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Russia and Turkey: State and Prospects of Energy Cooperation



Vladimir Likhachev

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Author:

Vladimir Likhachev, Ph.D. in Technical Sciences

Copy Editors:

Ivan Bocharov, Nikita Panin, Irina Tsymbal

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Cooperation in the energy sector is one of the most important facets of Russian foreign policy. Interaction in this area helps to develop mutually beneficial trade relations and ensure the energy security of Russia and its partners. Energy cooperation between Russia and Turkey has been comprehensive and strategic in recent years. This working paper contains an analysis of the current state and prospects of this cooperation. It examines in detail the role and place of traditional and renewable energy sources in the energy policy of the Republic of Turkey.

The views and opinions of authors expressed herein do not necessarily state or reflect those of the Russian International Affairs Council.

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Introduction

Turkey and Turkish politics, the Turkish economy and the Turkish energy are of great interest to Russia. The multi-faceted partnership between Russia and Turkey is often accompanied by a number of reservations. However, it is beyond any doubt that Turkey is a unique partner for a number of countries and regions, including Russia. There are certain features and characteristics that you need to know in order to build an effective dialogue with the country.

Russia's interests include increasing exports of hydrocarbon raw materials and nuclear technologies. It is based on these and other tasks that Russia considers Turkey to be a key partner in its energy cooperation in Europe. Assessing the current state of Russia–Turkey energy relations and the prospects for their further development requires an analysis of the changes taking place on Turkey's domestic energy market, as well as the main facets of its policy in this area.

This paper will examine the main features of Turkey's energy policy, as the country is a long-standing and potentially promising partner for Russia on geopolitical, economic, energy and environmental issues. It will then be interesting to compare the conclusions provided in this paper with those drawn by the author in the previous publications on this topic.¹

¹ Vladimir Likhachev. State and Prospects of Russia–Turkey Energy Relations // RIAC 16.12.2016.
URL: <https://russiancouncil.ru/analytics-and-comments/analytics/sostoyanie-i-perspektivy-rossiysko-turetskikh-otnosheniy-v-e/> ; Vladimir Likhachev. The Situation with Russian Gas on the Turkish Market // RIAC 06.10.2020.
URL: <https://russiancouncil.ru/analytics-and-comments/analytics/konyunktura-rossiyskogo-gaza-na-rynke-turtsii/>

Turkey's Geopolitics, Economics and Energy Policy

Turkey's economic and social development over the past 20 years has been marked by high growth rates, rising employment and higher incomes, rendering the country as an upper-middle income country, according to the World Bank classification. Turkey's GDP per capita has almost doubled since 2001, from \$13,235 to \$24,811 (according to 2018 data). The country ranked 19th in terms of nominal GDP in 2018 (\$902 billion).²

Turkey occupies an important strategic position and has long sought to become an important centre for energy trade between Central Asia, Russia, the Middle East and other markets. Besides, the country is a member of the OECD and NATO, while trying to accede to the European Union for years, and pursuing an active policy in the Caucasus and Central Asia. At the same time, the Turkish leadership, represented by President Recep Tayyip Erdoğan, treads its own path, often entering conflict zones with its partners both as part of political alliances and outside their scope.

Turkey has the fastest growing energy demand among the Organisation for Economic Co-operation and Development (OECD) countries over the past two decades. The country currently ranks second behind China in terms of the increasing demand for electricity and natural gas. Located in a region adjacent to approximately 60 per cent of the world's proven oil and natural gas reserves, Turkey has become one of the biggest natural gas and electricity markets in its region.

On the other hand, Turkey's import dependence for its energy needs in 74 per cent. The diverse structure of Turkey's energy strategy and its dependence on energy imports make international relations a key factor in the development of the country's energy sector. In this respect, cooperation with Russia is of paramount importance.

One of the main objectives of Turkey's energy strategy is to diversify routes and resources to strengthen its energy supply security. Turkey also aims to contribute to regional and global energy security and become a regional trade centre in energy. The fundamental elements that constitute the international dimension of Turkey's energy strategy are:³

1. Ensuring the diversification of routes and resources in the supply of oil and natural gas, taking into account the increasing demand and import dependency;
2. Contributing to regional and global energy security;
3. Emerging as a regional trade centre in energy;
4. Considering social and environmental impacts in the context of sustainable development in every phase of the energy chain;

² World Bank // URL: <https://databank.worldbank.org/indicator/NY.GDP.PCAP.CD/1f4a498/Popular-Indicators>

³ Turkey's International Energy Strategy // MFA Turkey. URL: <https://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa>

