

Turkey Investor Brief: Renewable Energy May 6th, 2016

Note to readers: This is a part of the “Turkey Investor Brief” series prepared by StratejiCo. If you would like to get a more comprehensive brief on investment opportunities, [please get in touch with our team](#).

Our renewable energy report reveals a business-oriented overview into Turkish renewable energy. The report also gives a detailed analysis and understanding for opportunities and vitality of investments in Turkey.

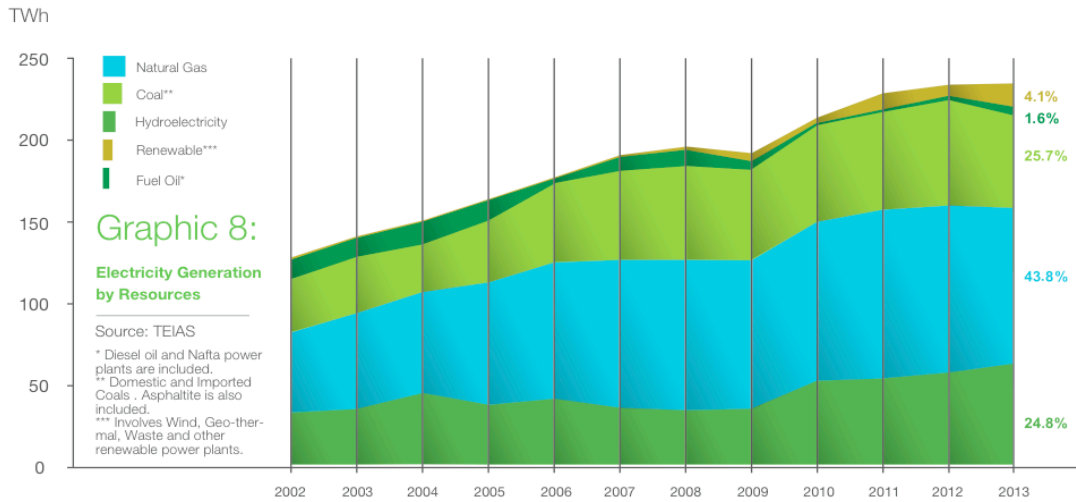
Summary

- Political and economic circumstances have made energy supply diversification a national priority for Turkey.
- Renewable energy sector provides opportunities to foreign investors that possess innovative technology and know-how.
- Investors should carefully examine market dynamics, as well as political and regulatory framework to determine feasibility of projects.

Political and economic developments have recently demonstrated Turkey’s need to diversify its energy supply by making domestic resources available. Downing of the Russian plane on Nov. 24, 2015 in particular has had profound impact on Turkish policy makers to reconsider country’s options. This is why renewable energy has become a priority of the new Turkish government, as demonstrated by the statements of the Minister of Energy and Natural Resources Berat Albayrak. The issue will remain an important topic as the Turkish economy is expected to grow by at least 3.5% in 2016.

Current Status in Energy

Almost half of Turkey’s electricity generated is by natural gas - provided mostly by Russia (54%) and Iran (18%). The below graphic shows the distribution of electricity generation from different resources:



Source: Ministry of Energy and Natural Resources, Strategic Plan 2015 - 2019

Changing geopolitical conditions in the region, especially strained relations with Russia and Iran, mean that Turkey's high dependency on these two suppliers is not sustainable in the long-term. This is why Turkish President Recep Tayyip Erdogan and Minister of Energy and Natural Resources Berat Albayrak have repeatedly called for investments and innovative development in Turkey's renewable energy market.

"There is something important that I tell the investors: Turkey has the potential for market consumption, but also as an export destination to the region. By way of encouraging both domestic investors and R&D centers, we have the strategy to make Turkey a regional renewable generator and an R&D center"

Berat Albayrak, Minister of Energy of Energy and Natural Resources
Jan. 27, 2016

Ambitious Targets

Turkey has already declared to increase the percentage of renewable energy in primary energy supply from 10% to 30% by 2023. Furthermore, Turkey will be using renewable energy with 10% in transportation.



Share of Renewable Energy: 30%



125.000 MW Installed Power



Renewable Energy in Transportation: 10%

In addition to general renewable energy targets for 2023, Turkey has also set specific targets for each renewable energy sector.



