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### Turkey's Struggle with the Plastic Waste

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CAPITAL INSTRUMENTS IN RENEWABLE ENERGY



WHY DO WE HAVE FEWER WOMEN IN ENERGY SECTOR?



THE POSSIBILITY OF AN EARLY DEMAND DESTRUCTION

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## Turkey's Struggle with the Plastic Waste

The mass production of plastics, which started in the 1950s, has increased by 1.5 million tons annually and reached 280 million tons annually, affecting the world negatively has forced many countries to fight against plastic. The only reason for this is that some countries have plastic waste from other countries. While Turkey bought approximately 33 thousand metric tons from Europe in 2015, it increased to approximately 700 thousand metric tons in 2020 and took its place at the top of this list. Turkey imports 40% of the plastic waste produced only by the United Kingdom. Half of this waste is mixed plastic, and it is very difficult to recycle mixed plastics.

Even if Turkey is a country that tries to reduce its plastic production, taking plastics from other countries causes environmental problems and makes Turkey a country that is not clean in the national arena and does not care about environmental pollution. According to the WWF Report, every Mediterranean country mismanages some of its waste. However, considering the plastic production and consumption, the size of the economy, and the existing waste management systems, it is seen that Egypt (42.5%) and Turkey (18.9%) have the highest share at this point. Egypt and Turkey dump 1.3 million tons and 0.8 million tons of untreated plastic waste into open areas each year, making them the two largest open dumping sources. In addition, given the length of their coastlines and the high concentrations of plastic in coastal waters, Italy and Turkey are the two countries with the largest accumulation of coastal plastic debris in the Mediterranean. Despite all this, Turkey will continue to import water bottles and carbonated

beverage bottles made of polyethylene terephthalate (PET) and bottle caps made of polypropylene (PP), some food containers, and tubs. With the consumption and export of plastics, sea and beach pollution will increase. Sea and beach cleaning is very important for tourism. However, shoreline cleaning is also an expensive business. Around 18 million Euros are spent annually on beach cleaning in the UK.

Plastic waste imports brought by China in 2018 turned the eyes to Turkey. However, with the plastic waste, Turkey produces on its own, the plastic waste rate has reached undesirable levels. Researchers analyzed 11 years of data on the global plastics trade versus economic measures for 85 countries. They found that plastic waste imports were associated with growth in GDP per capita in low-income countries. Considering that Turkey is a country in economic distress, it is normal to need this. Still, for economic growth, instead of education reforms, development in technology, and policy differences, it is not a logical solution to take the waste of other countries. Waste intake has many negative impacts on the country and the environment, especially if there is wrong waste management. The ironic point is that the purchase of plastic waste, which is thought to be economically healthy, will be a greater financial burden on us in the future, together with environmental pollution. According to the United Nations Environment Programme, the natural capital cost of plastic use in the consumer goods sector is \$75 billion each year, with financial impacts from problems such as marine environment pollution or air pollution from the burning of plastic.



The 2018 Interpol plastic waste crimes report cited Turkey as one of seven countries suspected of deliberately starting waste fires to eliminate illegally stored plastic scrap. As bad as the production, purchase, and use of plastic is, its illegal and uncontrolled burning is also very bad. As long as it is controlled, energy can be supplied from the incineration of plastics. After all, plastic is made of hydrocarbons, just like oil, and is energy-intensive, like coal. However, there are several barriers to incineration. In addition to being expensive, there should be no settlement next to the burning facility. Finally, waste-to-power plants have the potential to emit low levels of toxic pollutants such as dioxins, acid gases, and heavy metals. Modern facilities use advanced scrubbers, precipitators, and filters to capture these compounds. "These technologies are beneficial as long as combustion plants are properly operated and controlled emissions," the World Energy Council's 2017 report states. in Istanbul, The Waste Incineration and Biomethanization Facilities in Eyüpsultan is a good example. Many people have benefited from the electricity produced at these facilities.

