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Think-Free Approach to Energy Issues

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ABOUT US

Energy Policy Research Center

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BRENT OIL	126,02 $/BL	GASOLINE	18.78 ₺/LT
USD/TRY	14.37	DIESEL	19.90 ₺/LT
EUR/TRY	15.59	FUEL OIL	15.17

Think-Free Approach to Energy Issues

Barış Sanlı

The term expertise has evolved with the data revolution. There may be experts of 30-50 years of experience. But these experiences are useless without updated data. Whether it is markets, statistics, operation procedures, it doesn't matter. The only expertise is the constantly updated data. And in the case of energy problems, data is the fabric of reality.

In the past, the expert was someone who had immersed herself in all the details of a specific subject. They were like the walking google engine for these particular subjects. But today, all these data are available even in open sources. Satellite images are far beyond the reach of past experts, and data chunks are more cumbersome than any human brain to deal with. Today the expert is the one who can update, filter, and prioritize.

In these situations, onion is an excellent metaphor to start with. The layers of an onion are one of the ways you built these analyses. So what should be at the core of this analysis? It is either data or direct information. No comments or "assumptions" should be made. This is the think-free approach. You just pick the "real information" and create the core.

One of the challenges of our time is the widely and wildly disseminated comments. Probably for every one sentence of accurate information, we have 100 pages of comments. Some of these comments are extremely attractive. But lies are attractive, too. The reality is generally dull, boring, and colorless. Lies, on the other hand, are seducing, believable and colorful.

In the latest energy crisis, there are zillions of comments about the price rises, the recent hikes, and why this is

happening? Most of these comments have few data points and layers of assumptions. We are so addicted to our thinking and ability to solve events like Sherlock Holmes we approach it like Tetris. However, the first rule of all good analysis starts with "question the assumptions." The most critical assumption is that "price stability is the norm and volatility is an exception."

In most of the analysis, we are captivated by the interesting connections revealed by the commentator. But what do these interesting comments mean? Like TED talks, they are captivating but have no use, or they may distort the truth. The relevant questions are not there. They hide in boring places, like the price level that can crash consumer demand.

Therefore, the most dangerous thing in the energy business is to attribute a lot of value to your expertise, your tastes for analysts, connections, and knowledge. So, start with firsthand knowledge of the event. I spent a lot of time reaching these sources, whether from open sources, satellite images, or data files. This is the kernel of your onion: the solid, comment-free, assumption less, reality mirroring information.

Around the core, build everything with firsthand sources numbers until you complete each layer of your analysis. The last part is humility. This is not the correct model. But you may spot the areas of possible mistakes and deviations. The correct analysis informs about the failures of its analysis.

We should not let our great ideas, thoughts, and IQs derail the flux of reality. History is important and is a great toolbox. But every day is a new challenge. Start with a think-free analysis because you will need your thinking for inventing solutions.

Civil Liability for Nuclear Damages in Turkey

Erkin Sancarbaba

In the current state, the ability of countries to establish a stable energy supply is an issue that concerns the security and future of nations. From Turkey's perspective, ensuring energy security represents the protection of national interests. In this direction, Turkey has positively differentiated itself from other countries in the region by demonstrating a strong will for the establishment of a long-term and stable energy supply. Utilizing both long-term energy contracts and mega projects that will meet the energy needs of future generations, it is aimed to eliminate unpredictable volatilities and geopolitical risks with a forward-looking, rational energy policy. The Akkuyu Nuclear Power Plant, which was started to be built in 2015 and is planned to be operational in 2023, is one of the successful examples in the field of implementation of energy policy that considers long-term interests. In addition to being a promising and efficient energy source, nuclear energy has favorable conditions for the stable and clean energy supply that Turkey targets. However, due to the emergence of some risks and security concerns with nuclear energy production, the necessity of implementing certain legal regulations is an indisputable fact. Various international conventions have been prepared in this direction and regulate the provisions of third-party liability, as a result of possible nuclear incidents. One of the crucial agreements on the nuclear energy field is the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy (will be referred to as the Paris Convention), to which Turkey is also a contracting party. Another is the 1963 Vienna Convention on Civil Liability for Nuclear Damages. Although the Paris Convention, to which the Republic of Turkey is a party, contains important regulations in the context of third party liability in the field of nuclear energy, it was an important shortcoming that a regulation covering the subject area had not yet been made in domestic law, since the agreement determined the general framework. As a matter of fact, in the Nuclear Regulatory Act no. 7381, which has recently been enacted in the Grand National Assembly of Turkey, the issue of legal liability regarding nuclear damages was handled in a separate section (Section Five) and was regulated.

