

# The wind-solar hybrid sub-project of Saudi Arabia's communication base station includes

*Lower cost  
larger system*

20Kwh

30Kwh



**Verified** Supplier



## Overview

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The project includes a small ground-mounted solar plant, a battery, and an energy management system (EMS) at a wind power plant operated by SEC on the outskirts of Riyadh. The project was developed with support from Japan's New Energy and Industrial Technology Development . Saudi Arabia aims to have 50% of its electricity capacity from renewable sources by 2030, therefore reaching 100-130 gigawatts (GW) of renewable energy capacity. You can easily filter . This study explores the potential of a solar-wind hybrid energy system integrated with hydrogen fuel cell storage to address the limitations of standalone solar and wind power generation in Saudi Arabia. Using MATLAB and Simulink, we model and simulate energy production from solar photovoltaic (PV) . With 1.5 GW of solar capacity, 600 MW of wind power, and 400 MW/1,200 MWh of battery storage, this megaproject aims to power 750,000 homes while cutting CO2 emissions by 2. Think of it as a green lighthouse guiding the Middle East's energy transition. 5 GW of new solar and wind capacity under the sixth round of its National Renewable Energy Programme (NREP) auction (Saudi Press Agency, 27/10/2025). A total of five projects (one wind and four solar) were awarded that will require investments estimated at SAR9bn .

## The wind-solar hybrid sub-project of Saudi Arabia s communication

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### [Saudi Arabia Reveals Qualified Bidders For 5.3 GW Solar And Wind](#)

The Bilghah Wind IPP will offer 1,300 MW, while the Shagran Wind IPP is designed for 900 MW. These projects are part of Saudi Arabia's broader strategy to develop both solar and wind

### [Riyadh Wind, Solar and Storage Project: Powering Saudi Arabia's](#)

With 1.5 GW of solar capacity, 600 MW of wind power, and 400 MW/1,200 MWh of battery storage, this megaproject aims to power 750,000 homes while cutting CO2 emissions by 2.8 million tons annually.



### **KAPSARC , KSA Renewables Tracker**

This dashboard shows operational, under development and tendered solar and wind energy projects in Saudi Arabia. You can easily filter the information by year (for both completed and upcoming

### [Record Investment: Saudi Arabia Commits \\$8.3 Billion to 15,000 MW](#)

These include projects such as Haden, Muwayh, Al Khushaybi, Sudair, Shuaibah 2, Ar Rass 2, Al Kahfah, and Saad 2-all expected to contribute to local value creation and strengthen Saudi industry.





## Saudi Arabia to develop 15 GW of new wind and solar capacity

The programme includes two large-scale wind farms-Starah (2,000 MW) and Shaqra (1,000 MW)-both located in Riyadh province.

### [A spatio-temporal decision-making model for solar, wind, and hybrid](#)

A novel spatio-temporal decision-making model (STDMM) is developed to evaluate utility-scale solar photovoltaic (PV), onshore wind turbine (WT), and hybrid PV/WT power development,



### [Saudi Arabia Signs Deal for 15 GW of New Solar and Wind Projects](#)

With a total investment of approximately \$8.3 billion (over SAR 31 billion), the projects are expected to deliver a combined capacity of 15,000 MW, comprising 12,000 MW of solar PV and

## Design a Hybrid Wind-Solar Power System for Remote

In this study, a battery-reinforced hybrid wind-solar power generation system of a size able to meet the electric power requirement for general



### [Saudi Arabia awards 4.5 GW of solar and wind capacity in latest auction](#)

The 1.5 GW Dawadmi wind project, developed by KEPCO, Nesma Renewable Energy Company, and Etihad Water and Electricity Company, will be located in the Riyadh Province; it has

## [Hybrid renewable energy systems in Saudi Arabia: exploring solar](#)

This study aims to fill that gap by investigating the optimal configuration of a solar-wind hybrid system coupled with hydrogen energy storage, specifically designed for Saudi Arabia's



## **ACWA Power signs 15 GW of solar, wind PPAs in**

The 2-GW Afif 2 solar PV project recorded the lowest tariff among the five awarded solar schemes at SAR 47.23 (USD 12.59/EUR 10.79) per MWh.

## **Toshiba Tests Hybrid Wind-Solar Project in Saudi Arabia**

The project includes a small ground-mounted solar plant, a battery, and an energy management system (EMS) at a wind power plant operated by SEC on the outskirts of Riyadh. The storage system



## [Hybrid Wind-Solar Project with Energy Storage in Saudi Arabia](#)

The project will integrate a small ground-mounted solar plant with a wind facility, complemented by sophisticated battery systems designed to balance energy supply and demand effectively.

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