Greenpeace Turkey called out to Turkey, and all environmentally friendly people with the label "Turkey Should Not Be a Plastic Garbage Dumpster " because of the illegal plastic waste they found in Adana and İzmir. Thanks to this protest, on May 18, 2021, the importation of plastic waste was prohibited, according to the communiqué published in the Official Gazette. However, Turkey has come one step closer to the idea of zero waste. However, before the decision was implemented, the plastic waste ban was withdrawn, and it was said that the incoming waste would be inspected this time. No matter how inspected, plastic waste should not be kept in a country both in terms of economy and human health. Some of the most visible effects of plastic spills are that hundreds of marine species ingest plastic, suffocate and become entangled with plastics. Marine wildlife such as seabirds, whales, fish, and turtles mistook the plastic for prey; many starved to death as their stomachs were filled with plastic. These wastes do not only negatively affect the lives of animals. Microplastics found in tap water, beer, and salt have been found in all samples collected in the world's oceans, including the Arctic. It is known that some chemicals used in the production of plastic materials are carcinogenic and cause developmental, reproductive, neurological, and immune disorders in both humans and wildlife by interfering with the body's endocrine system.

The degradation of the ecosystem means that one more species is extinct. As long as the production and use of plastics in the type and amount that will harm biodiversity, the environmental goals desired to be achieved will remain further away. On the other hand, Turkey makes it more difficult for itself, not only by purchasing waste but also by purchasing plastic waste, which is one of the most unhealthy materials in the world. It has a policy that should not be owned to contribute to the economy. We hope that the purchase of plastic waste, which has a lot of negative effects, will leave itself to be positive and environmentally conscious policies as soon as possible, or we may face undesirable situations in the future.

### Japan's Approach to the Energy Crisis in the Ongoing Russia-Ukraine War Yaren Öztürk

Japan is a country that aims to increase the use of renewable energy to meet one-third of the country's total energy production by 2030, so it is following a decarbonization strategy that will exclude environmentally harmful and inefficient power plants. While entering the fifth week of the Russia-Ukraine war, rising energy prices worldwide seem to lead to changes in Japan's long-running policies of accelerating the transition to clean energy and staying away from nuclear energy as much as possible. Nuclear energy's role in the climate crisis and problems in the energy field in Japan cause discussions throughout the country. Some states, the International Atomic Energy Agency, and the United Nations define nuclear energy as a low-carbon technology that provides electricity and heat production without fossil fuels. On the other hand, environmental organizations warn people that nuclear energy would have devastating consequences like the dangers of toxic waste and nuclear meltdown.

Before the Russian invasion of Ukraine launched, electricity prices in many countries, including Japan, had reached the highest levels in the past years. It is estimated that electricity bills in March will be the highest in the last five years in Japan. On March 16, an earthquake with a magnitude of 7,4 in the northeastern Tohoku region stretched the power grid, causing over a dozen power plants in Japan to topple. With the extremely cold weather last week, power cuts occurred in 15 provinces, including Tokyo. Solar power generation in the country declined, and a short-term crisis occurred as there were not enough natural gas and coal power plants to offset this decline. The crisis led to the warning of the first electricity supply for Tokyo. To resolve the crisis and stop power outages, the Japanese government has requested to reduce their electricity consumption and set their thermostats to 20 degrees Celsius drastically from its citizens and businesses. The crisis brought the problems in Japan's energy infrastructure to the surface and inflamed nationwide debates.

When going back to the beginning of the discussions in the country, it is necessary to understand the earthquake with a magnitude of 9 that occurred in the country in 2011 and the disasters in Fukushima afterward. After the earthquake, a giant tsunami wave hit the Dai-Ichi nuclear facility in



Fukushima, and the second-largest nuclear power plant accident after Chernobyl has experienced. The tsunami wave damaged the reactor's cooling systems, shutting down power to the systems and reasoning three reactor cores to melt. Immediately after the earthquake and nuclear accident, the Japanese government decided to shut down the entire fleet of nuclear reactors, which provide about 30% of the country's electricity needs and contain 54 reactors. As a result of the stance of the opposition forces in the country after the 2011 earthquake and a slow regulatory process, it was decided to reopen only ten nuclear power plants. After the closed nuclear power plants, they wanted to meet the electricity obtained from nuclear by focusing on solar power plants, natural gas, and coal power plants. Today, less than 10% of the electricity used by Japan comes from nuclear energy. Although these events that happened 11 years ago led to angry opposition to nuclear energy, the 7,4 magnitude earthquake in the same region recently may be planting the first seeds of the government's moderate approach.

