

OVERVIEW

RENEWABLE ENERGY ATTRACTS MORE PRIVATE FINANCE

The last couple of years have been of high importance to the private financing of renewable energy projects in the MENA region, especially in mega photovoltaic (PV) projects. Typically, more mature markets and technologies are financed with private finance on commercial terms, whereas grants and concessional finance are often used to stimulate investment in previously untested countries. In the Middle East and Africa region, the total investments in renewable energy reached USD 7.7 billion in 2016, with over 90 percent from private sources.

Globally, private sources accounted for around 87 percent of total renewable energy finance between 2013 and 2016, averaging USD 223 billion annually between 2013 and 2014 and USD 270 billion annually between 2015 and 2016, peaking at almost USD 300 billion in 2015 according to figures published by the International Renewable Energy Agency (IRENA) in 2018.

Commercial financial institutions accounted for an average of 23 percent of the investment share between 2014 and 2016 (up from 14 percent in 2013), hitting a high of USD 69 billion in 2015.

More money was invested in solar power in 2017 than in coal, gas and nuclear power combined, according to a report for the United Nations Environment Programme (UNEP). The report said that global investment in solar rose 18 percent to USD 160.8 billion, driven by the Chinese market, which was responsible for more than half of the world's 98 gigawatts (GW) of new solar capacity. Solar power made up 57 percent of last year's total for all renewables (excluding large hydro) of USD 279.8 billion, and it towered above new investment in coal and gas generation capacity at an estimated USD 103 billion.

Investment reached a comparable milestone in 2015, when renewable power technologies for the first time attracted more finance than non-renewable power technologies – a trend that is expected to continue, according to Buchner et al. (2017).

In March 2018, Saudi Arabia and SoftBank Group Corporation signed a memorandum of understanding to build a USD 200 billion solar power development that is exponentially larger than any other project. At 200 GW, the SoftBank project planned for the Saudi desert would be about a hundred times larger than the next biggest

proposed development and more than double what the global photovoltaic industry supplied in 2017, according to data compiled by Bloomberg New Energy Finance (BNEF). If built, the development would almost triple Saudi Arabia's electricity generation capacity, which stood at 77 GW in 2016, according to BNEF data.

This was the latest in a number of announcements from Saudi Arabia promising to scale up its access to renewables. While the Kingdom has for years sought to get a foothold in clean energy, it was only in 2017 that the government moved forward with the first projects, collecting bids for a 300-megawatt plant in October.

SoftBank is also planning to invest as much as USD 25 billion in Saudi Arabia over the next three to four years. This will be a boost for the Vision 2030 campaign to diversify the Saudi economy away from oil. SoftBank is aiming to deploy as much as USD 15 billion in a new city called Neom, to be built on the Red Sea coast. The Japanese company's Vision Fund will also invest as much as USD 10 billion in state-controlled Saudi Electricity Company as part of efforts to diversify the utility into renewables and solar energy.

In February 2018, ACWA Power, the Saudi global leader in developing, constructing and operating power generation and desalination water plants in 11 countries won the first-ever utility scale renewable energy project in Saudi Arabia. ACWA Power had been selected as the most competitive compliant offer from submissions made by consortiums of eight local and international bidders.

Skaka plant, located at a site on Al Jouf spanning over six square kilometers, will generate 300 MW at an investment of USD 302 million. The 25-year Power Purchase Agreement (PPA) contract was awarded at a new world record tariff of US Cents 2.3417/kWh.

Paddy Padmanathan, president and CEO of ACWA Power, charted the vision of his company on the future of renewable energy in a piece he wrote for the AFED 2017 report: "The coming years will see a large-scale rollout of renewable power plants that will be supplying power around the clock using thermal and battery storage, making them base load plants." He noted that while finding financing for development projects was volatile over the past decade, the situation has changed dramatically, with local and international funding increasingly embracing



the Equator Principles as a benchmark for environmentally and socially responsible lending. Padmanathan said that more companies now comply with the World Bank and International Finance Corporation's Environmental and Social Performance Standards, adding: "This is pushing the region and the supply chain to meet common international standards for financing projects. In addition, in recent years these standards have been included as a minimum requirement in requests for proposals from national utilities. This gradual maturation of environmental and social performance is another notable change that is welcomed as it has win-win benefits for all parties and stakeholders."

