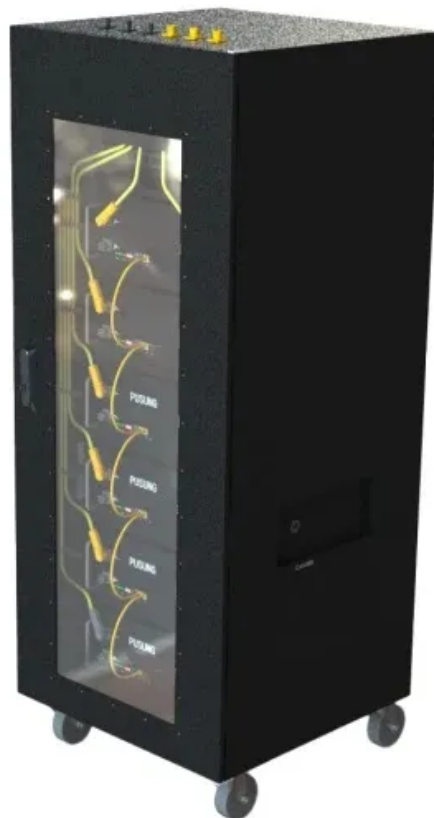


## SolarInvert Energy Solutions

# Other costs of wind power energy storage system approximate unit price



## Overview

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Offshore wind and wave energy are largely untapped renewable resources. However, the intermittency and the high cost of energy of these resources pose a few major challenges for their wide-scale develop.

How much does a distributed wind energy system cost?

The residential and commercial reference distributed wind system LCOE are estimated at \$240/MWh and \$174/MWh, respectively. Single-variable sensitivity analysis for the representative systems is presented in the 2019 Cost of Wind Energy Review (Stehly, Beiter, and Duffy 2020). Analysts included the LCOE estimate for a large distributed wind energy.

Can energy storage improve solar and wind power?

With the falling costs of solar PV and wind power technologies, the focus is increasingly moving to the next stage of the energy transition and an energy systems approach, where energy storage can help integrate higher shares of solar and wind power.

How much does wind energy cost?

In low wind areas, the costs are significantly higher, at around 8-11 c€/kWh, while the production costs range between 5 and 7 c€/kWh in coastal areas.

How much does offshore wind cost?

Therefore, in the analysis, the validations of the major cost parameters of offshore energy farms are considered. In general, the CAPEX (incl. decommissioning cost) of offshore wind is estimated at €/kW in this paper which is comparable with the recent value of 3029 €/kW (4430 AUD/kW by ) and 3388 €/kW (3185 USD/kW by ).

How long does an energy storage system last?

The 2020 Cost and Performance Assessment analyzed energy storage systems from 2 to 10 hours. The 2022 Cost and Performance Assessment analyzes storage system at additional 24- and 100-hour durations.

How much does a reference wind system cost?

These two reference projects give a single-variable sensitivity range of \$76–\$234/MWh (see Slides 46 and 47). This range is primarily caused by the large variation in CapEx (\$3,000–\$9,187/kW) and project design life. The residential and commercial reference distributed wind system LCOE are estimated at \$240/MWh and \$174/MWh, respectively.

## Other costs of wind power energy storage system approximate unit

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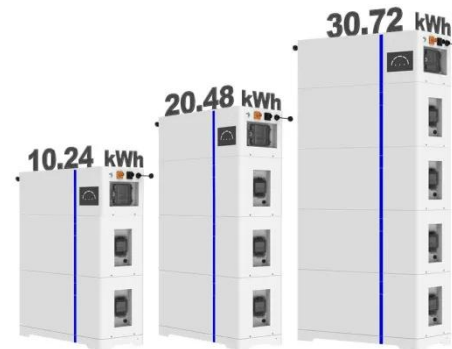
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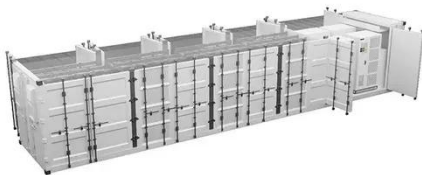
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