It is important to determine the limits of the operators' liability in nuclear damage beforehand. The Paris Convention has determined the lower limits; however, it would be a more rational approach to create a manageable structure in determining the boundaries according to the internal dynamics of the countries. In the regulation, the liabilities of the operators are determined between 70 million Euros

and 700 million Euros, depending on the type of facility or activity. Another important issue is that the damages exceeding the liability limit of the operator will be covered by the State. Although it is possible to determine the limits of the operators' liability in much higher amounts, when the insurance and collateral costs are taken into account, it is understood that the liability limits are determined at a manageable level due to the possible negative effects of higher liability limits on the production cost and the difficulties in finding insurance and collateral. In this respect, it is important to keep the limits of the operators' responsibility at an agreeable level in terms of realizing nuclear energy investments. Moreover, it is inevitable for the states of the countries, which preferred nuclear energy production, to be responsible for the compensation of damages that exceed the responsibility of the operators as a consequence. Answering the question of how the operators will compensate the damage in case of nuclear incidents within the limits of their liability will be possible by taking out insurance or providing collateral, as in the examples in the world.

Considering that it would not be easy to insure such a large amount of money, the method of establishing a "nuclear insurance pool" was adopted. Considering the reasons for the establishment and activities of Turk Reasurans AS, it is possible to state that this company will take an active role in the operation of the nuclear insurance pool.

The form and amount of compensation for nuclear damage will be determined in accordance with the provisions of the Turkish Code of Obligations, based on absolute liability and exclusive liability principles.

Persons affected by nuclear damage may demand compensation directly from the operator as well as from the insurer, nuclear insurance pool, and other guarantee providers, within the limits of the liability. Third parties affected by the damages may directly file a lawsuit against the aforementioned persons. The exception to the stated exercise of rights is the establishment of the Nuclear Damage Detection Commission by the President. Nuclear Damage Detection Commission will be established in cases where nuclear damage may exceed the liability limits specified in the act.

In this case, nuclear damages will be compensated through the Commission. In the case of establishment of the Nuclear

Damage Detection Commission, the Ministry of Treasury and Finance receives the amount of money corresponding to the liability limit of the operator from the operator or the insurer of the operator; or by converting the collateral into cash.

The revocation and prescription have been outlined in detail in the Act adopted by the Assembly. Also, it has been bound to the rule that the courts of the Republic of Turkey are authorized regarding a nuclear incident that took place in the sovereignty of the Republic of Turkey.

The right of recourse and the statute of limitations are explained in detail in the act adopted by the parliament. The courts of the Republic of Turkey are authorized in relation to a nuclear incident that took place in the sovereignty area of the Republic of Turkey.

The enactment of the Nuclear Regulatory Act in the Grand National Assembly of Turkey is an important step taken in line with the predictable and manageable energy policy that Turkey aims to implement. Thanks to the Akkuyu Nuclear Power Plant, which will be operational in the near future, Turkey will take its place among the countries that can produce nuclear energy. The regulation of third-party liability in the field of nuclear energy is in line with the achievements envisaged by the energy policies. The realization of the energy policy put forward by Turkey, which pursues stable and long-term goals, will be possible with the collective and solution-oriented work of the institutions of the Republic of Turkey. Establishing the necessary legal infrastructure and eliminating the deficiencies in the regulations are important in terms of reaching the targets determined in the field of energy. In this respect, the concrete will of the Turkish Grand National Assembly creates a suitable environment for the acceleration of regulations that will ensure long-term energy supply, and for the detection and solution of legal problems that may already exist. Although it will take time to establish the legal basis completely that is necessary for the realization of strategic energy investments within the scope of the Turkish energy policy, the efforts to be carried out in line with the goal of stable energy supply have vital importance.