5. Increasing the share of domestic and renewable energy in electricity;
6. Including nuclear power in its energy mix.

Features of Turkey's Energy Mix

Turkey's energy mix comprises a large share of fossil fuels that accounted for 83 per cent of its total primary energy supply (TPES) and 73 per cent of its total energy consumption in 2019.⁴ The remaining demand is satisfied by various renewable sources, primarily geothermal and hydropower resources used in the production of energy. At present, Turkey is forced to import all of its oil (oil fuel) and natural gas, while approximately half of the coal used on the domestic market and all forms of renewable energy are produced inside the country. Domestic energy production accounts for approximately 31 per cent of Turkey's TPES (2019).⁵

Renewable energy production has more than doubled since 2009, with rapid growth in geothermal, hydro, wind and solar energy, while the use of traditional bioenergy (wood) for heating residential buildings (utilities) has declined.

Domestic energy production in Turkey has grown rapidly in recent years (up 59 per cent from 2014 to 2019). This was mainly due to the development of renewable energy sources, which accounted for 54 per cent of total energy production in 2019. Geothermal energy in particular has more than doubled since 2014, making up 21 per cent of the country's total energy production in 2019.⁶ Coal production has also bounced back in recent years following a slump in 2010–2015.

Despite the rapid growth in domestic energy production, Turkey still primarily relies on energy imports. Almost all the natural gas used in the country is imported, and domestic oil production accounts for just 7 per cent of the total demand (including international bunkering).⁷

Despite the growth in its domestic resource extraction activities in recent years, Turkey still relies on imports to supply 58 per cent of its coal demand. This can be explained by the adoption of the Environment Law in Turkey, which led domestic consumers to abandon the use of low-quality Turkish coal. High-quality and reasonably priced Russian coal is in demand in Turkey, making Russia one of the principal suppliers of coal to the country.

Turkey has launched the implementation of its nuclear energy programme: the first unit of its one and only nuclear power plant is expected to become operational in 2023. This is another area of Russia–Turkey cooperation.

We should note here that the energy policy pursued by the Turkish leadership has remained stable for the past 10–12 years. This policy continues to be guided by the principles of developing the country's energy market and ensuring energy

⁴ Turkey 2021. Energy Policy Review // IEA. URL: <https://www.iea.org/reports/turkey-2021>.

⁵ BP Statistical Review of World Energy // BP. 2021. URL: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>.

⁶ Ibid.

⁷ Ibid.

security. Rapid economic development and population growth over the past two decades have led to a significant increase in energy demand, as well as to increased dependence on imports. As a result, Turkey has restructured its energy system to cope with the growing energy demand, reducing energy prices for consumers and slowing import growth rates.⁸

In light of its heavy dependence on oil and gas imports, Turkey considers energy security to be a key factor of its energy strategy. The strategy includes efforts to boost exploration activities and develop the production of its own oil and gas resources; initiatives to diversify sources of oil and gas imports and develop the associated infrastructure; and attempts to reduce energy consumption through improved energy efficiency.

Turkey has diversified its energy mix significantly over the last decade. Renewable energy sources in particular have demonstrated impressive growth: electricity production from renewable sources has tripled over this period, thanks in large part to hydro, solar and wind energy. However, experts believe that Turkey could achieve even greater growth in renewable energy given its huge potential resources—not only in the electricity sector, but in the heating sector too.

Turkey has taken significant strides towards the liberalization of its energy markets over the past decade, improving the predictability and transparency of energy pricing.⁹ However, additional reforms to create more competitive gas and electricity markets will help mobilize the necessary investment in these sectors.

⁸ BP Statistical Review of World Energy // BP, 2021. URL: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

⁹ Taxing Energy Use 2019: Country Note — Turkey // OECD.
URL: <https://www.oecd.org/tax/tax-policy/taxing-energy-use-turkey.pdf>.

Turkey's Eleventh Development Plan (2019–2023)

One of the key sectoral priorities identified in Turkey's Eleventh Development Plan (2019–2023) was the achievement of important targets in the energy sector.¹⁰ In this context, supply targets for 2023 include:

- reducing the share of natural gas in electricity generation from 29.9 to 20.7 per cent,
- increasing the share of renewable energy sources in electricity generation from 32.5 to 38.8 per cent,
- increasing the amount of electricity generated from local energy sources from 150 to 219.5 terawatt-hours (tWh).

Demand targets for 2023 include:

- increasing primary energy consumption per capita from 1.81 to 2.01 tonnes of oil equivalent (toe),
- increasing electricity consumption per capita from 3.7 to 4.3 MWh, closer to the world average.

