

### Energy and Renewables in Turkey (Türkiye)



**Turkey** has become one of the fastest growing energy markets in the world, paralleling its economic growth over the last ten years. Following the successfully implemented privatization program in the said period – power distribution is now completely in private sector hands, while the privatization of power generation assets is set to be completed within the next few years – has given the country’s energy sector a highly competitive structure and new horizons for growth.

Economic expansion, rising per capita income, positive demographic trends and the rapid pace of urbanization have been the main drivers of energy demand, which is estimated to increase by around 6 percent per annum until 2023. The current 74 GW installed electricity capacity is expected to reach 120 GW by 2023 to satisfy the increasing demand in the country, with further investments to be commissioned by the private sector. As part of its efforts to offer sustainable and reliable energy to consumers, Turkey offers investors favorable incentives, such as feed-in-tariffs, purchase guarantees, connection priorities, license exemptions, etc., depending on the type and capacity of the energy generation facility.

In the last decade, the Turkish government has made significant reforms in the provision of energy, moving forward the participation of private entities, and thus creating a more competitive energy market. The privatization of energy generation assets, coupled with a strategy to clear the way for more private investments, has resulted in an increased share of private entities in the electricity generation sector, from 32 percent in 2002 to 75 percent in 2015. Another step taken by the Turkish government towards a more competitive energy sector is the establishment of an energy stock exchange. Once operational, the exchange will not only enhance the liberalization of the market, but will also ensure transparency and help maintain a healthy balance between supply and demand.

In addition to having a huge domestic market, Turkey is in a strategic location between a number of major energy consumers and suppliers, and so serves as a regional energy hub. The existing and planned oil/gas pipelines, the critical Turkish straits and promising finds of hydrocarbon reserves within the country itself give Turkey increased leverage over energy prices and reinforce its gateway status.

Opportunities for renewable forms of energy production – hydro, wind, solar, geothermal and others – are abundant in Turkey, and encouraging policies backed by favorable feed-in tariffs are expected to increase their share in the national grid in the coming years. The Turkish government has made it a priority to increase the share of renewable sources in the country's total installed power to a remarkable 30 percent by 2023, while taking on board the energy efficiency concept by enacting laws that set principles for saving energy, at both individual and corporate levels, as well as by providing incentives to energy efficiency investments.

As important as the renewables are for Turkey's energy strategy in the coming years, technologies in such fields as waste processing and greenhouse gas reduction are also often

cited together with this new form of power generation as critically important supplementary practices. Sustaining the environment by resorting to renewable resources is accompanied by a number of measures and regulations that are either currently in effect, or will soon be in effect, including lowering carbon emissions, increasing generation/transmission efficiency and promoting the use of waste management technologies.

The sum of these factors has had a profound effect on Turkey's energy sector, and turned it into one of the most attractive investment destinations in the world. In line with the implementation of investor-friendly regulations and the high increase in demand, the Turkish energy sector is becoming more vibrant and competitive, attracting the attention of more investors for each component of the value chain in all energy sub-sectors.

The total investments required to meet Turkey's expected energy demand in 2023 is estimated to be around USD 110 billion, more than double the total amount invested in the last decade.

Turkey's ambitious vision for 2023, the centennial foundation of the Republic, envisages grandiose targets for the energy sector in Turkey. These targets include:

- Raising the total installed power capacity to 120 GW
- Increasing the share of renewables to 30 percent
- Maximizing the use of hydropower
- Increasing the installed capacity based on wind power to 20,000 MW
- Installing power plants that will provide 1,000 MW of geothermal and 5,000 MW of solar

### energy

- Extending the length of transmission lines to 60,717 km
- Reaching a power distribution unit capacity of 158,460 MVA
- Extending the use of smart grids
- Raising the natural gas storage capacity to more than 5 billion m<sup>3</sup>
- Establishing an energy stock exchange
- Commissioning nuclear power plants (two operational nuclear power plants, with a third under construction)
- Increasing the coal-fired installed capacity from the current level of 15.9 GW to 30 GW

<http://www.invest.gov.tr/en-US/sectors/Pages/Energy.aspx>