

8 MARCH 2021

VOLUME 2 ISSUE 24

# SYNERGY

BILKENT ENERGY POLICY RESEARCH CENTER NEWSLETTER

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# The UK's Climate Ambitions

## Rhetoric or Reality?

**Selin Kumbaracı** 

The United Kingdom has increasingly been putting itself forward as a global leader when it comes to climate action, especially with its ambitious emission reduction goals. Nonetheless, there are questions as to whether it will be able to meet these goals.

Moreover, as the host of COP26, set to take place in Glasgow in November, the lack of a clear political agenda set for the climate summit raises doubts about whether the U.K. will be able to live up to its self-declared climate leadership role. Climate action has also been situated by British Prime Minister Boris Johnson as an arena in which the U.K. can outperform the European Union—particularly using the term "green Brexit." As a statement by the Prime Minister's office read, following the U.K. raising its 2030 emissions reduction target from the 40% it had set with the E.U. in 2014 to 68%, "Today's target is the first set by the U.K. following its departure from the E.U., demonstrating the U.K.'s leadership in tackling climate change."

Given such ambitious rhetoric—such as Boris Johnson's self-stylized "green industrial revolution"—as well as targets, with achieving net zero emissions by 2050 having been enshrined into domestic law, one would expect concrete policy actions to be at a similar level. However, one can argue that the U.K. is struggling to live up to its rhetoric in light of developments that show potential problems in terms of addressing domestic emissions, in addition to challenges it faces in pushing for lower emissions on the global stage.

Some key gaps can be seen in the British plan for cutting its emissions, as seen in its updated Nationally Determined Contribution (NDC)—or national climate pledge—which, while including important sectors such as energy, agriculture, and industrial processes, excludes emissions from international aviation and shipping in the scope of this NDC.



The recently released budget by British Chancellor Rishi Sunak also demonstrates a mismatch between the U.K.'s targets and tangible actions. While significant investments in industrial projects were announced, such as in carbon capture and storage and offshore wind farms, reducing emissions also entails renovating residential houses to reduce their environmental impact.

In addition to not doing enough to lower emissions, the policies reflected in the new budget also, in some ways, raise emissions. One such example is how the freeze on raising fuel taxes as well as carbon price supports continues.

As expressed by Josh Buckland, a former energy advisor for the British government, the current government "believes that the way to build political and popular support for the climate drive is through delivering real pay-offs through green jobs and regional infrastructure investment" even though its climate actions "will ultimately be judged on whether it can deliver the necessary carbon savings and fund the transition in a fair way."

Separate from the budget, one can also see how some of the 'green' rhetoric expressed does not always line up with economic concerns through the example of the U.K. government's loan of £5 million to a budget airline startup, Flypop without conducting an environmental impact assessment. The loan came from the government's Future





Fund—an emergency stimulus measure to support companies that the pandemic has impacted.

There are, of course, various measures the U.K. is taking to decrease the domestic generation of carbon. One such measure is how industries have had a cap put on their emissions, which will gradually decrease in light of the U.K.'s carbon neutrality goal by 2050. An Emissions Trading System (ETS) will be created (with the U.K. has left the E.U.'s ETS) wherein industries that are 'energy intensive' can trade emission allowances, with the first British auction for such trading to be held in May.

Some argue, though, that the U.K. also needs to implement a carbon tax to be able to meet its emission reduction goals. The opponents of this controversial measure argue that if the U.K. puts a price on carbon that is too high, British companies will become less competitive on the global market if other countries do not also establish such a price. It is further argued that foreign companies could become more competitive in the British domestic market as well if imports are not held to the same emission standards.

Such concerns, as argued by a senior research fellow at the Centre for European Reform, Sam Lowe (amongst many others), can be addressed through a carbon border adjustment

mechanism (CBAM). This would, as Lowe has explained, "target taxes on imports from countries without the same carbon pricing mechanisms as the U.K. to encourage fair competition over outsourcing carbon creation."

In other words, such a measure could be utilized to combat the problem of carbon leakage and be one way in which the U.K. can push for lower emissions on the international stage. Though the British government did indeed propose the idea of carbon border taxes in the form of a climate club, to be discussed at COP26, the idea was dropped as an agenda for the climate conference due to its exclusive and divisive nature. As such, what COP26 will actually try to achieve has ended up remaining somewhat of a mystery.