Turkey has already made significant progress towards achieving its energy targets. Not only did the share of private ownership on electricity production increase from 40 per cent in 2002 to 85 per cent in 2018, but the country also saw a significant increase in renewable energy sources (primarily hydropower).

Turkey has set a target of commissioning 10,000 megawatts of both solar and wind capacity in 2017–2027. New coal-fired power stations with a combined capacity of 7500 megawatts are also planned for construction. According to forecasts, a total of 84 per cent of new energy capacity will come from domestic sources by 2023, with 76 per cent of this coming from renewable sources. By 2027, domestic sources will account for 82 per cent of all the power generation in the country, 61 per cent of which will come from renewable sources.

¹⁰ Turkey 2021. Energy Policy Review // IEA. URL: <https://www.iea.org/reports/turkey-2021>

Traditional Energy Sources

Oil

Oil remains the main source of energy in Turkey's total final consumption (TFC), and the second biggest source in terms of total supply. In 2000, the share of oil in the total energy supply was 41 per cent, and 45 per cent in of its TFC. The figure has remained relatively stable ever since. Russia is one of the biggest suppliers of crude oil to Turkey, although it lags behind the Mediterranean countries in this regard. That said, Russian exports of oil products are important for the Turkish market. Most of Turkey's liquid hydrocarbons are consumed by the transport sector, where increased energy demand has led to a rapid increase in the overall consumption of oil and petroleum products. Diesel in particular dominates the automobile fuel market. Lowering demand for diesel and fuel substitution are key to preventing further increases in oil demand in the transport sector moving forward. Possible substitutes include gas, electricity and, further down the line, hydrogen.

Natural Gas (particularly important for Turkey)

The Turkish government has made significant progress in terms of investing in its position as a regional energy trading hub (especially gas trading) with the opening of the TurkStream and TANAP pipelines, as well as with the ongoing investments in gas storage facilities and LNG terminals. The natural gas spot market platform set up in September 2018 is already well on its way to becoming an international gas trading hub, assuming it can be expanded through trade.

Turkey has set the task of carrying out liberalizing reforms of the domestic gas market. International suppliers who use Turkish pipelines to export gas need to obtain the relevant licenses in order to have access to the Turkish markets and, in accordance with EU regulations, input and output capacities need to be reserved at the appropriate points. The state-owned BOTAS Petroleum Pipeline Corporation is the sole operator of the country's transmission system and by far the largest seller of gas on the Turkish market.

Gas transit is an unregulated market activity. Efforts to disrupt and reduce BOTAS's share of the gas market monitored by the Energy Market Regulatory Authority (EMRA) are ongoing, which puts a cap on competition on the domestic gas market. As domestic gas consumption continues to grow (62 per cent of households now have access to gas), the further liberalization of domestic markets will be an important driving force for lowering costs and increasing competitiveness.

Geological exploration is underway in Turkey to determine potential offshore gas reserves, most notably in the Mediterranean and Black seas. On August 21, 2020, President Erdoğan announced that the discovery of Sakarya gas field in the Black Sea by Turkish Petroleum Corporation (TPAO). With estimated reserves of 320 billion cubic metres of natural gas, this is the largest discovery in Turkish his-

tory, and is equal to approximately six or seven years of gas consumption in the country.¹¹

Turkey has significantly differentiated the sources of its natural gas imports in recent years. In addition to the gas pipelines from Russia (the Trans-Balkan pipeline, Blue Stream and TurkStream), it now has the Trans-Anatolian Gas Pipeline (TANAP, opened in June 2018), which will deliver gas from Azerbaijan to Europe via Turkey, and has expanded the capacities of LNG terminals for imports. Other suppliers of gas can theoretically be attracted to the Turkish market (Iraq and Turkmenistan are seen as potential candidates) if certain conditions are met.

Coal

Coal is Turkey's third largest primary energy source, accounting for 28 per cent of the country's TPES in 2019, a shade behind oil (29 per cent) and natural gas (20 per cent). The share of coal in Turkey's TPES has remained stable in recent decades, although its TFC has decreased and its share in electricity generation has increased. Turkey has significant domestic coal reserves, primarily lignite, and coal production accounts for 42 per cent of the country's total energy production.¹²

Turkey's approach to the development of its coal industry and coal generation is based on its strategy to reduce the share of imported natural gas and coal in the country's power generation. This policy is primarily driven by the desire to reduce dependence on imported energy sources and spend less on imports. As a result, the government is implementing a plan to increase domestic production and boost consumption of the country's significant coal reserves. Lignite in particular, which is mostly used in the electric power industry, is a priority area of development. Bituminous coal is mainly intended for use in the industrial sector. The government is making efforts to gradually replace coal for home heating with natural gas.

