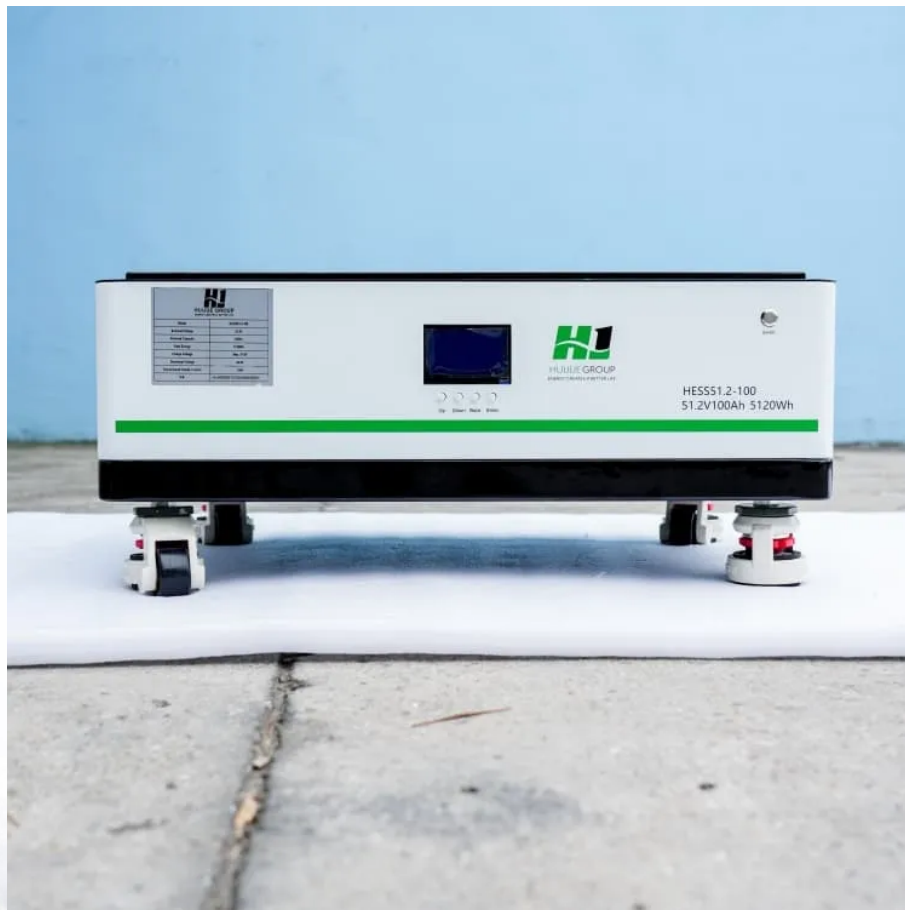


The ratio of solar power generation to energy storage in Kuwait City





Overview

How much solar power does Kuwait need?

If PV is the only renewable technology, Kuwait requires 11.43 GW of installed PV capacity, but curtailment is only 0.8 TWh. In addition, ramping events are significantly fewer compared to only having wind. The maximum ramp event is approximately 4.5 GW/hr and the average ramping up is 1.2 GW/hr.

How much electricity is needed in Kuwait in 2021?

Electricity consumption per capita reached 16.4 MWh in 2021 with a mean annual growth rate of 1.6% over 10 years (Ministry of Electricity and Water 2022). Electricity demand in Kuwait is continuously rising, reaching a peak load of 15.67 GW with an installed capacity of 20.2 GW in 2021 (Ministry of Electricity and Water 2022).

How many renewable power stations are there in Kuwait?

In Kuwait, there is only one renewable power station and there are eight oil- and gas-fired power stations in Kuwait. The generation fleet consists of 48% steam turbines (ST), 40% gas turbines (GT) and 12% combined cycle gas turbines (CCGT) that use primarily oil products and natural gas for fuel.

Will Kuwait meet 15% electricity demand by 2030?

The late Amir of Kuwait, H.H. Sheikh Sabah Al-Ahmad Al-Sabah, set a goal of meeting 15% electricity demand from RE by 2030 (Alabdullah, Shehabi, and Sreenkath 2020; Malyshev, Alabdullah, and Sreenkath 2019).



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