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SYNERGY

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Turkey's Energy Facts

The legislation that allowed coal-fired thermal plants to pollute air extended by 2,5 years by the Turkish Grand National Assembly by passing a law. After facing massive protests from public and environmental organizations, the president Recep Tayyip Erdoğan vetoed the legislation and sent it back to the Assembly on December 2, 2019.

The necessity of installing filters on the chimneys of coal-fired power plants and other environmental regulations had been postponed four times since 2013. The last rule, which was squeezed into an omnibus bill, had delayed this process for another two and a half years. Intense debates in the media on the ongoing law reminded us that we should reconsider the environmental concerns caused by Turkish energy security, strategy, and production.

In a workshop organized by the Chamber of Mechanical Engineers of Turkey (TMMOB), Energy Study Group, in Aydın, on October 12, the president of the group, Oğuz Türkyılmaz claimed that: Turkey, especially in the recent years, has followed an energy policy, which aimed to cover the energy demand by new energy supplies, that is unplanned and considered only the interest of the capitalist groups. With the losses in intermission and distribution, possible energy saving opportunities had been ignored. To meet energy demand, Turkey mostly used exported energy resources, invested in fossil fuels and expensive tools, and dependence level on energy reached a severe degree.

TMMOB reported that in 2018, the carbon emission related to fossil fuels (only coal, oil, and gas) increased to 390,2 million tones, and it increased by 41% in the last ten years. Turkish Natural Life Protection Foundation (WWF) stated that we pay a high price because of the air pollution in their declaration that is published after the legislation passed from the Assembly. According to WWF, more than half of the Turkish cities have air pollution, and it caused 7-times more lives than traffic accidents in 2017.

Additionally, in the WWF's declaration, the Black Report that is prepared by the Right to Have Clean Air Platform had been cited. According to the Black Report, if Turkey had followed the guidelines of the World Health Organization, 13% of the related deaths could have been prevented.

In 2017, while the primary energy supply of Turkey was 145.3 toe (a ton of oil equivalent), 88,1% of this was produced through fossil fuels, and the share of imports was 75.7. Direct and indirect incentives to coal producers exceed the resources allocated for renewable energy by multiples and coal production encouraged by rent concerns. In a study of Sevil Acar and her colleagues from Boğaziçi University found that the incentives to coal producers reached to $730 million ($11/MWh). Our projection study with Sevil Acar also suggests that if these incentives stop, the carbon emission can be reduced by 5% in 2030, and losses in GDP because of this policy can remain at a tolerable level.

According to data obtained from the TMMOB workshop, we know that the difference between installed capacity and production increases since 2009. The program published by the Presidency states in 2018, the available production capacity of the plants was 450 TWh, while the production was 307 TWh. In 2019, the potential was projected as 466 TWh, while the output was projected as 317 TWh. These numbers show that the plants can produce 47% more electricity than current levels. As a result, in electricity demand projections, the annual level and the future needs were overrated, which caused unnecessary plants to be built, where the public sources were transferred to private companies through high purchasing guarantees.

Same TMMOB report also warns that if the policies do not update radically, there will be no decrease in carbon emission on the short and medium terms wherein the primary energy consumption, the dependence level is 84,7% in 2018, in today's world which the oil, gas, and coal monopolies are the deciders. To avoid the consequences of climate change, in energy production, the priority and the focus should be on renewable energy sources instead of fossil fuels.

Finally, the TMMOB report suggests that extracting, refining, transmission, and distribution process of energy sources should be done under a plan that protects the public interest. The need to transfer the energy sector from the monopoly of private companies to a public plane and to turn to a low carbon emission-based economy based on renewable resources constitutes a prerequisite for the struggle against the climate crisis.

Erinç Yeldan

Role of Oil in States National Security: US's Position in the Middle East

World nations all depend on hydrocarbon resources to a different extent. Any incidents, changes related to hydrocarbon resources, especially oil, directly affect global politics. The likelihood of the occurrence of new territorial, maritime disputes, and the escalation of ongoing conflicts increases when states explore further hydrocarbon reserves. Regional countries may find themselves in inter or intrastate disputes in such cases. Even if they are do not experience the war within their borders, they will face the risk of possible invasion or involvement of a war. This situation will create an automatic security threat to regional states. When it comes to global effects due to ongoing wars, oil production and securitization of oil transportation will be reduced. This means globally, nations will be economically affected by the dispute even though they do not share the same region. Countries with lower oil energy intensity will be less sensitive to changes in the price of oil. Such changes affect states either economically or politically. They may feel the consequences directly or indirectly based on their geographic position, energy consumption, and dependence.