¹¹ Turkey 2021. Energy Policy Review // IEA. URL: <https://www.iea.org/reports/turkey-2021>

¹² BP Statistical Review of World Energy // BP. 2021. URL: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

Renewable Energy Sources

Expanding the use of renewable energy sources is most important component of Turkey's domestic energy strategy, which is helped by significant cost improvements in solar and wind power generation technologies over the past ten years.¹³ Turkey intends to continue to accelerate and prioritize the development of renewable energy sources and is planning on commissioning 10 gigawatts of solar and wind capacity between 2017 and 2027. According to forecasts, the government expects a 76-per cent increase in solar capacities by 2023, and a 61-per cent increase in wind capacities by 2027.

Nuclear Power in Turkey

Numerous attempts have been made in the past to build a nuclear power plant in Turkey in order to meet the growing domestic demand for energy and reduce the country's dependence on energy imports.

The first plans for the construction of a nuclear power plant appeared in 1965. Later, between 1967 and 1970, a foreign consulting company was brought in to conduct a feasibility study for the construction of a 300–400 megawatt plant, which was to become operational in 1977. However, the plant never saw the light of day due to problems selecting a site, among other issues.

In 1973, the Turkish Electricity Authority (TEK) decided to build an 80MW “pilot” nuclear power plant. However, the project was scrapped in 1974 because it could have got in the way of the construction of a larger plant. TEK instead chose to go with a 600MW plant in the south of the country.

Site selection studies were carried out in 1974–1975, and the Akkuyu site in Gulnar was eventually selected as the most suitable for the construction of the country's first nuclear power plant. In 1976, the Atomic Energy Commission granted Akkuyu a license to build the plant. A tender was held the following year, with the contract being awarded to ACEA-ATOM and STAL-LAVAL. Contract negotiations lasted until 1980, but were abruptly terminated in October of that year when the loan guarantee was revoked and the project fell through.

The third attempt to build a nuclear power plant in Turkey dates back to 1980. Three companies were awarded contracts for the construction of four plants: a Canada Deuterium Uranium (CANDU) reactor plant to be constructed by Atomic Energy of Canada Limited (AECL); a pressurized water reactor plant by Kraftwerk Union AG (KWU) at Akkuyu; and two boiling water reactors to be built by General Electric in Sinop. KWU ended up pulling out following a request from the Turkish side to work under the build–operate–transfer (BOT) model. AECL agreed, but insisted that the Turkish government guarantee the BOT loan, which the Turkish side duly refused to do, thus putting an end to the project before it had even got off the ground.

¹³ Turkey 2021. Energy Policy Review // IEA. URL: <https://www.iea.org/reports/turkey-2021>

In 1993, the Supreme Council for Science and Technology identified nuclear power generation as the country's third most important priority project. This led the Turkish Electricity Generation and Transmission Corporation (TEAS) to include a nuclear power project in its 1993 investment programme. In 1995, TEAS selected the Korea Atomic Energy Research Institute (KAERI) as a consultant in the preparation of the tender specifications. The tender process began in 1996. Three consortiums (AECL, Nuclear Power International and Westinghouse) put forward bids the following year. In June 2000, after a number of delays, the government decided to postpone the project indefinitely. This was followed by the ratification of Law. No. 5710 on the Construction and Operation of Nuclear Power Plants and the Sale of Energy Generated from Those Plants on November 21, 2007.

The regulation on the principles, procedures and incentives for contracts and competitive tenders to be held under the Law on the Construction and Operation of Nuclear Power Plants and the Sale of Energy Generated from Those Plants was published in the *Official Gazette of the Republic of Turkey* on January 19, 2008. The purpose of the document is to regulate the procedures and principles for the construction and operation of nuclear power plants in the production of electricity, and to regulate the sale of energy. Pursuant to this regulation, the Turkish Atomic Energy Authority (TAEK) issued a set of criteria that laid out the general principles that investors should ideally meet.

On September 24, TETAŞ held a tender for the construction and operation of nuclear power plants and the sale of energy for the construction of NPP units at Akkuyu. A single consortium took part in the tender. After evaluating the technical documentation provided by the consortium, TAEK announced on December 19, 2008, that the proposed plant met all of its criteria. The last envelope provided by the consortium on September 24, 2008, which included the unit price of energy sales, was opened by TETAŞ on January 19 of the following year. After further evaluation, TETAŞ annulled the results of the tender held on September 24, 2008. It was after all these stops and starts that Russia's Rosatom appeared on the scene with its unique technologies and attractive economy for implementing projects.

