

ENERGY SECURITY, GREEN TRANSFORMATION, AND THE NEW CHALLENGES EMERGING FROM RECENT GEOPOLITICAL CONFLICTS IN TÜRKIYE AND EUROPE

DOI: 10.58867/HULJ3536

This paper explores the complex dynamics between energy security, green transformation, and recent geopolitical challenges in Türkiye and Europe. With Europe's drive towards renewable energy, Türkiye's role as a critical energy hub becomes increasingly vital. Conflicts such as the war in Ukraine have exposed vulnerabilities in fossil fuel dependence and strained regional energy security. By focusing on the strategic role Türkiye plays and how both regions are navigating the energy transition, this paper evaluates their policies, collaborations, and efforts to align energy security with the green transformation. It also analyzes the new challenges created by recent geopolitical conflicts and their impact on energy markets.

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Keywords: Energy Security, Green Transformation, Geopolitical Conflicts, Türkiye, Europe.



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Summer 2024

Change, Security, and Sustainability in Energy

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Anergy security has long been a fundamental concern for both Europe and Türkiye, two regions with distinct energy needs yet shared vulnerabilities. Europe, heavily dependent on imported energy, has urgently needed to diversify its energy supply due to geopolitical instability, especially following Russia's invasion of Ukraine.¹ At the same time, the European Union has embarked on an ambitious path toward decarbonization, encapsulated in the European Green Deal, which seeks to achieve carbon neutrality by 2050.²

Türkiye, situated at the crossroads of East and West, has emerged as a vital energy transit hub. With pipelines such as the Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans-Adriatic Pipeline (TAP), Türkiye plays a critical role in ensuring Europe's energy security.³ However, the challenges posed by recent geopolitical conflicts and the global drive for green transformation have placed new pressures on both Türkiye and Europe. This paper examines how these two regions have been navigating the delicate balance between energy security and green transformation while contending with emerging challenges.

Energy Security and Geopolitical Conflicts

Türkiye as a Strategic Energy Hub

Türkiye's geographical location gives it a strategic advantage in global energy markets. Pipelines that carry natural gas from the Caspian Sea region and the Middle East to Europe run through Türkiye, making it a critical energy corridor.⁴ The TANAP and TAP pipelines, which are part of the Southern Gas Corridor, deliver gas from Azerbaijan to European markets, reducing Europe's reliance on Russian energy supplies.⁵

This role has gained even more significance in the wake of the Ukraine war. Europe's decision to reduce its energy dependency on Russia has increased its demand for alternative suppliers, and Türkiye's infrastructure provides an essential link to these sources. As Europe diversifies its energy mix, Türkiye's energy security also benefits from this diversification, creating a mutually beneficial relationship. However, the ongoing conflict in Ukraine has also disrupted supply chains, creating vulnerabilities

1) S. Tagliapietra, "The Impact of the Ukraine War on European Energy Policy." *Energy Journal*, Vol. 43, No. 3 (2022): p. 33-48.

2) European Commission, *The European Green Deal*. European Commission (2020).

3) M. Bilgin, "Geopolitics of European Natural Gas Demand: Supplies from Russia, Caspian and the Middle East," *Energy Policy*, Vol. 37, No. 11 (2009): p. 4482-4492.

4) Bilgin (2009).

5) F. Umbach, "Energy Security in the Wake of Geopolitical Crises: A European Perspective," *Journal of Energy Policy*, Vol. 45, No. 7 (2022): p. 654-671.

in energy transit routes.⁶

Impact of the Ukraine-Russia Conflict

The war in Ukraine has dramatically altered the energy landscape of Europe. Before the war, Europe imported nearly 40 percent of its natural gas from Russia. However, European countries were forced to seek alternative energy sources with the imposition of sanctions and the subsequent reduction in gas flows through Nord Stream 1.⁷ This sudden disruption revealed the extent of Europe's over-reliance on Russian energy, highlighting the urgent need for diversification and investment in renewable energy infrastructure.⁸

Türkiye, while not as dependent on Russian gas as many EU countries, also felt the impact. The disruption in supply and rising global energy prices strained Türkiye's energy imports, increasing the country's energy costs and heightening its energy security concerns.⁹ Furthermore, geopolitical tensions between NATO allies and Russia have increased the risks to critical energy infrastructure, including pipelines and LNG terminals, which could become targets in a broader conflict.