When a nation's economy heavily depends on oil, severe supply disruptions significantly damage that state's economy. In such cases, to protect its prosperity, states can use military force. Charles L. Glaser indicates that in energy-driven regional security conflicts, the likelihood of –large scale- US military involvement (to protect its vital energy interests) increases because even a slight change in the oil market's regulation severely damages the US economy. Due to its weak political structure and precious energy resources, the Middle East is a highly risky region. A small scale conflict can quickly turn in to a regional war. To keep the region stable oil depended developed states, primarily the US, continually subsists its existence in the region.

States priorities changes based on the regional dynamics if the state feels secure; it invests less on its military capabilities and tends not to attack other nations. If a state concerns that its neighbor is planning to attack him, to get the upper hand, that state may attack its neighbor even to it was not wishing to start or engage in a war. In the Middle East to minimize their possibility of getting contested states either have to be run out of hydrocarbon resources, do not serves as an energy transit state, should not control any of the geostrategic locations like choke point or they have to have an active military to serve as a disincentive factor. An oil-rich or energy transit state sovereignty and bargaining power hanged by a treat if it does not constitute a reliable military power. In the lack of strong military capabilities, these states bargaining position becomes weaker, and they become more likely to make concessions. If a war occurs, it's surrounding region due to its vulnerability; it has to seek stronger allies to secure itself and becomes dependent on that protector nation.

Moreover, regime types and personality of the leaders play a crucial role in Middle Eastern politics. Oil-rich states which ruled by revolutionary governments or leaders are more likely to engage in wars. Due to the financial flow that they receive from oil, such leaders can expand its military capabilities quite easily. On top of that, if they own a persuasive domestic political authority, they can easily take risks and attack other nations to expand their resources, power, as we see in Saddam Hussein's case in the Iran-Iraq war. Existence of US troops in the Middle East, unreliable-unpredictable governors of the states, and regional states' defensive motived militarization creates a security dilemma in the region and complicates the existing problematic structures.

If China becomes an active player in its region, Chinese domination could benefit the United States. Annual spending for securing Persian Gulf transit routes costs between $30 billion to $80 billion to the US defense budget. If another state emerges as a protector state in such regions, then the US would spend less money to guarantee the securitization of the oil and gas routes. As a counter-argument emerge of a strong protector state in the Middle East or Asia could pose potential risks to the US too. Because in such an environment, the likelihood of engaging in a conflict over the control of the same territory would increase. To eliminate the possibility of the regional states' potential of participating in a dispute, hegemons have to have different priorities but supportive policies. According to the current political US-China relationship, the rise of China would be more likely to create security concerns for the US. To re-balance Chinese domination in the Asia Pacific and the Middle East, the US has to increase its military spending. Also, current hostile bilateral relations among China and US-allied Japan are another reason to concern for the US. China already involved in different maritime – territorial disputes in its region. Expanding its resources or controlling areas directly makes China a potential treatment in the eyes of the Washington government.

Protecting one's land is not enough in the energy sector. States have to protect international transit routes as if they are protecting their territorial integrity. If they cannot safeguard trans-national offshore pipelines, choke points, and maintain maritime security, they can face up with severe national energy crises. Defining land borders and keep their safety is easier in comparison to providing naval protection for hydrocarbon vessels and offshore pipelines. In the high seas, maritime borders of states, their exclusive economic zones (EEZ) and continental shelf's (CS) can only be drawn by regional states consensus. In general, due to the blue economy (fishery, tourism, usage of marine resources, right to extract hydrocarbon resources, etc.) concerns, states try to expand their continental shelf's as much as possible. Due to overlapping on states' EEZ or CS declarations, many countries find their selves into complex disputes. States have to find a way to cooperate in such regions to maintain the security of energy transportation.

