

# Solar race

Gulf Arab countries' renewables projects are attracting outside investors and achieving world-beating low tariffs. Claudia Carpenter and Dania Saadi look at the project pipeline as well as the tailwinds and challenges ahead

---

**G**ulf Arab countries are forging ahead with renewable projects despite an abundance of fossil fuels and the coronavirus pandemic.

Record-low tariffs and plans to reduce dependence on crude oil and natural gas as feedstock for power and energy-intensive water desalination plants are the main factors behind the rapid development of renewables in the region.

The renewable power sector was the only energy source to grow its share of the power market globally during the pandemic, while oil, natural gas and coal have all declined, IRENA Director General Francesco La Camera said in June. Even as oil prices slumped due to the pandemic, the share of renewables in the generation of electricity has grown in all parts of the world, he said.

The oil-rich Gulf region is among the areas benefiting most from the global appetite for renewables projects.

The UAE, Saudi Arabia, Qatar and Oman are the four countries in the six-member Gulf Cooperation Council that have developed renewables projects over the last few years. Bahrain and Kuwait also belong to the GCC.

Saudi Arabia, the world's largest oil exporter, is forecast to lead the push in the Middle East in the next few years, having launched several renewables projects, including its first wind farm, to free up crude burned in power plants for export.

The country's third renewables round to add 1.2 GW of solar capacity is advancing after 49 companies pre-qualified for lead roles. Energy minister Prince Abdulaziz bin Salman told local media in June that the kingdom would "very soon" announce a solar energy project with the lowest electricity cost per kilowatt-hour. The world record-low solar cost is was by Abu Dhabi, the oil-rich emirate of the seven-member UAE federation, until Portugal got a lower price in August.

"We expect renewables capacity in the Middle East to more than double within the next five years, given that

there are almost 7 GW of utility-scale solar and 1.5 GW of wind projects in development,” head of global power planning at S&P Global Platts Analytics in New York, Bruno Brunetti, said.

The pipeline of utility-scale solar projects has not changed much so far this year, indicating the damage done by the coronavirus has so far been largely contained, Brunetti said. The Middle East had over 5.1 GW of solar PV and 700 MW of wind installed as of the end of 2019, according to the International Renewable Energy Agency.

Solar and wind accounted for about 1% of power production in the Middle East in 2019, according to the S&P Global Platts World Energy Demand Model. It is expected to be slightly higher at around 1.3% in 2020, and about 3% of the total by 2025 in the region.

### Encouraging private investment

Middle East renewables have been fostered by regulatory environments that have allowed private developers to own projects, generate electricity and consume and sell the power, according to renewable energy analyst at the International Energy Agency, Yasmina Abdelilah. Countries that have long-term renewable energy targets coupled with support policies will enjoy growth in the near term, she said.

The UAE, for example, targets 50% clean energy by 2050, including nuclear power, with renewables playing a lead role, and has conducted several large-scale, competitive solar auctions that yielded low prices.

Within the UAE, Abu Dhabi and Dubai are developing large-scale renewables projects at record low prices. In April, Abu Dhabi’s 2-GW tender drew a world near record-low solar bid of \$13.50/MWh, submitted by TAQA, France’s EDF and China’s Jinko Solar for a 30-year contract. It will be the largest solar farm in the world, joining plants in China, India and Egypt with capacity of over 1 GW.

The Dubai Electricity & Water Authority this year awarded Saudi Arabia’s ACWA Power the 900-MW, fifth phase of the Mohammed bin Rashid Al Maktoum Solar Park, a project that aims to have 5 GW of solar power by 2030 at a cost of Dirham 50 billion (\$13.6 billion).

## In Saudi Arabia a key renewable project is set to be sited in the \$500 billion future city of NEOM, which will be 35 times the size of Singapore

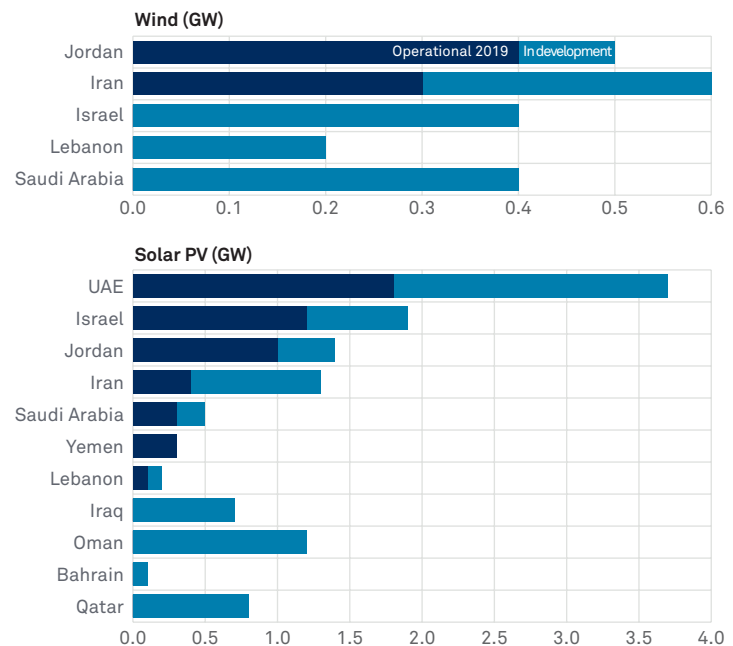
The \$2-billion fifth phase project achieved an international record-low bid at the time, of \$16.953/MWh. The development uses photovoltaic solar panels, and is based on the independent power producer model.