Green Transformation in Europe and Türkiye

Europe's Green Deal and Energy Transition

Europe's response to the energy crisis caused by the Ukraine war has been twofold: securing alternative energy supplies and accelerating the green transformation. The European Green Deal, which aims to make Europe the first climate-neutral continent by 2050, represents a significant commitment to reducing greenhouse gas emissions, investing in renewable energy, and achieving energy independence.¹⁰

The European Union's REPowerEU plan, launched in response to the Ukraine crisis, focuses on reducing fossil fuel use, increasing energy efficiency, and ramping up renewable energy production. This initiative complements Europe's long-term green transformation goals by increasing energy resilience while reducing dependence on external suppliers.¹¹

6) Tagliapietra, (2022).

7) Tagliapietra, (2022).

8) Umbach, (2022).

9) Turkish Ministry of Energy and Natural Resources, Turkey's National Energy Strategy and Green Energy Transition (2023).

10) European Commission, (2020).

11) Umbach, (2022).

Türkiye's Renewable Energy Potential

Türkiye, as a rapidly growing economy with increasing energy demands, has been exploring its own green transformation. While Türkiye remains heavily reliant on fossil fuels, particularly natural gas and coal, the country has made significant strides in developing its renewable energy sector.¹² Türkiye is well-positioned to expand its use of solar, wind, and hydroelectric power, with solar energy potential in southern regions and favorable wind conditions in the Aegean and Marmara regions.

The Turkish government has set ambitious targets to increase the share of renewables in its energy mix. By 2035, Türkiye intends to generate 55 percent of its electricity from renewable sources.¹³ This transformation not only aligns with global decarbonization efforts but also strengthens Türkiye's energy security by reducing its dependence on imported fossil fuels.

New Challenges Arising from Geopolitical Conflicts

Disruption of Energy Markets

The recent geopolitical conflicts, particularly the war in Ukraine, have led to significant volatility in global energy markets. The sanctions on Russia and the disruption of gas supplies have led to skyrocketing energy prices, impacting both Türkiye and Europe. For Europe, this has accelerated the urgency to diversify energy sources and ramp up investment in renewable energy.¹⁴ For Türkiye, rising energy costs have underscored the need to secure more reliable and affordable energy supplies.¹⁵

Additionally, the risk of future conflicts affecting critical energy infrastructure remains a concern. For example, sabotaging the Nord Stream pipeline raised alarms about the vulnerability of underwater and overland energy networks.¹⁶ Protecting these assets is now a high priority for both regions.

Energy Infrastructure and Security Risks

Energy infrastructure, particularly pipelines and LNG terminals, remains at risk in the current geopolitical climate. The heightened risk of cyberattacks and sabotage against energy infrastructure, as evidenced by the attacks on Nord Stream, poses significant challenges to energy security in both Europe and Türkiye.¹⁷

12) Turkish Ministry of Energy and Natural Resources, (2023).

13) Turkish Ministry of Energy and Natural Resources, (2023).

14) Tagliapietra, (2022).

15) Turkish Ministry of Energy and Natural Resources, (2023).

16) Umbach, (2022).

17) Umbach, (2022).

Türkiye's strategic location as an energy hub also exposes it to risks, as any conflict in the surrounding region could disrupt energy flows through its territory. This has led to increasing concerns about the need to bolster energy infrastructure security, both through physical protections and technological safeguards.

Conclusion

The intertwined challenges of energy security, green transformation, and geopolitical instability present both risks and opportunities for Türkiye and Europe. The war in Ukraine has underscored the vulnerabilities in fossil fuel dependence, while accelerating the push toward renewable energy. Türkiye, as a strategic energy hub, has a pivotal role to play in Europe's energy future, offering both transit routes for natural gas and potential partnerships in renewable energy projects.

As the green transformation progresses, cooperation between Türkiye and Europe will be crucial for maintaining energy security while achieving climate goals. By aligning policies and investing in sustainable energy infrastructure, both regions can navigate the complex landscape of geopolitical challenges and create a more resilient energy future.