

Turkey's Energy Policy, Regional Role and Future Energy Vision

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ABSTRACT

This article brings internal and external aspects of Turkey's energy policy into sharp perspective by summarizing trends and practices. A brief analysis of past performances and existing targets for the short and medium term will greatly contribute to evaluating Turkey's energy market. Today, Turkey's energy market is one of the world's fastest growing markets in terms of demand and supply. Turkey is a country with vast renewable energy resources and it has been trying to fully maximize this potential. Recent prestigious projects, notably the Nabucco pipeline project, are representative of Turkey's heightened energy diplomacy initiatives. Such projects can significantly contribute not only to strengthening energy security in the region and the world, but also to expanding peaceful interactions between Eastern and Trans-Atlantic values resulting in a sustainable confidence building environment.

Energy has a pivotal role in every society, touching upon all aspects of life and facilitating a sustainable economic and social development, which in turn enhance the welfare of people and consolidate the country's standing in the world. The new concepts of the world energy require a shift of position in mind and strategic orientation. We are at the edge of a new energy revolution, driven by the world's need for affordable energy and by the real threat of climate change. The coming decades are likely to bring about huge changes in the world's energy system. Future energy policies will be driven by the triple challenges of achieving substantial reductions in emissions of greenhouse gases, while ensuring a secure supply of energy, all at a reasonable cost.

Increasing Turkish economy's energy efficiency is an absolute necessity. Also, we must make a concerted effort to move rapidly towards more diverse and sustainable sources

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of energy. This move depends on the aggressive development and deployment of more sustainable energy resources and alternative fuels.

We are just on the threshold of a low carbon age. Looking towards this new age, we must begin by transforming the

way we run our homes and our lifestyles. I want to recall Mehmet Ögütçü's remarks: "The first step in fulfilling the green home dream is to bear in mind the four Rs: recycling, reusing items in other ways instead of discarding them, restoring instead of buying new and reducing waste".

Second, renewable energy and smart grids will play key roles to achieve substantial emission reductions, to recover from the global crisis via the creation of millions of clean energy jobs, and to attain sustainable growth. Given the global magnitude that energy represents for our future, Europe has been targeting a potential increase of 20% to 30% of renewables in its energy mix.

Last year, renewable assets generated around 20% of primary electricity in Turkey. According to Eurostat, the EU generated 17% of primary electricity through renewable resources. And again, according to Eurostat, between 2004 and 2009, Turkey had the highest clean energy investment growth rate in the G-20. Turkey's 2009 investments of \$1.6 billion earned it the 12th place in the G-20, according to Bloomberg New Energy Finance.

Turkey is rich in renewable resources. For example, in geothermal resources, Turkey ranks first in Europe and seventh in the world. As for wind energy, there has been a rapid increase in installed capacity since 2002. It went from 20 MW 8 years ago to 1,000 MW today. This is likely to show a continued rapid and sharp increase. With a 132% increase from 2008 to 2009 in installed wind capacity, Turkey ranked second after Mexico, according to the World Wind Industry Association. For solar energy potential, there are impressive similarities between Turkey, Spain and places like Las Vegas (Nevada), Denver (Colorado), and Sacramento (California) in corresponding solar range. All have more or less the same incoming solar radiation. Turkey has a minimum of 248 TWh per year of solar electricity potential which corresponds to 124 times of Turkey's electricity demand of 2009.

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Photo: A.A., Kayhan Özer

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300 MWe installed capacity for geothermal, and an additional installed capacity of 5.000 MW for small hydro power.

Also, an improvement of 10% in energy intensity will be achieved by 2015. Demand side energy efficiency investments create 3 to 4 times more jobs than new energy supply investments. Energy efficiency is also vital because of its cost effectiveness. In fact, every \$1 invested in more efficient electrical equipment renders unnecessary \$3.5 in energy supply investment. An average family can easily and needlessly consume twice more energy than their neighbour. So, changing energy consumption behaviour patterns while strengthening the foundations of an energy efficient lifestyle by providing the right tools, like easy access to financing, is vital.

The main incentive for investing in energy projects in Turkey is based on Turkish energy consumption patterns. The increase in energy demand has been consistently above the 7% of the annual average GDP since 2002, with the exception of the last two years because of the global financial crisis.

Recent forecasts indicate that this trend will continue in the coming decades. Until 2020, Turkey will require another 56 GW capacity in addition to its 45 GW

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existing total installed capacity. For this same timeframe, the investment need for the power sector is estimated at about \$125 billion. Thus, Turkey, because of its high growth rate and increasing demand of primary electricity, has a unique incentive. At the same time, Turkey needs to harmonize its legal framework with that of the European Union.

To expand and accelerate the renewable energy business in Turkey, a new comprehensive renewable energy law, which increases and differentiates the existing feed-in tariff and other incentives, is going to become effective as soon as possible. Based on the types of incentives Turkey provides for renewable energy, it has the potential to become a key destination for clean energy investments in the future.

