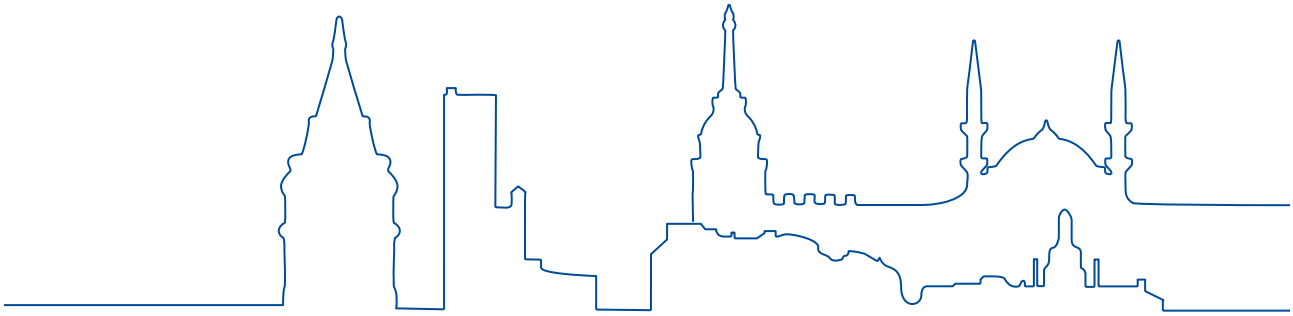

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BEYOND CLIMATE POLICY: TÜRKİYE'S ENERGY TRANSITION AS A RESILIENCE AND INDUSTRIAL STRATEGY IN TIMES OF GEOPOLITICAL TURMOIL

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The ongoing conflict in the Middle East starkly illustrates how vulnerable fossil fuel-based energy systems are to geopolitical events, accelerating the need for the energy transition toward renewable energy sources and electrification. The U.S.–Israel–Iran war has led to the temporary closure of the Strait of Hormuz, a critical chokepoint for global fossil energy supplies. Fossil energy markets reacted immediately, with oil and natural gas prices increasing sharply within days. The price of Brent crude rose to more than USD 118 per barrel, approximately 60% above the price prior to the outbreak of the war on February 28. European gas prices at the Title Transfer Facility (TTF) trading hub reacted even more strongly, doubling to 63 EUR/MWh.

Executive Director of the International Energy Agency Fatih Birol warns that "the global energy crisis caused by the war in Iran is equivalent to the combined force of the twin oil shocks of the 1970s and the fallout from Russia's invasion of Ukraine."[1] At the macroeconomic level, energy price shocks contribute significantly to rising inflation and prompt monetary tightening. As a negative supply shock, higher energy prices increase inflation while simultaneously weighing on economic activity. This creates a policy trade-off, particularly in emerging markets, as central banks must contain inflation without excessively dampening growth. While this trade-off exists in all economies, it is more pronounced in emerging markets due to their greater exposure to imported energy, exchange rate pressures, and more limited fiscal and monetary policy space.[2]

As an emerging economy and net energy importer, Türkiye is particularly exposed to the economic impacts of the ongoing war. Despite its net-zero target for 2053, the country remains heavily dependent on fossil fuel imports, which account for more than 70% of its primary energy consumption.[3] The composition of imports further amplifies this vulnerability. Liquefied natural gas (LNG), which is typically more price-volatile than pipeline gas, accounts for around 23–28% of Türkiye's annual gas imports.[4]

This structural dependence creates high exposure to global energy market volatility, allowing geopolitical shocks to transmit rapidly into domestic prices and macroeconomic conditions. As a result, the current conflict translates into higher energy costs for households and industry in Türkiye, fuels inflationary pressures, and increases risks to economic growth. Therefore, to increase its economic resilience to future energy price shocks, reduce its

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dependency on imported fossil fuels, and expand domestic industrial capacity, the electrification of transport, buildings, and industry based on renewable energy sources constitutes a central policy response to the vulnerabilities arising from Türkiye's fossil fuel dependence in periods of geopolitical turmoil. By substituting imported fossil fuels with domestically generated electricity, electrification reduces exposure to external price shocks and makes the energy system more resilient.

Beyond reducing dependence on imported fossil fuels, the consistent expansion of renewable energy lowers electricity prices through the merit-order effect,[5] whereby low-cost renewable generation displaces more expensive fossil-based power plants. In 2025, renewable-based generation significantly reduced electricity costs in Türkiye, lowering households' annual electricity bills by 9 percent and generating substantial savings for industrial consumers, who avoided on average around USD 250,000 in annual energy costs.[6] By reducing electricity bills for households and industry in Türkiye, renewable energy can help dampen inflationary pressures, in contrast to fossil energy sources, which expose the economy to volatile and externally driven price shocks. Lower electricity bills also increase the attractiveness of electrified end-use technologies such as electric vehicles and heat pumps, thereby accelerating the market-driven shift away from fossil-based transport and heating systems.

Another key distinction in terms of resilience lies in the temporal structure of imports in renewable versus fossil energy systems. Electrotech such as photovoltaics and energy storage require imported input periodically at the beginning of their lifetime, for example, modules or battery cells. In contrast, fossil-based energy systems depend on the continuous import of fuels such as oil and gas throughout their entire operation. This implies a fundamentally higher exposure to supply disruptions and price volatility for fossil energy systems as interruptions in global supply chains immediately affect energy availability and costs.

Türkiye's favorable renewable energy conditions provide a strong foundation for a renewable energy system. Due to its geography, climate, and topography, the country benefits from high full-load hours for both solar and wind. While not exceptional in a global comparison for either resource individually, the combination of strong solar and wind potential is relatively rare in the European context. Solar power plants in Türkiye generate approximately 40–60% more electricity than the European average, while onshore wind conditions also yield higher full-load hours, typically exceeding those in many European countries. Importantly, wind and solar generation complement each other seasonally over the year.[7]

Additionally, a faster expansion of renewable energy could stimulate domestic demand for clean technologies such as photovoltaic systems and wind turbines, strengthening local value chains. Türkiye already has a solid industrial base in wind energy manufacturing and a growing photovoltaic sector focused on module production, although it remains dependent on imports for key upstream components. Expanding domestic production along the value chain therefore represents a key industrial policy opportunity. Electric vehicles already account for 17% of new car sales in Türkiye, indicating a growing market that can support the transformation of the automotive industry.[8] At the same time, changing geopolitical dynamics create new opportunities. As the European Union seeks to reduce dependence on Chinese clean technology imports, Türkiye could position itself as a strategic partner in regional clean tech supply chains.

As the current energy crisis demonstrates, Türkiye's dependence on fossil fuel imports translates directly into macroeconomic vulnerabilities due to external shocks. In contrast, renewable energy and electrification reduce exposure to volatile global energy markets, as well as create new opportunities for domestic industrial development. The energy transition therefore emerges not only as a pathway to emissions reduction but as a central pillar of economic resilience and industrial strategy. This suggests that accelerating the energy transition is not only an environmental priority but also a central economic and strategic imperative for Türkiye.

Notes

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