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WHAT MATTERS IN TURKEY

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From our chief economist
GUNDUZ FINDIKCIOGLU

Can the lira weather storms?

DÜNYA executive

Turkey has set some ambitious targets over the last decades in the energy sector. Here are the facts and figures exposing the dream and the reality.

10 Things about Facts and fictions in energy

By Dr. Nejat Tamzok

1 The localization goal

With an increase in capacity almost twice the world average over the last decade, Turkey has been able to meet its energy needs. Nonetheless, significant problems in terms of energy supply security have emerged. To compensate, Turkey has focused on domestic resources and source-country diversification. But at this point, we haven't achieved the desired goals. In 2016, Turkey produced only 26 percent of its energy needs, bought 28 percent from a single country, imported 42 percent from nine countries and the remaining four from other countries.

2 Energy efficiency

Turkey has tried to solve foreign dependency in energy by also restraining consumption and targeting efficient demand management and energy efficiency. However, while the amount of energy required to produce domestic household products has fallen by 16 percent in the world and by about 20 percent in the European Union over the last decade, it has increased by 6 percent in Turkey. This is largely due to Turkey's focus on increasing capacities in energy-intensive industries such as iron and steel, stone-ground, construction and textiles where value-added creation capacity is low. Consequently, Turkey remains one of the world's most foreign-dependent countries in energy.

3 Production targets in hydrocarbons

As energy imports rise sharply and add to the current deficit, Turkey has tried to increase oil and natural gas exploration and production. However, its crude oil production, which reached 4.5 million tonnes in the 1990s, has declined to 2.5 million tonnes today. Natural gas production, which reached one billion cubic meters a decade ago, has dropped to around 350 million cubic meters today. As a result, foreign dependency ratios have reached 94 percent in petroleum and 99.2 percent in natural gas.

4 Coal resources

Turkey also poured resources into investigating coal potential and maximizing its use. However, despite all the incentive policies, the rate of domestic coal production to meet total coal demand has declined from 50 percent 10 years ago to 40 percent. On the other hand, imports of coal have increased and foreign dependency on coal is now up to 60 percent.

5 Electricity production from coal

Electricity capacity based on domestic coal has increased by only 15 percent in the last 10 years. In the same period, the capacity increase in domestic coal power plants was one-tenth of the increase in natural gas power plants, and one fifth the increase in imported coal power plants. As such, the share of domestic coke in electricity generation was 15 percent in the first 11 months of 2017, compared to about 23 percent 10 years ago.

6 Renewable energy

Turkey aimed to increase the share of renewable energy in electric energy production and indeed, the share of wind, solar and geothermal resources in total electricity installed capacity has exceeded 10 percent today. A decade ago, Turkey's electricity production from renewable sources other than hydraulics was virtually zero. This is good news. But...

7 Potential of renewables

The share of electricity generation from renewable energy sources in total was 8.5 percent as of the first 11 months of 2017, almost twice the world average and close to the OECD average. However, Turkey's solar and wind power potential is much higher than the current installed power. The amount of solar energy per square meter is twice the European average. Thus, Turkey should be doing better.

8 Nuclear power plants

At least 10 per cent of the world's electricity production, more than 70 percent in France, and at least 30 percent in countries like Sweden, Switzerland, Belgium and Finland is derived from nuclear power plants. Turkey has set nuclear energy as a goal in its own production portfolio. However, there are striking differences in the cost of generating electricity from nuclear power plants, especially compared to renewable sources. The purchase price guaranteed by the state for electricity to be produced by Akkuyu Nuclear Power Plant has increased to 3.5 times that of the wind price and about two times the solar price. Given that the cost of renewables is dropping, this level of nuclear cost will make it very difficult for a nuclear power plant that will begin production in the coming years to compete with renewables over the 60 years of its lifetime.

9 Environmental effects

Turkey has aimed to keep environmental impacts to a minimum and to keep its carbon emissions, the most important contributor to climate change, stable while at the same time meeting its rapidly increasing energy needs. However, carbon dioxide emissions, which have decreased by 14 percent in the world and 9 percent in the OECD, have experienced a 43 percent increase in Turkey.

10 Conclusion:

It will only be possible to improve Turkey's energy sector in a meaningful way if our failing energy strategy is rebuilt from scratch.