The integration of nuclear energy into Turkey's energy capacity is also going to be one of the main tools in responding to the growing electricity demand, while avoiding increased dependence on imported fuels. Turkey considers the nuclear energy issue from a technological perspective. This technology-oriented approach includes supply diversification in the power generation mix, increasing efficiency of power generation, and ensuring the competitive structure of power generation.

Nuclear energy also plays a key role in mitigating climate change because it greatly contributes to the reduction of carbon emissions. Turkey will also reap the benefits of having a competitive economy with a low carbon scale.

The Turkish government is ready and willing to meet the challenges that climate change presents by taking the necessary steps to promote development of clean energy in Turkey, and in its region. Turkey believes that a sustainable energy future will involve a more, not less, diverse range of energy options encompassing low emissions fossil fuel technologies, nuclear power and renewables, as well as widespread improvements in energy efficiency.

Turkey can contribute constructively to the world's energy security and more specifically play an important regional role in that regard Turkey can be more than a bridge; it has the potential to become a regional center between Asia and Europe. The core of Turkey's energy policy is circular and the diameter of this circle is equal to the world's diameter.

Turkey is at the centre of energy geopolitics, especially in the context of national and international energy transportation issues, for the following reasons.

First, Turkey's geographic position allows for the most cost effective means of transportation. Second, Turkey's geopolitical position guarantees access to diverse energy resources. Third, Turkey has formulated energy policies based on a political conceptual framework, where its unique geopolitical position places Ankara at the centre and will facilitate its ability to solve regional and international energy problems.

In this new geopolitical context, Turkey represents one of the most important energy transportation routes carrying hydrocarbons from the Middle East and the Caspian Basin to the European Union. Turkey has proven itself to be a reliable partner for various projects, which have operated successfully. Examples include: the Baku-Tbilisi-Ceyhan Crude Oil Pipeline, the Baku-Tbilisi-Erzurum Natural Gas Pipeline, and the Turkey-Greece Interconnector Pipeline. In addition, studies for the Arab Natural Gas Pipeline, the Iraq-Turkey Natural Gas Pipeline, and the Italy connection of the ITG Pipeline are well underway.

Here, I would like to emphasize the Turkish government's proactive support for the Nabucco project, expected to contribute to the market economy and have a positive effect on gas pricing mechanism. Also, growing interest of international buyers and sellers will increase competition. Europe needs considerably more gas imports in the future and Nabucco and other projects will make a contribution toward meeting this demand. The main potential benefits of the Nabucco project include, inter alia:

- Opening a new gas supply corridor for Europe and for the countries involved in the project.
- Raising the transit profile of the participating countries along the route.
- Contributing to the security of supply for all partner countries, and also for Europe as a whole.
- Strengthening the role of the gas pipeline grids of all Nabucco partners in connection with the European gas network.
- Contributing to a well-functioning single gas market, by providing transparency and increasing competitiveness, mentioned in the EU Gas Directive.

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The Turkish Straits are of particular importance, as around 3.7% of the world's daily oil consumption is shipped through them. This figure is expected to grow due to the expected throughput from the Caspian Sea reaching the Black Sea, in addition to the large amounts of Central Asian oil.

To avoid humanitarian and environmental disasters that can and have occurred when transporting oil and gas, we need to consider the use of alternative oil export options that by-pass the Turkish Straits. Among the various by-pass proposals, the Turkish government supports the Trans-Anatolian Crude Oil Pipeline Project based on the comparative advantages of the project over its alternatives. The Ceyhan Terminal has already been designed to receive the crude oil from Kirkuk, Baku and Samsun. This will enable Ceyhan to become a major energy hub and the largest oil outlet terminal in the Eastern Mediterranean.

Today, each initiative that Turkey undertakes within its energy policy framework will have positive effects on the global energy outlook. At the top of Turkey's goals in the energy sector for 2020 is to make the Ceyhan Energy Terminal a key facility for global energy markets, able to handle about 3 to 4% of the global natural gas supply, and about 5 to 6% of the global oil supply.

In concluding, I am confident that by adopting a more rational and proactive approach on energy issues as well as by taking into account the myriad global factors that shape them, we must be able to promote a spirit of partnership and common goals among all regional and global participants. I do believe that the world can and will overcome the future energy challenges that lie ahead if confrontation and obsession with old concepts give way to collaboration and innovation. Turkey has much to offer to the new global system.

Note:

I would like to reiterate my congratulations for INSIGHT TURKEY, its guest editors, Mehmet Ögütçü and İbrahim Arınç, and almost a dozen of Turkish and international experts assembled for this special energy issue. We need to ground our critical energy decisions on such fine studies and recommendations. I hope that similar efforts will continue to guide us in light of the recent research and trends that have the potential to affect Turkey's energy future.