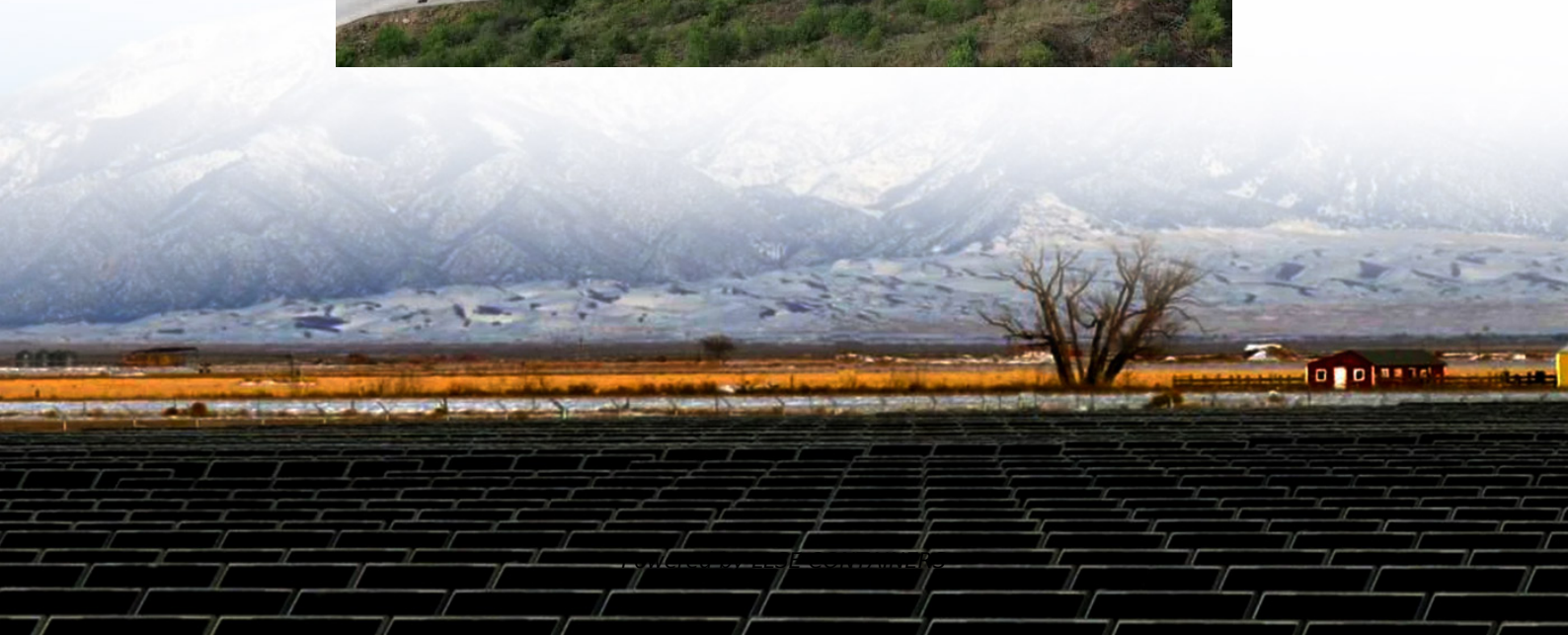


# **Kabul grid-connected wind power generation system**





## Overview

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How can wind energy be integrated into the electrical grid?

Effective integration of wind energy into the electrical grid is essential to ensure a stable and reliable energy supply. Grid upgrades and smart grid technologies can facilitate this integration. Wind energy is a vital component of the clean energy transition, alongside other renewable sources like solar, hydro, and geothermal power.

Does Afghanistan need a synchronous power grid?

Lack of a single transmission grid (synchronous power grid) Afghanistan needs a unified national power grid. Generally, there are four isolated grids supplied as passive islands from Uzbekistan, Turkmenistan, Tajikistan, and Iran, as shown in Figure 8 . However, the grid lacks flexibility and reliability due to asynchronous operations.

How will Afghanistan expand its transmission grid?

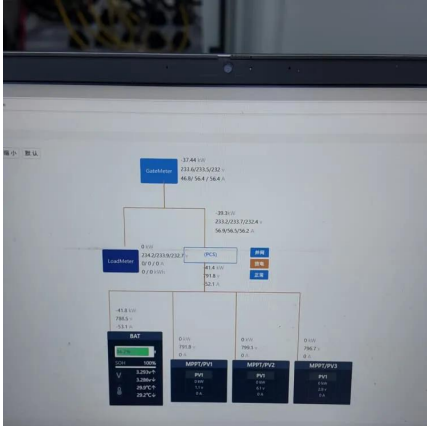
Afghanistan requires a substantial expansion of its transmission grid to connect power generation sources to demand centers across the country. This involves the construction of new high-voltage transmission lines, substations, and associated infrastructure.

What is Afghanistan doing to improve electricity supply?

These efforts have focused on expanding access to electricity, rehabilitating existing infrastructure, and promoting small-scale renewable energy sources. Afghanistan requires a substantial expansion of its transmission grid to connect power generation sources to demand centers across the country.



## Kabul grid-connected wind power generation system



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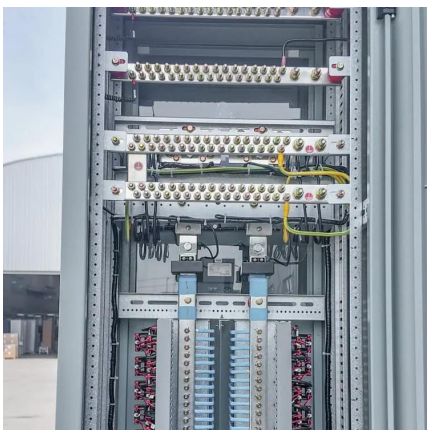


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