Some arguments assert that could have avoided the power outages on the night of March 16 if more nuclear power plants were operating in the country. Another claim is the increasing worldwide fossil fuel prices; subsequently, the Russia-Ukraine war and the expanding dependence on renewable energy sources, which are still not entirely reliable, might cause more fluctuations and instability in Japan's electricity grid. The Japanese government responds by saying there are no problems at the moment, but there is information reflected in the Japanese press that some of the coal power plants in the country are damaged, and they are likely to be out of service. On the other hand, Japan imports about 5% of its oil and about 8% of its LNG from Russia. Russia is the fifth-largest supplier of LNG and oil to Japan. Considering that LNG is a fuel facing a global supply shortage, Japan can't increase its LNG purchase for now. Renewable energy is still not a shortterm solution to reducing dependence on fossil fuels. While it is a controversial option, making nuclear reactors safe to use again remains a good option. For Japan to reach its 2030 energy targets, there should be open 33 nuclear reactors. Japan, which currently has only ten working



nuclear reactors, has to get local governments' and national regulators' approval to speed up this process.

Nikkei, one of the country's leading newspapers, has been conducting surveys on reopening nuclear reactors for years. The results of the latest published survey have shown that people think of reopening the nuclear reactors that were closed after the Fukushima disaster for the first time with a 53% majority. This result marks the first time since the catastrophes of 2011 that the majority support nuclear power. In a similar survey conducted in September 2021, while the proportion of people who support reopening decommissioned nuclear reactors was 44%, it has increased to 53% now. It can say that the Russia-Ukraine war, which has been going on for more than a month, has an apparent effect on this survey result. Nobuo Tanaka, the former executive director of the International Energy Agency, gave an interview in the past weeks and approached from a different perspective. He mentioned that Japan, the world's second-largest LNG importer, could resell LNG to Europe if the country reopens its nuclear power plants.

While the world's countries are in a global energy crisis, they are trying to cope with the effects of the ongoing Russia-Ukraine war. As countries and international organizations make various decisions to reduce dependence on Russian energy, the number of sanctions imposed on Russia increases daily. The Japanese government keeps in touch with the United States and Europe on sanctions and cuts to Russia's gas and oil supplies. In addition, Prime Minister Fumio Kishida is holding diplomatic conversations with Saudi Arabia and the UAE leaders to ensure an uninterrupted energy supply to Japan. Increasing the use of nuclear energy, on the other hand, is evaluated more positively in various countries, with the effect of the Russia-Ukraine war. It will be clear what Japan's moderate attitude about nuclear energy after many years and the governmental evaluations will bring in the coming days.

### Capital Instruments in Renewable Energy ibrahim Halil Aslan

There are several instruments that money can be invested in the capital market. Stocks, forwards, futures and warrants are some examples of these instruments. In addition to these capital market instruments, there is one instrument called "mutual fund" that can be put aside and has some important and different features. "Mutual fund" is a system based on the fact that savings of people on this instrument are directed by professional managers by investing in various capital market instruments. The savings are evaluated by the principle of minimum risk - maximum profit.

There are also several types of mutual funds. One of them is "composite funds." Composite funds can have different definitions from country to country. In this writing, we only consider the definition done by the Capital Market Board of Turkey. It is as follows: Composite fund is a mutual fund that invests at least 80% of the portfolio in stocks, debt instruments, or lease certificates and targets the capital gain. Some composite funds generally prefer to invest in the energy sector, specifically the renewable energy sector. One of these composite funds is called the "İş Portfolio Renewable Energy Composite Fund (IKP)." One type of mutual fund is "stocks funds." A stock fund is a mutual fund that invests at least 80% of the portfolio in stocks of the partnership that is publicly traded and aims to gain capital. Some stocks funds can make a purpose of investing in the energy sector. One of such stocks funds is the "Ak Portfolio Alternative Energy Foreign Stocks Fund (AOY)." Also, there is a benefit in the warning of the fact that what will be written does not carry any suggestion or recommendation to invest in something. It is not an advertisement. It only carries the aim of informing.

Let's go into the details of Is Portfolio Renewable Energy Composite Fund (IKP) and Ak Portfolio Alternative Energy Foreign Stocks Fund (AOY). IKP fund is composed of 217.941.289 shares whose the last price per share on Friday of the 3rd week in March is 1,814547 TL. The total market value of the IKP is now 395.464.622,15 TL. AOY fund is composed of 2.793.111.288 shares whose the last price per share on Friday of the 4th week in March is 0,158667 TL. The total market value of the AOY is now 443.173.625,86 TL.