Where May Europe Turn Its Direction in Energy?

Büşra Öztürk

After the outbreak of war between Russia and Ukraine which was on the alert with the controversy on the Ukrainian east border, it turned into a West-Russia tension. Western countries attempted to deter Russia with various financial sanctions. However, this crisis maintains its place on the agenda with its energy dimension that can affect the entire European continent and the rest of the world. Although the US, UK, and European countries and many western companies have implemented sanctions such as withdrawing from Russian shares, shelving product shopping, etc., no sharp sanctions have been applied yet at the point of fuel exchange, which is Russia's main income source.

Russia is extremely important for global energy supply because it is the world's second-largest gas producer after the United States, accounting for 17% of worldwide output, and the world's third-largest oil producer after the United States and Saudi Arabia, accounting for 12% of global output. Although progress toward Europe's net-zero goals has aimed to reduce gas use and imports over time, around 43% of Europe's oil and gas comes from Russia. In 2019, Russia was the only provider of natural gas for North Macedonia, Moldova, and Bosnia & Herzegovina. Finland and Latvia were two additional European countries heavily reliant on Russian gas in 2020, with the latter accounting for nearly 90% of the total. Austria, Greece, Italy, Poland, Hungary are also dependent on Russia, with the occupation of over 40%. Germany, another highly dependent country on Russia's fossil fuels, obtains some 55% of its gas imports from Russia, which also supplies some 50% of its coal and 30% of its oil.

Last week, the German government announced the cancellation of the €9.9 billion Nord Stream 2 gas pipeline, which was designed to double the flow of Russian gas into Germany. However, this attempt of deterrent has not had a rugged effect and may not hurt Russia quickly enough as the pipeline was not operating yet. Suppose the conflict between Russia and Ukraine continues, and Europe decides to implement serious sanctions on Russian gas. In that case, it is important to look at possible scenarios in which Europe's dependency on Russia in terms of energy supply may decrease.

In this context, the IEA has published a 10-Point Plan to Reduce the European Union's Reliance on Russian Natural Gas, which considers a modest decline in overall emissions.

The key avenues prescribed within the IEA report are not signing any new gas contracts with Russia; introducing minimum gas storage obligations to enhance market resilience; quickening the deployment of solar and wind; making the foremost of low emissions energy sources, such as nuclear and bioenergy; and sloping up energy efficiency measures in homes and businesses. The IEA also proposed a near term option which has the potential to displace large volumes of Russian gas relatively quickly by increasing use of Europe's coal-fired or using alternative fuels, such as oil, with underlining the fact that these alternatives to gas use are not aligned with the European Green Deal.

In the light of IEA recommendations, there are several possible ways to reduce reliance on Russian gas. One of the ways is that imports from non-Russian pipelines, such as Norway and Azerbaijan pipelines, may increase over the next year by up to 10 bcm (billion cubic meters) instead of gas supplied to Europe from Russia. However, Equinor CEO Anders Opedal stated that Norway is already supplying at full capacity, and Azerbaijan's ambassador to the UK stated that any significant increase in volume would necessitate Europe signing long-term gas contracts. In this sense, this avenue may require a long term to be implemented and may not provide Europe energy security in short-winded.
As another way to turn away from Russian gas, Europe may potentially increase importing liquified natural gas (LNG) via tankers to replace import of 175 bcm to 200 bcm gas supply from Russia of overall 400 bcm import. This is likely to come from the United States and Middle Eastern suppliers such as Qatar. Since the LNG market is not very big, providing extra LNG for Europe might be hard and cause higher prices. Furthermore, some environmentalists are also concerned about the carbon cost of transporting more LNG to Europe via tankers because it requires more energy to transport on multi-continent shipment routes. However, some climate scientists believe there won't be much difference between LNG gas and what's being piped from Russia because the country is thought to use old and leaky infrastructure that already emits a lot of methane.

Before this conflict between Russia and Ukraine existed, some European countries, such as Belgium and Germany, were phasing out their nuclear plants. Now Germany is considering postponing the shutting down and maximizing the use of remaining nuclear plants. However, the usage of old-dated nuclear plants could be inefficient and detrimental. According to the chair of the Center for Security and International Studies (CSIS), even if Germany never shut down any of its nuclear plants, the impact on European gas demand would be about 4%. In this context, preserving old nuclear power plants may not reduce dependency much. Still, the establishment of new generation nuclear power plants may be a solution that will decrease dependence on Russia in the long run.