All in all, while the U.K. certainly faces challenges and dilemmas in reaching its ambitious climate targets, as well as in fulfilling its self-declared role of climate leadership, it could perhaps begin by providing clear a political agenda and vision for the world and for itself, to follow in the upcoming COP26. As U.S. Climate Envoy John Kerry put it, COP26 is "our last, best hope" to hold warming at 1.5 degrees—it is essentially up to the U.K., as the COP26 Presidency, to make sure this opportunity is not missed.

# Turkey and Egypt in the Eastern Mediterranean

Atahan Tümer



The Eastern Mediterranean has had high blood pressure for a long time. In particular, this debate arising from the Exclusive Economic Zone tension between Greece and Turkey in the region, causing an increase in tension from time to time. This tension, which has been on our agenda for months and is far from reaching a solution, is still not over. Even though everyone knows that this tension, which causes military friction from time to time, is on all of us's agenda, it may still be useful to mention. The crisis is emerging from the borders of the Exclusive Economic Zone. While the Greek side wants the islands to be taken into account when calculating the Exclusive Economic Zone area in violation of international law, the Turkish side firmly opposes this. When we look at the examples in the past, we see the Turkish side's claims' accuracy. In the past, similar crises were experienced between France and England in the English Channel and between Tunisia and Libya in the Mediterranean, and

international law was decided in favor of the mainland countries. We see that the claims support the theses of the Turkish side. However, it cannot be said that this is well accepted in the international arena.

An example of this is that countries in the Mediterranean, such as Egypt and Israel, have made agreements with Greece. The main factor here is the political stance of the countries rather than international law. The relations between Turkey and those countries with the worst negotiate with Greece. From time to time, they behave in this way, even if they are detrimental or even if they lose from their field. This article will examine the Egypt - Greece Exclusive Economic Zone Agreement, which is an example of this, and we will discuss the latest developments.

First of all, talking about Egypt is vital to understanding the issue. Egypt and Turkey will be useless without understanding their relationship to

address these issues. The decline, especially after the military coup in Turkey - Egyptian relations, can be called the main actor in this equation. Of course, the tension between the two governments was reflected in their policies. It was seen that the Qatar Crisis, the Libyan crisis, and even the countries in Syria are on opposite sides. Although interpreting together with the Libyan crisis is still a problem in both the Eastern Mediterranean, Turkey's location across Egypt is quite impressive. It can even be called radical. Despite this, we have seen a softening in the relations between the two countries recently. The bilateral relations between the two countries, which started again with intelligence organizations' meetings, recently continued with foreign ministerial conferences. The two countries are moving forward in normalizing relations by gesturing to each other. For example, Egypt, Turkey lifted its veto given to attend the NATO meeting. This brought to mind the question





of whether a bilateral agreement is possible.

Egypt currently has considerable reserves in the Mediterranean and continues to work in this field. The crisis in the Eastern Mediterranean is on the agenda of both countries and possibly in Egypt. Egypt has the largest natural gas reserves in the Mediterranean. The discovery they made in 2015 discovered a reserve of 849 billion cubic meters in the region. Despite this, they continue to work in the region. Egypt aims to generate massive income from the area.

Greece sat at the table to make agreements with many countries, especially Israel and Egypt, to get their claims accepted in the Eastern Mediterranean. However, it could not find what it achieved in the agreement he made with Egypt. The reason for this was the claim that Egypt's Meis

Island could not create an Exclusive Economic Zone. Egypt has supported Turkey's insistence on this point. They agreed with Greece for the western borders. This kind of proved the correctness of Turkish claims. Many around Turkey, if possible - Egypt's bilateral agreement began to be voiced Exclusive Economic Zone. But we must not forget that, in a period of tense relations with Egypt in disabling Meis Island Turkey, there is also an effect of not wanting to further increase the tension. After the agreement with Greece, this agreement was criticized by the Egyptian Parliament. A deal with Turkey was also mentioned that would provide more benefits. This is a very interesting and justified point.

Egypt recently opened a tender for a field in the Eastern Mediterranean. Suppose this area was of interest to comply with Turkey's Exclusive Economic Zone boundary. Egypt

supported Turkish claims by opening the tender in this area. This incident has also been the subject of controversy in Greece. Especially in the Greek Parliament, this movement of Egypt was highly discussed. Some of these discussions were voiced concern that Egypt's rapprochement with Turkey.