In September 2017, the UAE announced the world's largest Concentrated Solar Power (CSP) plant, a milestone in the emirate's ambition to generate 75 percent of its energy needs from renewable sources by 2050. The target will be met by securing private investments and forging public-private partnerships (PPP). In March 2018, ACWA Power signed the Engineering, Procurement and Construction (EPC) agreement with the Chinese Shanghai Electric Generation Group (SEGC) for the execution of the 700 MW CSP plant. The project is the fourth phase of the Mohamed bin Rashid Solar Park, the largest thermo-solar power plant in the world. Under the terms of the contract, the new plant will deliver energy at 7.3 US cents per kilowatt-hour (kWh). The project will have the world's tallest solar tower, measuring 260 meters.

The price of 7.3 cents per kWh for the fourth phase of the solar complex comes in as more expensive on paper than phases 2 and 3 of the project, which delivered prices of 5.84 cents and 2.99 cents respectively using solar photovoltaic (PV) technology. However, the new CSP plant will have the significant advantage of being able to store energy for when the sun has gone down, something which needs extra storage batteries via PV technology.

In 2016, ACWA Power Extended Africa's Renewable Energy Capacity with a PV Facility in Morocco. The NOOR PV I Programme, signed during COP22 in Marrakech, consists of three projects: NOOR Ouarzazate IV with a capacity of around 70 MW, NOOR Laayoune, 80 MW and NOOR Boujdour of 20 MW. ACWA Power submitted the lowest tariff price for the project at 4.8 cents per kWh with a total installed capacity of 170 MW. In collaboration with the Chint Group, Sterling & Wilson and Shapoorji Pallonji, ACWA Power undertook the NOOR PV I Programme, launched by the Moroccan Agency for Sustainable Energy (Masen) under a 20-year build-own-operate-transfer (BOOT) scheme. Masen has entered into a power purchase agreement (PPA) to off-take the output generated electricity and will also act as a shareholder, in addition to sole lender. The NOOR Solar Program aims to deliver 2 gigawatts by 2020.

As part of the finance structure for the NOOR Laayoune and NOOR Boujdour projects, Masen has issued the first sovereign-guaranteed “green bond” in Morocco for the financing of a sustainable energy project. German bank Kreditanstalt für Wiederaufbau will fund the NOOR Ouarzazate IV project.

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Furthermore, in Lebanon the scheme was introduced in 2011. Unlike Jordan, which allows the consumer to sell the excess electricity remaining in his balance at the end of the calendar year, the Lebanese net metering does not allow the sale or transfer of any remaining electricity credits at the end of the year (LCEC, 2016).

G. Energy Funds and Fiscal Incentives

The success and effective implementation of RE and EE measures and initiatives depend on the availability of sustainable and adequate funding mechanisms, as mentioned earlier. Around nine countries in the Arab region have established RE funds, the status of which can be seen in Table 2.

Fiscal incentives are usually implemented to encourage investment in RE and EE by reducing the costs of the overall projects. It usually comes in the form of tax credits, tax reduction, tax exemption and other kinds of preferential treatment in taxation for products that are usually used in the value chain of RE and EE technologies.

Despite the fact that internationally many countries have offered fiscal incentives for RE and EE investments, few countries in the MENA region offer such incentives. Examples include the NEEREA in Lebanon and the Revolving Fund in Palestine, which have played important roles in the development of sustainable energy projects in both countries (RCREEE, 2014).

Other financial support includes fiscal incentives such as VAT and income tax exemptions, import duty concessions, and tax rebates on RE and EE equipment. Some of the countries, such as Jordan, exempt RE & EE equipment from all customs duties and sales taxes (MEMR, 2012).

As for EE, only five countries in the region offer tax incentives: Algeria, Egypt, Jordan, Palestine and Tunisia.

H. Energy Service Companies (ESCOs)

This mechanism is the most well defined third party financing for EE worldwide. It usually finances the EE projects without any up-front investment costs for the local authority, where