solar power generation in 2019, with Abu Dhabi-based Masdar putting in a winning bid for a 100 MW solar plant in the Navoi region. France's Total Eren was later picked for a 100 MW solar station.

Masdar obtained financing for the facility the following year, when the EBRD, the International Finance Corporation (IFC) and the Asian

Development Bank (ADB) pledged over \$180mn in funds. The IFC has taken a leading role in Uzbek solar development, having helped Tashkent arrange tenders and draw up power purchase agreements. Construction of the Masdar facility began in January this year.

Emboldened by this success, Uzbekistan announced two more tenders for solar generation in December last year. One tender is for a plant at least 200 MW in size in the Surkhandarya region, along with associated infrastructure. The third competition covers up to 500 MW of solar projects in the Bukhara, Namangan and Khorazm regions.

Uzbekistan has made similar strides in wind energy. After landmark deals in 2019 with Saudi Arabia's ACWA Power and Masdar for 1,000 MW and 500 MW of wind capacity respectively, Uzbekistan launched a tender in April last year for a 100 MW plant in the Karakalpakstan Province. But although the competition attracted interest from 70 companies and consortia, according to the Uzbek Energy Ministry, a winner was never announced. Nevertheless, authorities went on to reach power purchase and investment deals for the aforementioned two ACWA projects, bringing them closer to realisation.

Uzbekistan's strategy calls for the deployment of some 5 GW of solar capacity by 2030, as well as up to 3 GW of wind energy and 3.8 GW of hydroelectric power. But its ailing grid will need significant upgrading to handle so much intermittent renewable energy. In tandem, though, Uzbekistan is also looking to improve gas-fired generation over the decade, replacing some 6.4 GW of older gas-based capacity while building or modernising a further 15.6 GW. Ample baseload gas-fired generation will help the Uzbek energy system support more renewable input.

Azerbaijan, meanwhile, is looking to develop its first large-scale solar power plant, with talks currently underway with Masdar for the 230 MW facility's development.

Others in Central Asia, like Tajikistan and Kyrgyzstan, boast significant hydroelectric capacity, much of it built in the Soviet era. But neither has made a foray into wind or solar yet.

Turkmenistan might have the biggest solar power potential in the region, but its authoritarian and isolationist regime prevents the country from attracting the necessary international financing and expertise to kickstart its renewables programme. ●

Trans-Adriatic Pipeline compressor station at Kipoi
Photo: Trans Adriatic Pipeline