Akkuyu Nuclear Power Plant

Direct negotiations with the Russian Federation on the construction of a nuclear power plant at the Akkuyu site were launched in February 2010 and resulted in the signing of an intergovernmental agreement on Cooperation in the Construction and Operation of the Akkuyu Nuclear Power Plant in the Republic of Turkey (on the build, own and operation, or BOO, model) on May 12, 2010. The document aimed to provide Turkey with nuclear power facilities on the basis of mutual cooperation, from the construction and operation on the Akkuyu plant to its eventual decommissioning. The Akkuyu NPP Power Generation Joint Stock Company (Akkuyu Project Company, APC) was set up to implement the project. APC took up ownership of the project the following year.

On December 2, 2011, APC requested an Environmental Impact Assessment (EIA) of the project, which was duly submitted to the Ministry of Environment,

Urbanisation and Climate Change on December 6, 2013. Approval was obtained on December 1, 2014, and, on June 15, 2017, APC was granted electricity generation license from EMRA for a period of 49 years. In addition, APC and TETAŞ signed a power purchase agreement (PPA) on December 30, 2017.

On December 2, 2019, APC and TETAŞ concluded an agreement to connect the nuclear power plant to the country's power grid. Under the agreement, the electricity generated by the Akkuyu NPP will be transferred from the plant's distribution substation via 400-kV transmission lines to six transformer substations that are part of Turkey's unified power system. The total length of the high-voltage lines that are to be built as part of the Akkuyu NPP electricity distribution scheme will exceed 1000 km. The execution of the agreement on connecting the power plant to the transmission network is an important requirement of Turkey's Electricity Market Law and a number of other regulations. All power lines that are to be connected to the Akkuyu NPP will be built and maintained by TETAŞ. Basic arrangements on the construction of the nuclear power plant at the Akkuyu site include:

- The establishment by the Russian side of a joint-stock project company in Turkey with 100 per cent participation interest;
- The transfer by the Turkish side of the Akkuyu site to the Russian company free of charge until the decommissioning of the NPP. Additional land may be transferred free of charge where necessary;
- The Russian side's share will never be less than 51% (the Government of the Russian Federation will act as guarantor of the project);
- An agreement on APC becoming the owner of the NPP;
- An agreement on Atomstroyexport JSC acting as the general contractor for the project;
- The provision of financing by the Russian side to the contractor for the construction of the NPP;
- An agreement on the purchase by TETAŞ of the electricity generated by the NPP through PPA for a period of 15 years at a weighted average price of \$0.1235 per kWh (a fixed price with no increases);
- In the event that less energy than the agreed amount is produced, the fulfilment by APC of its contractual obligations by making up the deficit;
- The mandatory sourcing of nuclear fuel from suppliers on the basis of long-term agreements concluded between APC and suppliers;
- The reprocessing, under separate agreements concluded by the parties, of spent fuel of Russian origin in the Russian Federation;
- The responsibility of APC for decommissioning and waste management at nuclear power plants, with the necessary payments being made to the appropriate funds as part of this process.

These arrangements clearly demonstrate that Russia is providing the Turkish side with extremely favourable conditions for the construction of a nuclear power plant.

In addition to the Akkuyu Nuclear Power Plant, Turkey is currently mulling two more NPP projects. The first of these is the Sinop Nuclear Power Plant, the main Turkish participant in which is the state-owned Electricity Generation Company (EUAS), the country's largest power generation company. EUAS operates Turkey's existing hydraulic and thermal power plants, including maintenance, repair and reconstruction works. The company has been charged with organizing the work of nuclear power plants owned and operated by the state (as a full owner or shareholder). TAEK recognized EUAS as the owner of the Sinop NPP project on August 22, 2012.

The Ministry of Energy and Natural Resources held talks with potential supplier countries (Canada, China, Japan and South Korea, among others). The Agreement between the Government of Japan and the Government of the Republic of Turkey on Co-Operation for the Development of Nuclear Power Plants and the Nuclear Power Industry in the Republic of Turkey was signed on May 3, 2013, and entered into force on July 31, 2015, following the completion of the necessary diplomatic procedures.

EUAS International Incorporated Cell Company (EUAS International ICC) was established in 2016 as an overseas branch of EUAS. Following the submission of the EIA application, EUAS International ICC organized a public meeting on February 6, 2018. The EIA report was prepared by EUAS International ICC, and submitted by the Ministry of National Education to the Nuclear Regulation Authority (NDK) on November 14, 2019 for review of the radiological effects of the potential NPP. Upon completing its review, NDK sent a verification report to the Ministry of Environment, Urbanisation and Climate Change on December 9, 2019. The EIA process was completed with approval from the Ministry of Emergency Situations on September 11, 2020.