The long-term way to reduce the reliance on Russian gas is rapidly building out renewable sources. According to Economy and Climate Minister Habeck, renewables are the only way to achieve "true independence" in energy matters. In this respect, the transition to renewable energy may move faster under pressure. For instance, the German government reportedly wants to move 100% renewable electricity from 2040 up to 2035.

In my opinion, in case the Russia-Ukraine conflict continues, if Europe implements all of these alternatives within a comprehensive and strategic plan, it might be possible to completely wean Europe off Russian energy without creating a delay in its carbon zero targets while meeting its energy needs. However, not detail-oriented plans and the instantaneous fossil fuel use decisions, especially coal, may cause the carbon emission targets not to be reached in the expected time. This shift away could lead to higher greenhouse gas emissions since natural gas is considered the cleanest energy source among other fossil fuels. Even though Europe has survived a similar energy crisis before without an interruption in Russian gas throughout the cold war, I believe Europe's energy security and reliance have been shattered hard, and the dependency on Russian gas will be questioned a lot in the future.

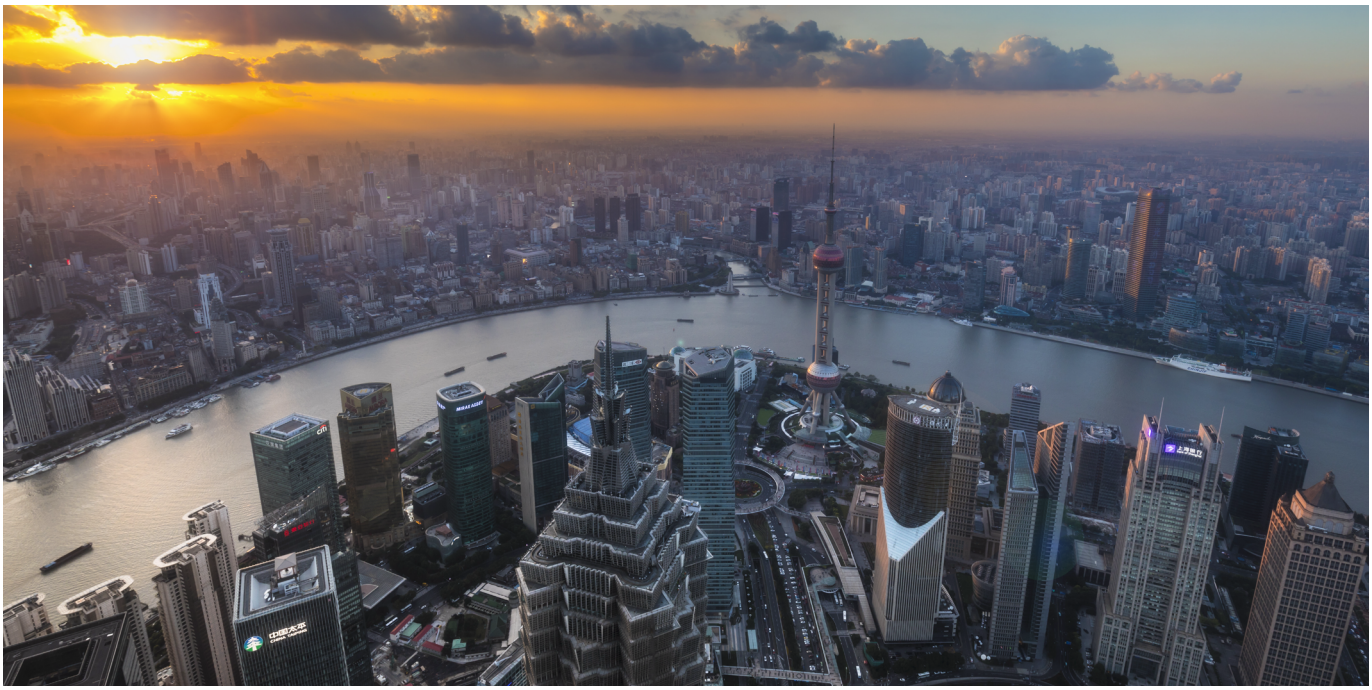
How Is It Possible to Reduce Air Pollution?

