

FEATURE ARTICLE

Saudi Arabia steps up as a world leader in the green energy revolution

Saudi Arabia is inviting foreign participation in its ambitious goals to embrace renewables as a key energy source and cut carbon emissions from its power generation sector

FORMAT: FEATURE ARTICLE | SECTOR: ENERGY TRANSITION | MARKET: SAUDI ARABIA | FEATURING: SAUDI RENEWABLES

The world's second largest oil producer is progressing rapidly on its mission to diversify away from hydrocarbons and become a global leader in renewable energy. Currently, the country generates 100% of its electricity from fossil fuels, with 49% coming from gas and 51% from petroleum liquids such as oil. However, the country has set an ambitious target to generate 45-50% of its energy mix from renewable sources by 2030, with the remainder coming solely from carbon-friendly gas. The country is now turning the bulk of its energy spending towards the energy transition and raising international notice from prospective partners and investors with a larger goal to achieve carbon neutrality before 2060. The Gulf country is currently developing 70 renewable parks that require around \$100 billion worth of investment, all planned or currently in development stages. To reach its national targets, the country introduced a new energy supplies law in December 2022 that allows foreign companies to fully own engineering companies in the market. "Saudi Arabia is at the forefront of developing renewable energy projects and contributing to a model society set on transforming industry to protect the planet," said Curro Nicolau, chairman of global renewables player Go Energy Group. "Large infrastructure projects are growing, putting [the country] on the map as one of the best locations for investment."

"Saudi Arabia is at the forefront of developing renewable energy projects and contributing to a model society set on transforming industry to protect the planet,"

CURRO NICOLAU · CHAIRMAN

Saudi Arabia has significant solar potential, with the World Bank ranking it as the seventh highest worldwide over the course of a year. The country is currently developing a giant solar park in Al Shuaibah. The development is set to become the world's largest single-contracted photovoltaic plants, with [] (<https://www.energyintel.com/00000183-45f9-dcbb-a1b7-4dfbc9ad0000>) an installed production capacity of 2.06 GW. The project is backed by Saudi's Public Investment Fund and local renewables leader ACWA Power and is expected to begin operations by the end of 2025. Additionally, the group is working on a 1.5-GW solar farm located in Sudair Industrial City. When completed, the project will power 185,000 homes and offset almost 2.9 million tons of carbon emissions per year. Wind energy is also of vital importance to the national plan, with planned projects in Yanbu, Al-Ghat and Waad Al Shamal that together are targeted to produce up to 1.8 GW. In August 2021, the 400-MW Dumat Al Jandal wind farm came on line, Saudi Arabia's first utility-scale wind power project. Additionally, the government has acknowledged nuclear energy as a source for renewable energy and has reached out to US players for guidance and possible partnerships.

Another significant clean energy initiative is the \$500-billion NEOM project, which encompasses building a city run entirely on renewable energy in the northwest of the country. NEOM Green Hydrogen Company – an equal joint venture between ACWA Power, US hydrogen producer Air Products and

NEOM – is spending \$8.4 billion to produce the world's largest carbon-free green hydrogen plant at the NEOM Oxagon site. The plant will use 4 GW of solar and wind energy to produce [] (<https://www.neom.com/en-us/newsroom/neom-green-hydrogen-investment>) [up to] (<https://www.neom.com/en-us/newsroom/neom-green-hydrogen-investment>) [] (<https://www.neom.com/en-us/newsroom/neom-green-hydrogen-investment>) [600] (<https://www.neom.com/en-us/newsroom/neom-green-hydrogen-investment>) [tons] (<https://www.neom.com/en-us/newsroom/neom-green-hydrogen-investment>) [per day of carbon-free hydrogen. The facility is expected to come on line by the end of 2026.] (<https://www.neom.com/en-us/newsroom/neom-green-hydrogen-investment>) Though the cost may seem high, Paddy Padmanathan, board member of ACWA Power bets on the project's future profitability: "Approaching sustainability with a long-term mindset actually proves to be the most cost-competitive approach rather than an additional expense. This is a concept that people often struggle to grasp." In addition to its work on the NEOM project, ACWA Power plans to develop a series of interconnected giga-cities, including its \$1.59-billion Red Sea project designed to handle [] (<https://time.com/6261865/the-red-sea-saudi-arabia/>) 1 million visitors per year run almost entirely on renewable energy. These giant projects have set the pace, with the government anticipating more participation from the global private sector as activities increase.