

# **The scale of energy storage participation frequency in the United Arab Emirates**





## Overview

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What are future power generation scenarios for the United Arab Emirates (UAE)?

Future power generation scenarios for the United Arab Emirates (UAE) that emphasize solar photovoltaic (PV) and concentrated solar power (CSP) with thermal energy storage are analyzed at PV:CSP generation ratios of 1:1 to 4:1, and up to 50% renewable share.

Is large-scale energy storage a viable option in the Middle East?

Until recently, large-scale energy storage was barely a consideration in the Middle East, where fossil fuels have long dominated power generation. With renewable energy projects expanding across the region, energy storage has started gaining traction.

How much excess electricity will be generated in UAE in February?

At 40% renewable share in the PV:CSP 4:1 scenario, which may be the closest to current UAE future energy plans, monthly excess electricity generation ranges from 0 in July to 2.8 TWh (i.e., 21.4% of monthly demand) in February.

What is the power sector in UAE 2014?

The UAE 2014 power sector is comprised of thermal power plants (i.e., simple and combined natural gas-fired cycles, steam cycles, diesel generators), solar PV, and solar CSP installations without TES ( Fig. 2 ).



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with ...



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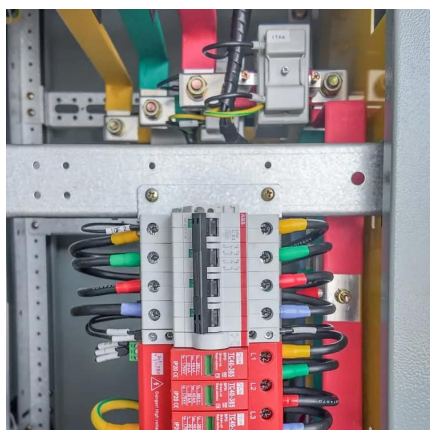
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