In the context of the Sinop NPP project, feasibility and technical feasibility studies, including to assess site stability and develop a financial model, were completed in June 2018. An analysis of the feasibility study led the Ministry of Energy and Natural Resources to terminate cooperation with Japan. Turkey is now exploring other avenues to keep the project alive, with the main candidate for cooperation being Russia's Rosatom.

Research and negotiations are currently under way to select a site for the third NPP project. Visiting Russia in September 2021, President of Turkey Recep Erdoğan invited Vladimir Putin to consider the possibility of Russia taking part in the construction of the other two nuclear power plants.

The history of the development of nuclear energy in Turkey is a classic example of how the country approaches large-scale strategic projects with foreign partners.

New Times, New Challenges: Focusing on “Green” Development

If Turkey wants to build a modern and competitive economy, it needs to pay close attention to the sustainability of its energy sector and its long-term carbon footprint. It is just as important to steer industrial policy into the next phase of the

transition to clean energy. In this regard, policies to encourage innovation in such areas as electric vehicles, energy storage and digital technologies will be critical.

By mid-2021, the European Commission had put forward its idea for a Carbon Border Adjustment Mechanism (CBAM), often referred to as the carbon border tax. Countries exporting to the European Union will need to consider the impact of CBAM on their own climate policies in order to remain competitive.

According to experts, the countries that stand to suffer most from the introduction of the Carbon Border Adjustment Mechanism are Russia, China, the United Kingdom, Ukraine and Turkey—that is, the countries that export large volumes of fertilizers, iron, steel and aluminium to the European Union. Turkey is the European Union's sixth largest trading partner, and it is already considering the possible impact of these decisions on its economy. This could affect the production of iron, steel and cement in Turkey (where it is among the top ten countries in the world), as well as the glass, ceramics and plastics industries (where it is among the top five EU countries in terms of trade). Carbon pricing and related carbon market activities can serve as a risk management tool in order to allow for an informed response to the specific features of green development.

Turkey ranks 20th in the world in terms of greenhouse gas (GHG) emissions. However, it occupies a rather odd position in UN climate negotiations: on the one hand, it is a middle-income country with historically low emissions; on the other, it is a member of the club of developed economies in the OECD. Turkey has long been criticized for doing very little when it comes to combating climate change, and this serves as an additional impediment to its accession to the European Union, since environmental policy is a condition for EU membership. A recent report prepared by the European Commission noted that Turkey had not yet adopted a national strategy in line with the EU climate and energy framework for the period up to 2030.

The plan laid out by the Ministry of Energy and Natural Resources to intensify the development of coal resources runs counter to official statements on stepping up efforts to combat climate change. At the same time, a government decree issued in 2016 provides exemptions from licenses and permits for fossil fuel projects that have been identified as “strategic investments.”

Turkey is one of the few countries that does not participate in any of the formal negotiating blocs in international climate relations overseen by the United Nations Framework Convention on Climate Change (UNFCCC). Moreover, it is the largest emitter among these countries.

Turkey has not set a target year for hitting peak emissions and reducing carbon intensity, let alone reducing emissions in absolute terms.¹⁴ EU experts see Turkey's commitment to reducing emissions as “critically insufficient,” meaning it is completely incompatible with the goals of the Paris Agreement.

Turkey has long sought to obtain a special status in the UNFCCC in light of its

¹⁴ Low Carbon Development Pathways and Priorities for Turkey // WWF. 2016.
URL: <https://www.wwf.org.tr/?5060/lowcarbonpathwaysforturkey>

particular circumstances. Such a status was indeed granted after lengthy discussions, relieving the country of the obligation to introduce “green” regulation, despite the potential increase in emissions in the future. However, Turkey has continued to push for further special consideration, arguing that it has relatively low per capita emissions and a low historical responsibility for climate change. It should be reiterated here that per capita emissions in Turkey are set to exceed the EU average in the near future.

Turkey is also seeking financial support, which it insists is key to reducing emissions. At the same time, one of the conditions for ratifying the Paris Agreement is to accede to the UN Green Climate Fund (GCF). The actions of the Trump administration and its decision to withdraw from the Paris Agreement have only bolstered Turkey’s intransigence on the issue. However, Turkey is already receiving significant international climate financing from a number of multilateral development banks and bilateral channels, as well as technology and capacity-building money from several financial institutions.