F. Yaren Öztürk

Many studies have been conducted about the damage caused by environmental pollution on human health until today. The most comprehensive researches emphasize that an environment consisting of polluted air and polluted water kills more people every year than almost all dangerous substances in the world, natural disasters, events such as wars and diseases. According to the World Health Organization, air pollution, which is one of the points that forms the basis of environmental pollution, kills seven million people in the world every year. It is stated that almost the entire world population breathes highly polluted air that exceeds the global air quality limits set by the WHO. Most affected people by air pollution live in middle or low-income countries such as South Asian and African countries. In most countries that suffer from air pollution, especially in India, one of the most populated countries globally, air pollution causes almost a quarter of all deaths. At the same time, it becomes a considerable obstacle to economic development for these countries.

Beijing hosted the Summer Olympics in 2008, and they were assertive that it would be one of the best Olympic events ever. Despite this, increasing air pollution in the city caused the athletes and spectators to encounter the lowest air quality in the history of the Olympic Games. At the 24th Winter Olympic Games held in Beijing last February, the situation was almost the opposite. Although there is high political tension and the ongoing coronavirus debates shadow the Olympic Games, there was one difference: the visibly reduced air pollution in Beijing. Since the Olympics were held fourteen years ago, air pollution in China's capital has decreased by nearly 50 percent, and air quality has improved noticeably. From 2013 to 2019, policies developed and implemented by China played a significant role in reducing air pollution. As a result of policies such as increasing renewable energy investments across the country, limiting the number of vehicles in cities with high population density, limiting the number of coal power plants to be established, and determining new carbon emission standards to be applied in coal power plants, a 29% reduction in air pollution has occurred. According to the University of Chicago Energy Policy Institute (EPIC) report, published in September 2021, it was emphasized that if China could maintain this reduction in air pollution, the life expectancy of people living in China could increase by 1.5 years.

Contrary to the abundance of air pollutants and the simplicity of polluting the air in the living era, reducing air pollution may not be cheap for countries. It is estimated that in the past years' China has spent about $400 billion to reduce air pollution. Air pollution poses a global health threat to every creature on earth and is a remarkable obstacle to overcoming the climate crisis. At this point,



the amounts to be paid should not be more critical than reducing air pollution and keeping creatures alive. In the long run, investments made to reduce air pollution will benefit both economically and in a humanitarian sense. In 2019, India lost approximately $36.8 billion from neonatal deaths and diseases due to air pollution. Globally, air pollution causes about $8.1 trillion in a year and 6.1 percent of global GDP to be lost. The rational short and long-term policies and investments to be determined to improve air quality can save many people's lives by enabling countries to grow economically and balancing their costs in the field of health.

The air quality life index (AQLI) is one of the tools developed by the University of Chicago to estimate how much life expectancy will be added to people's lives by reducing air pollution and forecasting the life spans lost due to air pollution. Estimations of the air quality life index are based on a study in China that used a home heating program to forecast lifespans lost because of air pollution. From the 1950s to the 1980s, the Chinese government distributed free coal for winter heating to the houses located north of the Huai River, but it did not provide any coal aid to the homes situated in the south of the Huai River. The people living in the houses to the north and south of the Huai River had no significant difference other than the free access to coal. This situation being the case, this policy followed by the Chinese government presented an experiment. The people living north of the Huai River did not hesitate to burn as much coal as possible for heating. However, the life expectancy of the people living north of the Huai River has decreased by 5.5 years due to the pollution of the air they breathe. The researchers used the outputs to identify other factors that reduce life expectancy and determine the difference between them and air pollution. At the same time, they developed the air quality life index to calculate the effect of different particle concentration levels on life expectancy.