Qatar, together with Total and Marubeni, plans to develop an 800-MW solar power plant near the capital Doha, as the Gulf state accelerates its renewables push to free up energy production for export.

Qatar’s Siraj Energy, in which Qatar Petroleum has a 40% stake, will hold a 60% interest in the Al-Kharsaah

### Renewables activity in Middle East on growth track

Capacity installed and projects in development



Source: IRENA, S&P Global Platts Analytics, S&P Global Platts Market Intelligence

solar PV power plants, which will cost Riyals 1.7 billion (\$463 million), Qatar Petroleum said in January. Total and Japan's Marubeni will hold the remaining stakes in the project that will follow the build, own, operate and transfer model for a 25-year period.

In Oman, the biggest Arab oil producer outside OPEC, Petroleum Development Oman this year began operations of the sultanate's first utility-scale solar power plant, which will free up 95.5 million cu m a year of natural gas for export, at a time when the country's oil revenues are dwindling due to OPEC+ cuts and plummeting prices.

Meanwhile in Saudi Arabia, a key renewable project is set to be sited in the \$500 billion future city of NEOM, which will be 35 times the size of Singapore on a large swathe of land in the Northwest of the country.

In July, ACWA Power, NEOM and the US's Air Products signed a \$5-billion agreement to build a green

hydrogen-based ammonia production facility powered by renewable energy. The project, which will be equally owned by the three partners, will be sited in NEOM. The project will produce green ammonia for export to global markets and will include more than 4 GW of renewable power from solar, wind and storage.

"This deal is of particular significance, as the kingdom's ambitious renewables expansion program should no longer be seen only through the lenses of diversifying its domestic fossil-fuel based power mix, but also in view of meeting growing global demand for green hydrogen," Brunetti said.

Renewables growth in the region is accelerating due to growing power demand, falling solar and wind costs and favorable government policies that attract private investment, such as competitive auctions, according to the IEA's Abdelilah.





Growth would be even faster if regulatory barriers to new market entrants outside of auctions were removed, permitting procedures were simplified and more low-cost financing available. Access to the grid and clear regulations surrounding connection permitting would also open up opportunities, Abdelilah said.

## Global ambitions, local setbacks

Despite the coronavirus pandemic, Middle Eastern renewable companies are pressing ahead with international projects as well as local ones.

In July, Saudi Basic Industries Corp., majority-owned by state-controlled oil company Saudi Aramco, said its polycarbonate facility in Cartagena, Spain, is set to become the world's first large-scale chemical production site to be run entirely on renewable power.

The agreement will mean Iberdrola investing almost Eur70 million (\$80 million) to construct a 100-MW solar PV facility with 263,000 panels, on land owned by SABIC, making it the largest industrial renewable power plant in Europe. The plant is expected to be in operation in 2024.

ACWA Power and Masdar are leading the regional foray into global renewable markets. ACWA Power is

25% owned by Saudi Arabia's sovereign wealth fund, while Abu Dhabi's clean energy firm Masdar is a unit of Mubadala Investments Co., a fund managing more than \$230 billion in assets.

Masdar said August 13 it had clinched its second strategic investment in the US in a deal with EDF Renewables North America under which it will acquire a 50% stake in a 1.6-GW clean-energy portfolio.

However, Kuwait in July canceled plans to build the Al-Dabdaba solar plant, which would have provided 15% of the oil sector's needs of electrical energy, due to the coronavirus. State-run Kuwait National Petroleum Co. was supposed to start operating the project in February 2021.

Saudi Arabia's renewables program has also been delayed, raising questions about its renewables goals, Brunetti said. Even before the pandemic, Saudi Arabia had put on hold a \$200-billion solar project with Japan's Softbank Group.

Although there are risks that the Saudi renewable program may be scaled down, as well as other threats to lower-carbon energy across the Middle East from an abundance of fossil fuels, most renewables projects haven't been rolled back or cancelled, potentially showing how environmental, social and governance



concerns have become more central to oil-exporting countries, Brunetti said.

The kingdom has set a target of 27.3 GW of renewables by 2024. “Even if Saudi Arabia continues to lag behind in terms of installed capacity and projects, we think the country will catch up within the next few years to become the largest player for renewables in the region next to UAE,” he added.

Due to coronavirus-related business and travel restrictions, the Saudi ministry of energy in April extended the request for proposals deadline for its 1.2-GW solar project to six months from four, which would mean the results could be out as early as October.

The jury is still out on whether the coronavirus will slow future renewables plans in the region. “Most of the growth in the near term is from projects already in the later stages of project development,” Abdelilah said.

But she added that the economic environment remained a big variable for new project development and financing. Furthermore, for hydrocarbon exporters, low oil prices could limit the support available for renewables.

In more ways than one, then, the regional focus on fossil fuels could hinder the push into renewables.

## Kuwait in July canceled plans to build the Al-Dabdaba solar plant, which would have provided 15% of the oil sector’s needs of electrical energy, due to the coronavirus

Only 18% of executives in the Middle East expect to see growing opportunities to invest in the energy transition in the next 12 months, the lowest percentage globally, according to a survey published in May by UK-based law firm Ashurst.

“We believe this is a result of a combination of the region’s reliance on oil and gas, which still dominates its energy policy, and a lack of government policies on renewables,” Ashurst said in its report. ■