According to a recent report, Turkey is the single largest recipient of EU climate finance, receiving an average of €667 million every year between 2013 and 2016, which is far more than any of the most vulnerable poorly developed countries. In addition, Turkey was the fifth largest recipient of multilateral climate funds between 2013 and 2016, receiving \$231 million through such channels as the Clean Technology Fund (CTF) and the Global Environment Facility (GEF).¹⁵

Following on from the climate legislation, Turkey passed the Renewable Energy Law in 2005, which aims to ensure that the country obtains 30 per cent of its electricity from renewable sources, including hydropower, by 2023. The law establishes a green tariff for renewable energy sources and obliges retailers to buy a set amount of their total consumption from licensed renewable energy producers. It also requires network operators to provide access to renewable energy sources.

Later, in 2007, a law was passed that set a goal of increasing the production and consumption of geothermal energy tenfold, and the 2013 Electricity Market Law introduced tax deductions for renewable energy sources until 2030. The provisions set out in the Law were implemented ahead of schedule by 2015.

In 2010, Turkey published its Climate Change Strategy for the period until 2020, which outlines the country’s vision for combating climate change and its goal to “transition to a low carbon economy.” The strategy sets out policies to control emissions from energy, transportation, industry, waste, and changes in land use. It also reiterated the target of renewable energy making up 30 per cent of the country’s total electricity generation and reducing greenhouse gas emissions from electricity to 7 per cent by 2030.

The Climate Change Action Plan for 2011–2023 published in Turkey the following year (2011) outlines short-, medium- and long-term plans to combat climate

¹⁵ Low Carbon Development Pathways and Priorities for Turkey // WWF. 2016.
URL: <https://www.wwf.org.tr/?5060/lowcarbonpathwaysforturkey>

change. It sets the goal of increasing amount of sequestered carbon as a result of agricultural forestry activities by 10 per cent of the 2007 values by 2020.

Turkey believes market-based instruments to be a key element of its climate policy. However, some analysts warn that exploiting carbon markets could jeopardize the export of some of Turkey's emissions to other developing countries.

In 2012, Turkey adopted a new regulatory framework for a mandatory emissions reporting system that is intended to lay the foundations for the creation of a formal emissions trading system (ETS). Monitoring started last year, and Turkey completed its first year of mandatory emissions reporting in 2020. The introduction of emissions reporting is a prerequisite for the country's accession to the European Union.

Carbon pricing and related carbon market activities can serve as a risk management tool in order to respond quickly to such developments. The European Bank for Reconstruction and Development (EBRD) is working with Turkey in a number of areas to strengthen the latter's interest in carbon pricing and help create a favourable environment for expanding the domestic carbon market.

To encourage an informed discussion of the monetary implications and transition risks for Turkish exporters to the European Union, the EBRD is offering its support to the Ministry of Environment, Urbanisation and Climate Change in the preparation of an impact assessment study, which is expected to be released by mid-2021.

Russia should pay significant attention to examining Turkey's policy on environmental issues and taking on environmental obligations, with due account for its national interests. Turkey's strategy for reducing greenhouse gas emissions is somewhat half-baked. The country has, as part of the Conference of the Parties to the UNFCCC, pledged to reduce GHG emissions by up to 21 per cent from normal levels by 2030 (including emissions from agriculture and forestry). However, its growing economy and development level limits its ability to reduce emissions from current levels. As a result, the country is forced to follow a baseline model for its ordinary course of business, which permits a certain increase in emissions from current levels. Expanding the use of renewable energy sources, including solar and wind power, is crucial to achieving these goals.

However, Turkey has yet to ratify the Paris Agreement and may amend its Intended Nationally Determined Contributions (INDC) in line with the changing circumstances. Turkey has no plans to achieve peak emissions at present. The Ministry of Environment, Urbanisation and Climate Change is implementing a "Capacity Building and Monitoring Project to Achieve the National Greenhouse Gas Contribution Target," which will inform efforts to update the country's INDC, including to reflect policies introduced after 2015.

Turkey's strategy to reduce CO₂ emissions is outlined in the National Climate Change Strategy 2010–2023, and the plan for its implementation is described in the Republic of Turkey Climate Change Action Plan 2011–2023. The core principles of the Plan include improving energy efficiency and expanding the use of renewable energy sources.

Turkey finds itself in a situation where it will need to update its commitments in the development of green energy, as well as its National Climate Change Strategy, by the end of 2023 at the latest. Preparations for the renewal of these documents are under way and should be completed within three years. Long-term policy and strategy options (for the period 2030–2050) will also be considered.