Even though air pollution is an urgent and global problem, it is not an impossible problem to solve. The policies implemented by China, Japan, the USA and European countries in the past fifteen years have shown other countries that air pollution is not that arduous. Except for the policies implemented by the governments, even the tiny changes people will exercise in their daily lives has great importance in the fight against air pollution. Changes in people's lifestyles, such as preferring electric cars instead of cars that use traditional fuel types, and preferring energy-saving light bulbs instead of conventional light bulbs, can reduce air pollution and make people live longer lives.

Power of Nuclear and Game Theory

Halil Öztürk

The word "nuclear" has caused many international conflicts around the World and scared people enough to talk still about this issue. Even though hearing the word, we associate it directly with weapons or war, and it is one of the most "clean" and efficient energy sources for such big economies as France, the US, and so forth. To talk with simple words, the reason for this association is their direct linkage; after a nuclear energy generation, with enrichment program viz. uranium enrichment, the "terrible Hollywood movie" weapons can be obtained. Due to their "power," it can be seen as the main reason having hitherto caused international conflicts, as we mentioned at the beginning, one of which is an ongoing one between Iran and Israel. On the one hand, Iran wants and insists on building nuclear energy to generate electricity which was responsible for about 2% of total electricity production in 2018; on the other hand, Israel insists on claiming that Iran's plans about this issue are not as peaceful as they state, and consider themselves to be in danger. Nonetheless, despite past tensions and aggressive attitudes, so far, combat between the armies of Israel and Iran has not yet happened. To discover the reason why this is the case, in this paper, we shall first quickly introduce background information for the Iran and Israel conflict and the role of nuclear reactors in this conflict; then, simple background for the game theory concept and its way of use.

Due to the complexity and vulnerability of the Iran-Israel relations, at this part, we are going to give a quick, simple background to comprehend our game theory analysis better.

Since the discovery of secret Iranian nuclear facility at Natanz two decades ago, the attitudes of the West and Israel have been suspicious against The Islamic Republic, and a proxy (shadow) war started against Iran even though Israel welcomed relations with Iran more openly after the Suez war and they developed close military and intelligence relationship by early 1959, which can be regarded as an outcome of the periphery doctrine: The enemies of my enemy are my friends to protect itself from hostile Arab neighbors. Nonetheless, before the discovery, the 1979 Islamic Revolution in Iran had already put an end to the cooperation between Iran and Israel due to ideological reasons; Tehran believes Israel to base on Western colonialism and a pillar of American imperialism in the Middle East. This radical change in Iran's policy naturally has made Israel be suspicious and aggressive against Iran.
To understand the nuclear research program of Iran for a war between Israel and Iran, we will conduct a fundamental game theory analysis which is a collection of models of rational decision-making in interactive situations. In our set, the agents, Iran and Israel, each have two alternatives to choose from; for Iran, continue to nuclear research or

stop, and for Israel, attack or do not attack. To represent in a normal form:

Israel (Column Player) Iran (Row Player)	Continue Nuclear Research	Stop Nuclear Research
Attack Iran	$Outcome_1$	$Outcome_2$
Do not Attack Iran	$Outcome_4$	$Outcome_3$

We will have the following assumptions:
- The primary objective of Iran: Continue nuclear research
- The secondary objective of Iran: Avoid a military conflict with Israel
- Therefore, we can conclude that for Iran:
- $Outcome_4$ (4) > $Outcome_1$ (3) > $Outcome_3$ (2) > $Outcome_2$ (1)
- The primary objective of Israel: Iran stops nuclear research
- The secondary objective of Israel: Avoid a military conflict with Iran
- Ergo, we can conclude that for Israel:
- $Outcome_3$ (4) > $Outcome_2$ (3) > $Outcome_4$ (2) > $Outcome_1$ (1)

To represent the game with the corresponding payoffs based upon the preference orders of Iran and Israel:
Note: The first payoff is for Israel, and the second one is for Iran.

Israel (Column Player) Iran (Row Player)	Continue Nuclear Research	Stop Nuclear Research
Attack Iran	-1,3	-3,1
Do not Attack Iran	-2,4	-4,2

By playing this basic game, we can easily see that the player shall reach the Nash Equilibrium of "Continue Nuclear Research / Do not Attack Iran ."That is, even though there has been a conflict of interests between Israel and Iran over the nuclear research program of Iran, equipped with the game theory tool, based upon our assumptions, Iran is the winner in this conflict.