Policies in the region can change very quickly. However, it should not be forgotten that states generally take care of their interests in a utilitarian way. It is evident that rational decision-making is the only way out and provides the most significant benefit. At this point, Egypt and Israel will not be surprising if a possible rapprochement with Turkey. The deal that Turkey will do with these countries will be beneficial for everyone. New incidents in this area are only a matter of time. It is quite challenging to predict what will happen here. It is likely to see unseen power balances in the region.

# Post-Pandemic Recovery and New Plans for Coal?

Alpcan Efe Gencer 

*"If we are to decarbonize the entire global energy system, pushing the petrochemicals production to developing nations will serve no real benefit except potentially operate these refineries under many lax regulations and cause further harm to local ecological systems."*

The rolling out of vaccination plans in the developed countries and the reopening of numerous cities around the world following the first year of the pandemic indicate that normalization procedures are being effectively tried out in certain spots. As certain restrictions, especially travel-related ones, are being lifted, the EIA expects a global rise in CO<sub>2</sub> emissions for 2021 and 2022, while for the U.S., most of the increase is expected to be coming from petroleum and coal consumption. On the other hand, natural gas-related emissions are expected to be decreasing as a price increase is being anticipated for the commodity. If we take this as the elasticity of demand in the face of economic development and consumption, it would be safe to assume that financially distressed and stretched populations will resort to cheaper energy sources regardless of their emissions.

Suppose we were to look at developing economies, which hold a much smaller space on the media spotlights. In that case, their situation could be deemed way worse than developed nations who hold strong financial means to protect their economies. The case for coal usage to supplement the low-income groups and the energy-poor had been a point of

frequent contention before the pandemic. Still, now that we're having physical proof of how real-world cases are acting out, it would be safe to assume that a large part of the argument will hold valid where the consumption of cheaper energy sources will increase in these nations.

Based on this likely reality, what can be done to ensure the most optimal solution that serves all stakeholders' interests? A topic that hasn't been a favorite amongst discussion groups for forming new energy mixes, Coal Based Methane (CBM) and Coal Mine Methane (CMM) are still options for the coal-rich nations to focus on and develop. Suppose natural gas will be the bridge fuel to fill the gap of mobility and intermittency of renewables. In that case, working on extracting these unconventional methane sources to capture the gas should not be deemed unviable and out of the question just because of the ethical dilemma of sustainability. Whether or not if the CBM and CMM's are extracted, the gases do seep up into the atmosphere once the actual coal deposit is mined or interfered with within the case of CBM's. Aside from the environmental benefits, the extraction of these gases beforehand also decreases the risk of collapsing underground





mining sites where health hazards are enormous. The EIA is already estimating that CBM is making up %5 of the U.S. natural gas production, and the same set of production plans could be utilized in developing nations to ensure reliable and affordable energy access to domestic and industrial users.

Going further, the advances being made in the chemical sector now could allow for the Coal-to-Liquids to be applied to these coal-rich nations. An estimated prime source of future oil demand driver is petrochemical consumption in developing nations in the upcoming 20-30 years. A prime example, India, at the moment, houses numerous oil refinery plants that process and produce varying forms of petrochemicals to meet both its own and global demand. However, if we are to decarbonize the entire global energy system, pushing the petrochemicals production to developing nations will serve no real benefit except potentially operate these refineries under many lax regulations and cause further harm to local ecological systems. As was the case previously, if these coal deposits are to be mined, we should make sure that the most effective usage is made out of them. A big negative for the implementation of CTL technologies would be heavy water usage. In both cases,

the financing and monitoring of the operations by international Development Financial Institutions would make the most sense in warranting that the wastewater is properly treated, the rights of workers are preserved, and that the whole process could be carried out a transparent matter where benefits claimed. Damages done could be recorded with the numbers.

Numerous counterarguments could be proposed to this plan of action. Still, without a thorough analysis of all the options, whether good or bad, we could simply be led into following a false ineffective action plan that might just turn out to cause more harm than good. Considering the volatility caused by the pandemic and the balances that it has changed, new contingency plans to optimize the emissions heavy scenarios should slowly be introduced to the system as the pandemic exacerbated the global poverty problem. If we are to ensure fair and just access to energy to everyone, we have to start considering alternative plans that align with emission reduction policies in different terms.