No decision has been made yet on the introduction of a carbon tax in Turkey, although the country's leadership is in the early stages of considering approaches to calculating carbon costs, possibly through the introduction of an emissions trading scheme under the World Bank's Partnership for Market Readiness (PMR) project.

Water use in Turkey is regulated through an environmental cleaning tax on households, businesses and other buildings based on water consumption.

On the whole, we can say that falling in line with the EU policy on low-carbon development will encourage the country's leadership to adopt "green" regulation of varying degrees. We should also note that Turkey's total exports to EU countries exceed Russia's by 15 times. Meanwhile, Russia is far more concerned about the carbon regulation measures being taken in Europe.

The issue of Turkey's participation in the development of hydrogen energy is still in the early stages of discussion.

Conclusion

Politically, Turkey and Russia may have their differences, but the relations between the two are underpinned by strong economic considerations. While this offers a degree of stability, political and geopolitical tensions may flare up at any point. The events in Syria are good example of this.¹⁶

The economic structures in Turkey and Russia are very different. Both have gone through rapid economic reforms that are far from complete. And both are looking for the most acceptable development paths moving forward. This makes the situation in the two countries similar.

Energy ties between the two countries are extremely strong. Turkey heavily relies on imports of Russian gas (as well as coal, oil and oil products), and is interested in having Russia as a partner in the nuclear energy sector. Russia, in turn, needs Turkey because of its favourable geopolitical position, which makes it a convenient transit country and a major consumer of Russian energy resources and technologies. Russia can also help train personnel for the Turkish energy sector, which is an important point.

Turkey is the second most valuable market for Russian gas after Germany,¹⁷ and Gazprom is committed to expanding this market. However, most of the elites in Ankara do not want Turkey to be dependent on Russia for its energy, as this is what accounts for most of Turkey's trade deficit with Russia.

One of the key goals of Turkey's energy agenda is to diversify supplies, including natural gas. Its larger objective is to become a "gas hub," meaning that it will need to "intercept" gas transport pipelines that run from Russia, the Eastern Mediterranean, Azerbaijan, Iraq, Iran and Turkmenistan to the European Union. Add to this the rapidly developing structure for receiving LNG. And we can say that Turkey is coping with this task. This explains the growing interest of Russia and Turkey in cooperation in the gas sector.

Even more promising is the joint development of hydrogen energy given Turkey's more liberal attitude to the sources of hydrogen production on the one hand, and the developed pipeline infrastructure on the other. Russia could view this as an addition to the Northern European routes for the supply of hydrogen.

In general, we can state that Turkey is in a situation where many tasks of its "quantitative" plan have been solved with varying degrees of success, including with due account of the country's development prospects. The problem is different: Turkey will objectively be forced to develop a "qualitative" plan, that is, one that includes the improvement of the regulation and management of energy in the context in the new trend in the development of world energy towards environmental values. In making sense of this "new quality" of energy development, Russia and Turkey could find a basis for long-term interaction.

¹⁶ Russia-Turkey Relations. A Fine Line Between Competition and Cooperation. European Parliament, 2021.

¹⁷ Gazprom Annual Report 2021. PJSC Gazprom. URL: <https://www.gazprom.ru/investors/disclosure/reports/2020/>

About the Author

Vladimir Likhachev. Ph.D. in Technical Sciences; Deputy Director of the Centre for Sustainable Infrastructure Development Research at the Institute for Economics and Regulation of Natural Monopolies of the National Research University Higher School of Economics; lead researcher at the Energy Research Institute of the Russian Academy of Sciences; RIAC expert.

Dr. Likhachev earned a bachelor's degree from Sergo Ordzhonikidze Moscow Institute of Management before embarking on his postgraduate studies at the Institute for High Temperatures of the Academy of Sciences of the Soviet Union.

He has been employed at the Energy Research Institute of the Russian Academy of Sciences since 1984, holding various positions before his appointment as Deputy Director of Research.

In 2014, Dr. Likhachev started work at the National Research University Higher School of Economics. He had previously headed up the Institute of Energy and served as Academic Director of the master's programme "Strategic Management in the Fuel and Energy Complex."

Dr. Likhachev has published articles in numerous scientific journals, as well as analytical reports for RIAC on energy development and international cooperation in the energy sector.

His research interests include energy systems research, Russia's energy policy in Eurasia, sustainable development, energy and climate.

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Notes

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Tel.: +7 (495) 225 6283
Fax: +7 (495) 225 6284
welcome@russiancouncil.ru

119049, Moscow,
8, 4th Dobryninsky pereulok

russiancouncil.ru