In the prospectus of IKP, it is written that at least 80% of the total fund worth is invested in stocks, depositary receipts,



global depositary receipts, and private debts instruments that are issued by either the companies that are constantly operating at the renewable energy sector or the service providers operating at this field, of these companies.

In the prospectus of AOY, it is written that at least 80% of the total fund worth is invested in American Depositary Receipts (ADR), Global Depositary Receipts (GDR), and stocks of the companies that are constantly operating in the field of new, developing, clean, renewable and sustainable energy that is included in the head of alternative energy.

For IKP, price valuation always becomes about curiosity when the point comes to fair valuation. In this fund, price valuation calculated by the Fund Service Unit conducting accounting and valuation jobs of the funds is delivered to the Risk Management Unit being independent of portfolio management to be verified. Theoretical price to verify the price sent is calculated by preferring one suitable model among Black and Scholes Models, Binomial Model, or Monte-Carlo Simulation. For AOY, the price valuation process is almost similar, but the model determining price valuation is based on Black and Scholes Models or Monte-Carlo Simulation.

In some times, when profit seems obvious to be made, more funds can be useful to gain more. In these times, the IKP fund is required to get foreign funds, such as borrowing. In the prospectus of IKP, it is specified that credit can be obtained as long as the amount of credit does not exceed 10% of the total portfolio. The details about the credit should be announced on the public disclosure platform. The process is also the same for AOY.

Getting credit can sometimes be dangerous and make the fund's job harder if it does not give expected results. If it results in a negative gain, then it means loss and becomes a risk for investors. Similarly, like almost every capital instrument, this instrument also carries some risks. Investors should take these risks into account when making decisions about investing. These risks to which IKP can be exposed are stated in the prospectus of IKP and AOY.



The summary of the performance in Turkish Lira of the fund is shown in the table below:

Code of the fund	Name of the fund	1 Month %	3 Month %	6 Month %	1 Year %
<u>IKP</u>	İş Portfolio Renewable Energy Composite Fund	18,42	21,72	52,62	74,21
ΑΟΥ	Ak Portfolio Alternative Energy Foreign Stocks Fund	20,20	20,30	48,73	61,29

These gains seem to someone very satisfactory, seem to others insufficient. What the fund determines for itself to be satisfactory is also an important indicator. The comparison benchmark of the fund is determined in the prospectus of IKP as 65% S&P Global Clean Energy Net Return Index (USD) + 10 %BIST 100 Return Index + 25% BIST-KYD OSBA Fixed Index.

The comparison benchmark of the fund is also determined in the prospectus of AOY as **100% MSCI Global Alternative Energy Net Return Index** (Bloomberg Ticker: NGEAE)

In conclusion, many capital instruments deal with the energy sector. Two of them are listed above, which are IKP and AOY. Many other instruments are available in the market. Energy is the new trend, and those funds that do not want to catch the opportunity closely follow this area. As energy itself becomes a new tendency, those companies interesting in the energy sector also become a source of interaction.

## Why Do We Have Fewer Women in Energy Sector? Gülce Özdilekcan

Living in the 21st century, we assume that we have overcome most of the issues already been addressed years ago. However, we still have a long way to go looking at the social construct. In 1848, the first women's rights conference was held, Seneca Falls Convention. Since then, we still argue about the women's empowerment movement. As the United Nations (UN)'s Fifth Sustainable Development Goal suggests, gender equality "is not only a fundamental human right but a necessary foundation for a peaceful, prosperous and sustainable world." However, we still observe inequalities between genders, even though we work hard towards this goal.

The energy sector is one of the huge sectors where we can observe gender inequality. According to the International Energy Agency, which reported in 2019, "Despite making up 48% of the global labor force – women only account for 22% of the traditional energy sector." This makes the energy sector one of the least gender-diverse sectors, among others. Also, senior management roles are indifferent to gender diversity, which is described as "Women make up only 13.9% of senior management within the energy and energy utilities composite, which is marginally lower than in the sample from non-energy industries at 15.5%." "Women fare better at renewable energy companies, but they are still in a clear minority at 32 percent, according to the International Renewable Energy Agency."

#### Previous Discussion on the Matter

It is hard to improve some social stigma about gender inequality, including women in the energy sector is quite hard and controversial. First of all, the problem itself is not only about the energy sector. The controversy starts from the women's participation in STEM vacancies in science, technology, engineering, and mathematics. Especially in the Eastern culture, these areas are considered a "manly thing," and women are encouraged to study more social sciences.