# The Death of the Most Important Beings on the Planet

Mihael Gubas 

Bulgarian beekeepers are threatening to set up tents in front of the local Ministry of Agriculture and Food, furious at the lack of measures the country is (not) taking to stop bee deaths. The protest came after beekeepers calculated that in some places, up to 80 percent of bees failed to survive the winter, all after the start of 2020 seemed promising for the success of quarantined bees and a lack of road traffic. Contrary to expectations, from May to July, mass death of bees was noticed, which is attributed to the use of the pesticide thiamethoxam, which is illegal in the EU.

This is the third mass bee slaughter in Bulgaria in the last three years. The first in the first-instance verdict was indicted by Bulgaria's largest agricultural company, Octopus, with revenues of 150m euros a year, only to be overturned second-instance verdict. one region to another, and a third, to be now observed in all

regions. This company receives as much as 11 million euros in subsidies from European funds and uses banned pesticides despite additional bans. This was proven by analyzing deceased bees in private laboratories, as the state did not protect beekeepers. However, due to the high cost of such analyzes, the number of private beekeepers' lawsuits against Octopus was low.

Namely, in the last five years, Bulgaria has moved from a country with a minimum number of dead bees to a country where something urgent needs to be done. This year, the winter bee mortality averaged 50 to 70 percent, depending on the region. To make matters worse, the death toll's real scale is hidden because beekeepers fear losing subsidies if they discover real numbers. The review of the situation on the ground this year was further limited to scientists due to travel ban measures, so they depended on the "science of citizens" or the

population's ability to go out into the field and be their eyes at a distance.

Beekeepers warn that the plague means that only half of the total number of colonies will survive this year and that only 400,000 to 500,000 hives will remain in Bulgaria. While some believe that the main cause of such a high degree of death is drought, others warn of the previously identified problem of using illicit pesticides (thiamethoxane) that harm bees. The cover-up further aggravates the problem for subsidies, but even more by the state's completely inadequate plans to remedy the problem, which is why they are protesting in front of the Ministry of Agriculture. Namely, apart from the fact that bees are treated in Bulgarian law as cattle - which is not endangered and easier to raise - the Ministry pushes data on bee deaths under the carpet and conceals and does not publish accurate data on that topic. Interestingly, on February 25,





the European Commission published a report that testified the systemic misuse of European subsidies for agriculture in some member states, including Bulgaria.

Recall that bees have been declared "the most important creatures on Earth", because 70 percent of the food we eat depends on their pollination. Without bees, out of the 100 most important foods we eat, 70 will disappear. It should be taken into account that the number of bees on the planet has already been significantly reduced and that this is an endangered species. However, in addition to 70 percent of our food, without bees, biodiversity would be radically reduced, i.e., the ecosystem would collapse since it is a system of connected vessels. Epidemiological measures could have saved the lives of bees in such a way that there were no pesticides. Namely, fewer exhaust gases on the roads make it easier for bees to find food (closer to the hive). Air pollution limits the range of odor

buds and their durability, breaking down odor molecules that plants emit, which makes it difficult for bees to find food. As a result, they often have to fly on in search of food, and on the way back, exhaust fumes and pesticides make them even more stunned, so sometimes they can't even return to the hive. A drop in the proportion of ozone (60 parts per billion) in the atmosphere is enough to cause chemical changes that confuse bees and cause their hunger and dizziness. The survival of bees depends on several factors - such as pollution, the condition of the queens, the production of new queens, but most pesticides.

For example, total bee loss rates in the winter of 2018 to 2019 among the 31 measured countries (Europe) were the highest in Slovenia at 32 percent, while the lowest rate was in Bulgaria with only 5.8 percent of bee deaths. A year earlier, Slovenia was also in the first place, followed by Serbia (25.4 percent), followed by Spain, Croatia,

Iran, Greece, and Portugal. But a year earlier, Serbia had one of the lowest bee death rates. In general, Western Europe countries had a lower bee mortality rate than the countries of Eastern Europe, which in recent years fully corresponds to the trends of the most polluted cities. The people of Eastern Europe's satiety depends on the success of bee-dependent crops that depend on clean air, which does not exist due to thermal power plants, and the inertia of countries to pass environmental laws, which do not exist only due to capital constraints and modern technology. Due to the authorities' corruption and negligence towards ecology, intrusion into harmful business bursts is an encroachment on the wasp's nest. These practices that the EU warns about when it says that Eastern Europe will be most affected by climate change because it is not only about the shocks of nature but also the inertia of politics to mitigate problems.