All in all, in this paper, we tried to give a simple explanation of the conflict over the nuclear research program of Iran between Israel and Iran with the help of a popular tool, game theory. As long as the assumptions of the model are valid, the conflict seems to continue in favor of Iran based upon analysis.

The FED vs. Russia

İbrahim Halil Aslan

The world is experiencing hard times with the invasion of Russia into Ukraine. In recent weeks, Russia has increased the severity of attacks. The world reacted to the invasion by implementing harsh sanctions, from removing most of the banks in Russia from the SWIFT system to freezing property belonging to Russia, to be put an embargo on Russian media by the European Union. All things and other sanctions placed on Russia affect the Russian economy adversely. The Russian Ruble lost approximately 30% value per dollar till now from the beginning of the invasion, which is incredible volatility in the market and shows a tremendous loss of credibility. While such sanctions damage Russia's economy, whether Russia can damage these countries that apply these sanctions is a question. As of 4 March, Brent has been sailing around 112 dollars per barrel, while West Intermediate Texas, WTI, has been sailing around 110 dollars per barrel. These prices were about 60-65 dollars per barrel only a few months ago. This increase is mostly because of the Russian invasion and the "silence of OPEC'' against prices going into space. I will explain how Russia causes oil prices to increase worldwide in this writing.

Firstly, let's introduce the energy weight in the Consumer Price Index published for January. The item of energy rose by 0,9% in January. Brent and WTI were about 90 dollars per barrel at the end of January. When taking the price of Brent and WTI right now, approximately an increase by 20%, into consideration, predicting how this increase will put pressure on inflation itself and compose more chunks of inflation is not a hard thing to think. In an environment where everyday complaints about the increasing cost of living are rising, dealing with inflation increasing at an accelerated rate will be harder and more hurtful for the whole globe. Therefore, the institution responsible for controlling inflation, Federal Reserve (FED), will take action is about curiosity.

The FED was expected to increase the federal reserve rate in the 15-16 March meeting. Whether the increased level will be 0.25% or 0.50% has been questioned in the economic environment. However, most experts are on the side for a 0.50% increase to keep inflation under control. After the invasion, since the economic outlook becomes more uncertain and will dark scenarios such as starting a new war between Russia and NATO, the probability of an

increase of 0.50% seems to decrease. In that sense, The Chair of FED, Jerome Powell, made a speech a few days ago, on Wednesday. In his speech, he points out they have to determine the interest rate level. Afterward, he stated that the FED would be "prepared to move more aggressively" if rising inflation required it. The current war and sanctions implemented on Russia make the statement of the world highly uncertain. In this environment, operating an effective monetary policy requires an acceptance of the fact that the economy shows development unexpectedly. Therefore, FED will be "nimble" in showing reaction to incoming data. He also specified that he is "inclined to raise the interest rate about 0.25%". The interest rate is likely to increase in the March meeting, but whether the increase will be enough against fighting inflation or not is also about curiosity.

If the FED could not successfully fight against inflation, increasing oil prices would put more burden on the whole society and the cost of living. As a matter of fact, in a news article published in Financial Times, Scott Sheffield, chief executive of Pioneer Natural Resources, said that the US is unable to close the gap of supply in the short term if an energy embargo is put on Russia. Therefore, he acknowledged that such action or sanction causes the oil prices to increase. Looking from an objective perspective, we should accept that Russia still has some power that can change the rule of the game. This means that while US and European countries can damage the Russian economy, Russia can also damage the world's economy, including US and European countries.

If they damage their economies one another, no one can rescue their economies. However, there is a country, Ukraine, whose economies can be rescued. In an article published by International Monetary Fund (IMF), Managing Director Kristalina Georgieva said that the IMF continues its Stand-By Agreement, now available additional 2,2 billion dollars for Ukraine.

After all, the answer to who will be the winner is in the upcoming days. Nevertheless, it can be understood that those who will be crushed after this war are the people living on this planet.