As a region due to its political instabilities, the Middle East is a risky region. Yet, due to regional states' natural resources and geostrategic position, it is a vital region for all nations. For instance: Saudi Arabia accounts more than 15% of global oil exports. Any attack that Saudi Arabia can face will significantly affect global energy dynamics and market regulations. Hormuz Strait is a crucial passage for the majority of the LNG and Oil tankers. As a result of ongoing resource and territorial disputes, lack of trust among the states, militarization of nations, and expansion of nuclear energy usage in the Middle East vulnerability of the region increases. Reliance on oil has widened the state's national and economic security implications. Due to financial concerns, countries need to guarantee the flow of energy resources. To ensure the securitization of energy transactions, powerful states involved in Middle Eastern politics. Considering the ongoing issues, regional instabilities, these nations' existence continues in the problematic regions. To release the burden of securing and stabilizing the Middle East, the US can look for reliable allies. Currently, China is the most suitable state for this power share. China depends on Middle Eastern hydrocarbon resources as much as the US does. With it's a rising economy and technology, China can easily contribute to the stabilization of the Middle East. However, the rise of China also possesses certain treats to the US-dominated world order. Thus with its current political discourse and agenda China cannot be the balancer that the US is looking for. In either case, to secure unclaimed (unshared) energy transit routes like strong states like the US and China need to learn to work together if they want to ensure maritime energy roads and choke points.

Yüksel Yasemin Altıntaş

BRENT OIL	63.70 $/BL	GASOLINE	6.94 ₺/LT
USD/TRY	5.80	DIESEL	6.58 ₺/LT
EUR/TRY	6.42	FUEL OIL	4.03 ₺

Russia and EU: A Short History Of A Love-Hate Relationship

Europe always had a long and bumpy relationship with Russia, mainly due to its dependence on Russian gas, which created a lot of disturbance from the European perspective. Although Europe seems to decrease its dependence on Russia, it keeps growing. State-owned Gazprom's statistics show that Russia has been a great exporter to Europe and Turkey. The exports have been significantly increasing; 178.3 billion cubic meters (bcm) in 2016, 192.2 ccm in 2017, and 200.8 in 2018. Gazprom exported 162.39 bcm to Western Europe, and the largest importers were Germany with 58.5 bcm, Turkey with 23.96, Italy with 22.77 bcm, the United Kingdom with 14.26 and France with 12.92 bcm.

This consistent growth in the trends might seem surprising when the crises and the sanction between the EU and Russia. When Russia illegally invaded Crimea, which caused anxiety in the region that could disrupt receiving a gas supply. This event caused the European Commission to call on the industry to multiply the sources, suppliers, and routes. Still, Russia remains the dominant supplier within the region. It could be explained that the Russian gas supply had little to do with politics, but due to the commercial aspect.

At the same time, as Marco Siddi wrote, the EU-Russia gas relationship has been caused more predictable by the resolution of commercial disputes, especially the European Commission's antitrust investigation against Gazprom and Russia's complaints at the World Trade Organization against some key market regulations. Despite these commercial disputes, Western Europe seems to be continuing to import Russian gas. The stable growing trend is the main reason for increasing projects on implementing new infrastructure for gas exportation to Europe.

Still, these new projects are causing debates within the EU. Nord Stream 2 Project caused many heated arguments on how "anti-European" and "anti-Ukrainian" it was. European Commission's concern was that the project would increase Germany's dependence on Russia and would economically punish Ukraine. Since the energy independency was already an issue in Europe, this project pointed out the difference between the interest of Germany and Europe. Even the US has intervened, threatening to sanction European companies that are involved in this project while advocating their LNG as an alternative.

The construction of Nord Stream 2 is still ongoing and expected to complete. After its completion, new tensions are scheduled due to transition routes. Nonetheless, tensions can be altered if Russia, Ukraine, and Europe agree on keeping Ukrainian pipelines active rather than keeping Ukraine out of the picture as it has done in the Nord Strem 2 project.

İrem Ayça Aykın

Power of Siberia and Russia-China Relations

With the official launching on December 2, the Power of Siberia gas pipeline has become a reality. The new gas pipeline is the largest gas infrastructure in the entire Russian Far East and extends for nearly 3,000 kilometers. As the dynamics of global energy politics changed, the Russian government updated its policies accordingly. Starting with the 2008 energy crisis and increasing with the 2014 Ukraine Crisis, European trust in Russia on energy security declined significantly, and they began to search for alternative sources. It caused Russia to focus more on the eastern part of its territories.

The growing demand for oil and natural gas by China and India offered new customers to Russian officials. In the article, Russia's energy diplomacy with China: personalism and institutionalism in its policy-making process, Xu and Reisinger explained that Moscow administration had four different priorities. First of them was the control of Far Eastern territories. Since it is significantly far away from the federal government, it is harder to rule the regions successfully. Therefore, by offering them more economic activity, the Russian government both want to improve these regions and establish stable bilateral relations with the Asia-Pacific Region countries. This policy might help Russia to ensure itself a strong place in the international system. The authors of the article argue that the primary issue for Russia is not energy security but to signal to the United States and Europe that Russia is strategically independent, and it would not be intimidated by the imposition of sanctions due to its powerful friends. However, building the policy is not easy as it seems; the Chinese presence in the region always remains a threat to the Russian Federation. The investments for the One Belt, One Road project increase the Chinese influence in Central Asia, and Russia fears their expansion even though they sell the necessary fuel for this operation.