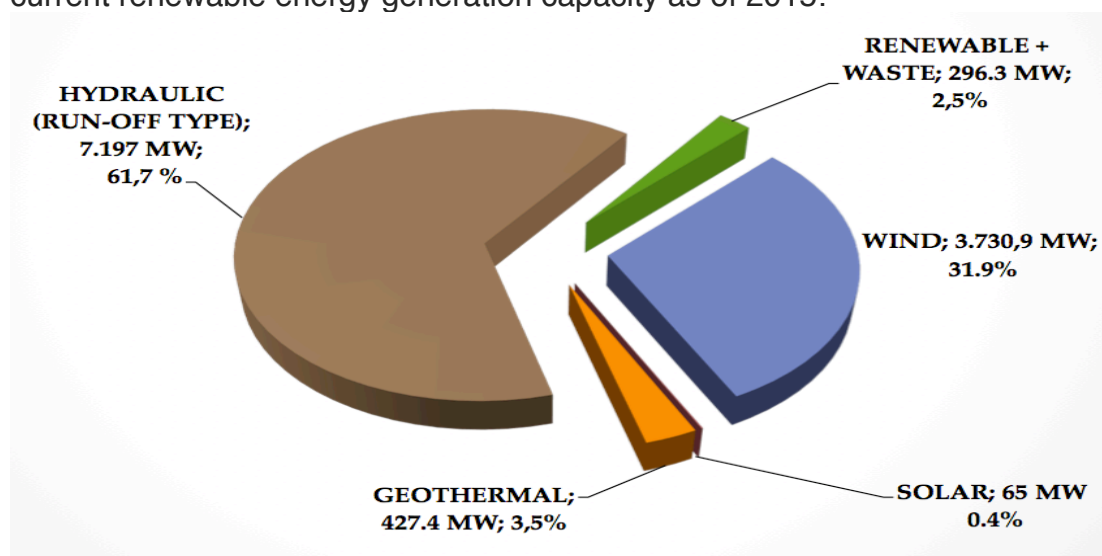
Present and Targeted Renewable Energy Capacities in 2013

Renewable energy sources	In operation at end of 2014 (MW)	In development (MW)	Target in 2023
Hydropower	23,544	9,400	34,000
Wind	3,630	6,013,8	20,000
Solar	40.2	N/A	5,000
Geothermal	404.9	327.9	1,000
Biomass	208	31.4	1,000

Sources: Ministry of Energy and Natural Resources, EMRA, General Directorate of Renewable Energy

Turkey's Potential for Renewable Energy

Turkey's geographic location increases the renewable energy potential mainly for hydro, solar, wind, geothermal and fuel oil. The existing capacities are planned to increase in parallel to the increase the renewable energy percentage in total amount of electricity production. The below chart show the current renewable energy generation capacity as of 2015:



Source: TEIAS, Load Dispatch Reports

Despite the relatively low capacity of solar energy compared to other renewable energy resources, Turkey is becoming more attractive for solar energy investors with the increasing public and private sector cooperation as well as supportive long term fiscal credits and incentives.

Potential & Opportunities

Incentives provided to foreign investors account for an installed capacity of 6,398 MW. This corresponds to 21% of the total installed capacity achieved via incentive documents. According to the Ministry of Economy, approximately 12 billion TL worth of incentives were provided to companies with foreign

capital. There are different types of support schemes to attract investments in renewable energy. Turkish government can provide specific incentives according to the conditions of the investment. The incentives within the General Investment Plan are given below:

- ➔ Vat Exemption
- ➔ Customs Duty Exemption
- ➔ Tax Deduction
- ➔ Land Allocation
- ➔ Interest Support
- ➔ Vat Refund
- ➔ Employer's Social Security Premium support

Moreover, Turkey provides specific feed-in tariffs for each renewable energy sector, as well as additional incentives for domestically produced equipment. The base feed-in tariff and the domestic equipment component can be combined in order to increase feasibility of renewable projects.

Type of Plant	Feed-in Tariffs (\$cent/kWh)	Additional rate from domestically manufactured equipment usage (\$cent/kWh)	Max Feed-in Tariffs (\$cent/kWh)
Hydro	7.3	2.3	9.6
Wind	7.3	3.7	11
Geothermal	10.5	2.7	13.2
Biomass	13.3	5.6	18.9
Solar PV	13.3	6.7	20
Solar CHP	13.3	9.2	22.5

Source: Law on Utilisation of Renewable Energy in Electricity Generation No. 5346

Turkey's strategic vision in energy plans to effectuate Turkey as the regional renewable energy generator and R&D center. In this direction, public and private institutions (such as AFD - Agence Française de Développement) work rigorously in order to realize Turkey's renewable energy potential. As the roadmap of a developing economy, Turkey needs international collaboration especially in energy via investments, knowledge and innovation.