Think-Tank Comparisons: Turkey vs. the World

Nur Durmaz

Civil society organizations are now a part of our lives. We benefit from them in different ways, using what they give us. In addition to these organizations, think tanks are increasing their activities. Think-Tanks are organizations that produce policy-oriented analysis and advice on national and international issues, thus enabling policymakers and the public to make informed decisions about public policy and research many specific issues. According to the 2020 Think Tanks Global Index prepared by the Think Tanks and Civil Society Program, there are nearly 12 thousand think tanks globally, and only 53 of them are in Turkey. Even in countries considered less developed than Turkey, there are more think tanks.

Turkey is a country that remains a little more self-centered compared to the basic study areas of think tanks in other countries. While energy is the subject that attracts the most attention, it is possible to see a similar pattern to Asia, the Middle East, and North Africa (MENA) in this regard. Another issue that attracts the attention of think tanks is climate change and the problems that come with it. In recent years, think tanks dealing with the environment and energy in Europe and the USA are one of the most important issues. According to the European Commission, one of the bodies of the European Union, research on future scenarios predicts that climate change will have a dramatic impact on natural environments, plants, and animals, leading to an accelerated loss of biodiversity in some regions. These impacts are thought to have knock-on effects for many communities and sectors that depend on natural resources, including agriculture, fisheries, energy, tourism, and water. While the European Commission takes action on such an important issue, it may inspire other European countries. For this reason, the issues that a strong supranational organization cares about, policies, can make countries and national organizations turn their heads in that direction. On the other hand, since Turkey is in the status of a developing country trying to reduce its dependence on foreign sources, it is not unusual to deal with energy issues first and to look at the climate crisis in the same way after the problems related to energy are put on track with certain policies.

Climate change and the risks it brings are always on the agenda. However, energy is important for countries dependent on foreign countries because economy and energy are two important issues that countries fall upon. MENA region is very sensitive to the risk of climate change impact due to water scarcity, the concentration of economic activities in coastal areas, and dependence on climate-sensitive agriculture and differs from Turkey in this aspect. Despite its relatively low overall greenhouse gas emissions compared to other regions, MENA has the third-largest carbon emissions growth globally, compounding the risk of climate change. High carbon emissions originate predominantly from oil-producing countries, which account for 74 percent of the region. On the other hand, according to

the International Energy Agency's report published in 2021, Turkey's rapid economic growth and population growth in the last two decades have led to strong growth in energy demand and caused a corresponding increase in import dependency. As a result, Turkey has restructured its energy system to rationalize the increase in energy demand, lower energy prices for consumers, and slow the growth rate of imports. Therefore, the establishment of a nuclear power plant in Turkey attracted the attention of think tanks, and this issue was on the agenda. However, it is not clear whether this is seen as a crisis or whether it gives us an advantage. Although the configurations of Turkey and the MENA region for energy are different, this is the most important issue for think tanks in recent years.

Climate is the most valued issue in African countries. This is because the negative impact of climate change on Africa is severe due to high agricultural dependency and limited adaptation capacity. It may be necessary to look optimistically towards Turkey in this regard. Findings show that the share of the agricultural sector in production and added value has decreased over the years. When the foreign trade of livestock is examined, foreign dependency on livestock development goes back to the early 1990s. Compared to crop production, Turkey seems to be a foreign-dependent country in livestock. Looking at these findings, if we continue like this, we can have a similar scenario in which African countries have experienced or will experience the negative effects of climate change.

On the other hand, the USA and Asian countries such as China, Japan, and India rank first in carbon emissions. For this reason, it is more common for think tanks there to conduct research on this subject compared to Turkey. However, the carbon ratio in Turkey must have attracted the attention of Turkish think tanks, as they gave place to their publications on this subject. Turkey's emissions are likely to increase significantly as its expanding energy needs are largely met by fossil fuels, particularly coal for electricity generation. However, it has promised some efforts to limit the increase in emissions. However, due to the signing of the Paris Agreement and the slow development of sustainable development goals, it is not known how important reducing carbon emissions in Turkey is.

Turkey has been selected as having one of the greatest potentials among European countries to expand renewable energy sources, primarily wind and geothermal energy. However, the share of renewable energy in our electricity generation these days fluctuates between 35-45%. Turkey's renewable energy capacity is expected to increase by over 26 GW, or 53%, mainly in 2021-2026. If it increases in this way, Turkey may

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