To balance the situation in Asia, the Russians also develop bilateral relations with India as well. Since they require vast amounts of oil and refinery products, they made an agreement to work with coopetition. According to the agreement, India invested in the Russian oil fields , and Russia build high-tech refineries in India. With this agreement, the Russians increased their security on the region and established a powerful partnership with India.

In the West, on the other hand, the development of LNG challenged the structure of the contracts made by the European customers and Russian gas company Gazprom. The trust between the Russian company and the European countries created a solid relationship even in the height of the Cold War period. However, today, the decreasing demand and availability of new options threaten the way that Russians build contracts. Instead of making long-term contracts that linked to oil prices, now the Europeans look for spot price markets. However, several pipeline projects for the European market is planned for the upcoming years as well.

Overall, the Russians, by changing their focus from West to East, started a new era for themselves in the energy business. They try to impact global energy politics by providing resources to rising powers in the East.

Gökberk Bilgin

Struggle Between Green And Black: China's Clean Energy Paradox

China currently casts a bipolar profile as being the world's 'climate villain' and potential 'clean-energy savior' at the same time. On the one hand, China maintains its reputation as the world's top carbon emitter mainly due to coal consumption; on the other, the country makes a genuine effort to reduce its carbon emissions and dependence on fossil fuels. This short brief offers an outlook on China's achievements and the challenges it faced in the field of renewable energy.

Currently, China is the world's largest producer and exporter of solar panels, wind turbines, batteries, and electric vehicles. China also holds the lead in terms of renewable energy technologies, with over 150.000 patents as of 2016, which constitutes 29% of the global total. In this field, the US follows as the next closest with approximately 100.000 licenses, while Japan and the EU having closer to 75.000 for each. Even though not all patents are useful, these figures give a sense of the country's genuine efforts to reduce carbon emissions, or more importantly, its dependence on energy imports. When we compare the number of renewable energy patents of China and those of energy-rich countries such as Russia, Saudi Arabia, and Indonesia, the sharp contrast between their policy towards renewables can be seen clearly. As an achievement of a global extent, China's enormous manufacturing capacity enabled to bring down the cost of solar panels by 80% between the years 2008 and

2013, according to Bloomberg New Energy Finance (BNEF). Likewise, the production costs of wind turbines and lithium-ion batteries dropped significantly.

So far, rapid and large-scale urbanization and industrialization in China have been realized by the power much of that supplied by coal. In 2006, China's carbon emissions surpassed that of the US and became the world's number one. By 2018, coal power constitutes 59% of China's total energy consumption, and the total cost of air and water pollution

is equivalent to 6% of Chinese GDP each year according to the World Bank data. Many experts, policymakers and other observers took hope from a three-year period when China's carbon emissions decreased between the years 2014 and 2016. In the years between 2014 and 2016, annual levels of particulate matter (PM) - the sum of all solid and liquid particles suspended in air many of which are hazardous- in China dropped from 61.8 to 42 micrograms per cubic meter, according to a research conducted by scientists from Tsinghua University. Moreover, Chinese leader Xi Jinping's 2017 statement that "China had taken a driving seat in international cooperation to respond to climate change" was great white hope. However, in the past three years, we observe that China's carbon emissions have begun to climb again, according to the Global Carbon Budget.

As China's economic growth has slowed down to around 6%, the lowest level of the past quarter-century, Chinese policymakers have renewed their support for coal-consuming heavy industries which have been constituted the traditional engines of the country's energy system. As expected, authorities loosen environmental regulations on heavy industries to compensate losses in other -more profitable- sectors of the economy. According to BNEF, China's investment in renewable energy declined by approximately 40% in the first half of 2019.

Today, as new coal power plants spring up in China, observers across the world follow the developments with disappointment. Satellite images show that new coal power plants are currently under construction with a total capacity of 148 GW, a level equals to the entire coal-power capacity of the EU within the next few years, according to Global Energy Monitor. At the end of the day, these contradicting figures on clean energy blur the line between China's global roles as a villain on one side and a savior on the other.

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