# Turkey's Geothermal Sector

Can Arihan 

Turkey has a very high potential for geothermal energy. However, its high potential was not realized until the last few years. According to GEOPRO, Turkey's installed capacity was only 15 MWe in 2005 than 1.500 MWe as of 2020. This figure is the fourth largest after the United States, Indonesia, and the Philippines, respectively. The remarkable rise in geothermal energy power plants' installed capacity contributed to the transformation of Turkey's energy mix. Traditionally, Turkey relied on coal, hydroelectric energy, and natural gas to generate electricity. Like the developments worldwide, Turkey has given a significant focus on renewable energies, and especially geothermal energy is a major driving force in this transformation due to its rapidly growing capacity.

Turkey enjoys a unique geologic location as it is located in a part of the Alpine-Himalayan orogenic belt, where there are abundant geothermal energy

resources. A report from European Geothermal Congress 2019 notes that the theoretical geothermal capacity is at 60.000 MWt, estimated after analyzing heat flow maps. Still, the technical potential is calculated around 4500 MWe with the current prices and governmental incentives. Therefore, even with the existing status of the market, Turkey's geothermal capacity can be tripled. Still, huge investments are needed to reach the technical capacity.

Most of the geothermal energy power plants are located in the western provinces of Turkey. According to Enerji Atlası, there are 60 geothermal power plants in Turkey, and all of the 40 power plants with the largest installed capacity are in Denizli, Aydın, or Manisa. It is because that region of Turkey is rich in geothermal resources. Other smaller geothermal plants are in operation in İzmir, Çanakkale, and Afyonkarahisar. Although the concentration of geothermal resources in Turkey

prevents other regions from using this source to generate electricity, it allows for the development of expertise in that region. Many companies and components of the supply chain are rapidly developing in the western provinces of Turkey.

In the geothermal sector, there are many investors, both established players, and newcomers. A few of the companies with considerable installed capacity are Zorlu Enerji, Gürış Holding, and Çelikler Enerji, but the market is very dynamic, and each player wishes to expand its market share. For example, Sanko Enerji has just opened two geothermal plants in Manisa in January 2021. The total installed capacity of these two plants is 54.5 MW, according to Anadolu Agency. It seems that such major investments will continue given that the Turkish government offers appealing incentives and that climate change will keep forcing us to radically change our behavior in the energy sector. Invest in Manisa notes





that currently, geothermal energy incentives are at 10,5 USD cent/kWh, total exemption from Value Added Tax, and ten years of fixed tariffs.

As it was mentioned above, Turkey aims at transforming its energy sector and making the electricity generation sources more environmentally friendly, but this transformation is far from complete. According to IEA data, coal is still the leading source of electricity generation in Turkey, with almost 40 percent (113.218 GWh in 2019) followed by hydroelectric power (88.886 GWh) and natural gas (56.867 GWh). Power plants that are more environmentally friendly still cannot surpass the capacity of the aforementioned sources. In 2019, wind energy generated 21.780 GWh of electricity, solar 9.578 GWh, and geothermal 8.930 GWh. Hence, we clearly see that although there was a

remarkable boom in the geothermal sector in recent years, Turkey is yet to get rid of the traditional resources that have negative impacts on the environment.

In addition to electricity generation, geothermal energy is used in district heating as well. According to the report from European Geothermal Congress 2019, there are 17 geothermal city heatings. District heating (1033 MWt) and greenhouse heating (820 MWt) are the fundamental areas that geothermal energy is used in heating. Turkey is a country that has to purchase its natural gas from abroad. Hence, the more geothermal energy is used in heating, the less money has to be transferred from the budget to buy natural gas from other countries.

After noting the above-mentioned facts, we can suggest that if Turkey wants to become a leading powerhouse in clean energies in general and geothermal energy specifically, the following points should be incorporated into future policies. Firstly, the current government incentives are already quite effective but increasing them will fasten the growth of geothermal energy (and also other clean energy resources). Secondly, experts in geothermal energy are needed for sustained success in this field. Thus, area-specific undergraduate/graduate programs shall be offered at Turkish universities. Lastly, regulations and directives that only address the geothermal sector shall be prepared. Achievement of these points and success in other aspects of the geothermal sector will certainly yield great economic and environmental benefits.



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