### **SOLAR** Pro.

## Modular energy Kazakhstan

How can Kazakhstan achieve a sustainable power supply?

Kazakhstan's supply of power to consumers should be secure, equitable, and sustainable. This can be achieved through a combination of decarbonized baseload generation- using gas and nuclear power, and renewable energy capacities - including zero-carbon wind power and hydropower; harnessed by the frontier grid and digital solutions.

#### Is Kazakhstan at a crossroads in its energy sector?

Kazakhstan,a vast and resource-rich nation in Central Asia,is at a crossroads in its energy sector. With a growing emphasis on sustainability and a need to align with global decarbonization efforts,the country is embarking on a transformative initiative that aims to ensure the security and reliability of its energy supply.

#### Should Kazakhstan build a nuclear plant?

The plan to build a nuclear plant in Kazakhstan will be vital for meeting the long-term decarbonization target. It would not be possible to meet the growing demand for power and decarbonize the sector using renewable energy alone, as a foundation of balancing capacities and an advanced grid must be built first.

#### Will Kazakhstan reach 15 percent of the energy mix by 2030?

Renewable energy technologies like wind turbines have passed the tipping point in terms of power output and cost. We welcome Kazakhstan's ambitious goal to increase the share of renewables to 15 percent of the energy mix by 2030- and look forward to delivering best-in-class solutions to help the country achieve this.

#### How many wind power plants are there in Kazakhstan?

Currently only onewind energy plant is operating in Kazakhstan; the Kordai wind power plant with 1500 kW capacity was launched in December 2011 in Zhambyl region. One of Kazakhstan's power companies, Samruk-Energy JSC, was recently awarded a \$94 million loan from the Eurasian Development Bank to build Kazakhstan's largest wind farm.

#### Will Kazakhstan's Energy Transition be a model for other countries?

Kazakhstan's progress on the energy transition can serve as a model for other countries in the region and beyond on advancing a just transition away from fossil fuels-helping to build a more sustainable, resilient economy for all.

There is enormous potential for renewable energy in Kazakhstan, particularly from wind and small hydropower plants. The Republic of Kazakhstan has the potential to generate 10 times as much power as it currently needs from wind energy alone.

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Envision Energy has signed a strategic agreement with Samruk Energy and Kazakhstan Utility Systems to establish a localized manufacturing facility for wind turbines and energy storage systems in Kazakhstan.

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Energy prices are subsidised, weakening incentives to invest in energy efficiency and other green technologies. As a result, Kazakhstan is among the most carbon-intensive economies worldwide. And yet, despite its strong dependence on fossil fuels, Kazakhstan has scored many energy transition firsts in the region.

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developing areas. Energy self-sufficiency has been defined as total primary energy production divided by total primary energy supply. Energy trade includes all commodities in Chapter 27 of the Harmonised System (HS). Capacity utilisation is calculated as annual generation divided by year-end capacity x 8,760h/year. Avoided

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