On the other hand, even though it is not promising enough, the women's contribution to the workforce in the renewable energy sector is higher. It is mostly seen as related to the renewable energy sector being a more recent energy



resource and sector. We can see that the other energy sectors have a long history. The firms often tend to have a more traditional way of administration, which includes male dominancy in the sector. Also, with the rise of renewable energy, new job openings have occurred, which created a chance for women to be hired, yet not enough women have been employed. However, the main problem still seems to be the prejudice toward women, the social norms, and the hiring habits of the companies, which we can summarize as the "glass ceiling."

As for the solution proposals for this matter, they are still controversial and nothing exactly new. As UN bodies suggest, raising public awareness is the primary solution they come up with. They are targeting to change both understandings of women's "glass ceiling" in the energy sector. Even though they are hired, they also aim to raise awareness about the working environment for women in the energy sector. Since women face different difficulties regarding their role as a mom in their personal lives, employers think they don't want to work as much as the male workers who can do the job. Also, as a downside of being in a male-dominant sector, women face discrimination from their coworkers or consequences that can reach even sexual harassment, which keeps both the employer keeping away from the women workers and the women keeping away from the sector. As some of the experts and the EU have mentioned in their report in 2019, laws should be changed regarding labor rights and for the women in the energy sector. Working in the energy sector requires long hours of physical work, which is hard for all the workers but especially for women who are expected to take care of their families.

#### From the Women's Point of View

While doing the research, I saw many reports, blog entries, and statistics that reflect the matter. However, one thing that I realized was that they were all written from a man's perspective. They were mainly based on the observation of the men in the sector. Therefore, I had a chance to talk with the women in the energy and the STEM sector. They all agreed that STEM is hard to reach for women. Even when



they are studying STEM, they feel the social pressure and the stigma that makes them feel like even though they are qualified enough for the job, a man will naturally be preferred every time. Also, they are afraid of going into the sector. Even though they go into the sector, I realized that they feel the pressure of having a family will jeopardize their career. When they have a baby, they won't be able to work anymore because of the legislation that requires them to work longer hours or shorter maternity leave that they won't be able to take care of their baby.

On the other hand, the reports and research have shown me that the energy sector is one of the wildest and most competitive sectors. There have been many disputes before because of energy resources and how profitable the sector is. In this wild sector, the players need to have strong communication and tough personalities. Therefore, this explains why there are fewer women in senior positions. They are often seen as vulnerable and naïve, which is not suitable for the nature of the sector. Man is often seen as strong and fearless workers, which makes them "more suitable" for the job, even though, on paper, both genders have the same professional qualifications. While I was talking with women in the sector, the most striking answer was, "Why do we need women in this sector anyway?". This sector is all about high production to compete with other firms, and production requires a high amount of muscle power. Therefore, hiring women for blue-collar jobs will highly affect production. Considering that blue-collar workers compose most of the workforce, the percentage of women working in the energy sector will naturally be below.

## Can Turkey Become a Regional Energy Hub? Erkin Sancarbaba

The ongoing war in Ukraine forces the countries to face a new security of supply complications. The crisis environment in question, which threatens the interests of many countries in many ways, forces governments and companies to create new road maps by forcing sudden policy changes. Undoubtedly, energy is one of the areas that are most subject to these policy changes. However, it should be noted that the economic and political crises experienced in the past have proven that no crisis is permanent. Multidimensional conflict situations such as the Ukraine War have the potential to bring together the parties of the crisis, as well as the surrounding countries, to reach a permanent solution. On the other hand, planning long-term energy policies for the post-crisis period is important in terms of energy supply security. In this respect, it is important to exhibit efficiency-oriented and rational approaches independent of political developments in the evaluation of resources that are beneficial for energy supply.

On the other hand, the uncertainty in energy prices can be eliminated by increasing the capacity of existing stable and promising energy routes.

Turkey has the potential to become an alternative energy transmission center due to its strategic location and the fact that it has various energy transmission lines that it has been involved in the construction and operation of until now. Turkey, which has played an important role in the transportation of the rich natural gas and oil reserves around it to Europe via the Balkans, has been a key player in the Southern Gas Corridor initiative. Turkey is the closest candidate to becoming the energy hub of the region through its growing role in transporting natural gas produced in the Caspian Basin, the Middle East, the Eastern Mediterranean Basin, and Central Asia to Europe.

Turkey, which is a transit country during the transmission of natural gas from Azerbaijan, Iran, and Russia to neighboring countries, has experienced and qualified institutions and companies in the transmission of energy.

The Trans-Anatolian Natural Gas Pipeline (TANAP), which aims to transmit the natural gas produced in the Shah Deniz Gas Field in the Caspian Sea and other gas fields in the south of the Caspian Sea to Turkey and then to European countries, plays a critical role in meeting the natural gas needs of Europe. The pipeline has a natural gas transmission capacity of 16 billion cubic meters per annum. This capacity could reach 31 billion cubic meters per year with the addition of five compressor stations to the pipeline route. Increasing natural gas production in the Shah Deniz field increases the strategic importance of the TANAP project. In 2021, approximately 23 billion cubic meters of natural gas and more than 4 million tons of natural gas condensate were produced at the Shah Deniz Gas Field, with the increase in



production capacity at the Shah Deniz-2 Gas Field. The total natural gas production capacity of the existing facilities in Shah Deniz is approximately 72 million cubic meters per day and 26 billion cubic meters per annum. Existing production is expected to increase in the near future. BP, the largest shareholder of the Shah Deniz Consortium, announced in July 2021 that production began on the Shah Deniz-2 East South Flank. Increasing natural gas production in the Caspian Sea energy basin has the potential to contribute to the diversification of natural gas importers and its orientation towards new alternatives, especially in the European Union.

Another project that increases Turkey's strategic importance is the Turkey-Greece Natural Gas Interconnection (ITG) project, which provides natural gas transmission from Turkey to Greece. In 2007, the natural gas supply started through the pipeline. The natural gas pipeline between the two countries has a gas transport capacity of 11.5 bcm per annum. Another point that makes this project important is the possibility of the realization of the pipeline project between Greece and Italy, which is the continuation of the pipeline between Turkey and Greece and has not yet gone beyond the planning stage. If the pipeline, whose technical feasibility has been completed, is put into practice in the future, natural gas will be supplied to Italy via Turkey. In addition to the expected capacity increases in existing projects, one of the leading issues concerning Turkey's medium and long-term energy targets is the developments in the gas fields in the Eastern Mediterranean. Establishing an energy corridor in the Eastern Mediterranean does not seem possible with current approaches, due to the problems experienced in the feasibility of the projects planned to transport the Eastern Mediterranean natural gas to Europe and the problems experienced by these projects in attracting investments. On the other hand, the Turkey-Israel natural gas pipeline idea, which has started to be evaluated by the international public and has a higher chance of being implemented than its competitors, has the potential to create an energy corridor that can positively affect the welfare of the region. Bringing the reserves in the Tamar and Leviathan gas fields off the coast of Israel to the European market will pave the way for the European Union to achieve its long-term policy goals in the field of energy. Since it is a relatively short route compared to other pipeline projects remaining in the planning stage, Turkey offers opportunities in terms of transmitting Israeli gas to Europe. Turkey's concrete will and diplomatic effort for the implementation of the Eastern Mediterranean energy corridor are important in terms of establishing regional cooperation.

The plan to transport gas reserves in Central Asia to Europe via Turkey within the scope of the Southern Gas Corridor



is another comprehensive project in the planning phase. Through the Trans Caspian Natural Gas Pipeline, which is still in the planning stage, Turkmen natural gas is planned to be transported to Azerbaijan under the Caspian Sea, then to Georgia and Turkey with the existing pipelines, and finally to Europe. The natural gas transmission capacity of the planned pipeline project is planned to be 10-16 bcm per year. The Trans-Caspian Natural Gas Pipeline plan has high strategic importance for Europe, as it will expand the sphere of influence and capacity of the Southern Gas Corridor, if implemented. Turkey has the infrastructure to cope with the capacity increase that will occur in energy transmission with the introduction of Turkmen gas into the Southern Gas Corridor.

The existence of the crisis on the agenda will encourage Turkey to increase the dimensions of its cooperation with its neighbors. Increasing natural gas imports from Iraq to Turkey have come to the fore in recent months. In the short term, it will be meaningless to have high expectations due to the insufficient infrastructure in Iraq and the inability to fully establish market security.

However, in the long run, delivering Iraqi natural gas to Turkey will both meet Turkey's energy needs in the domestic market and contribute to an increase in the amount of natural gas delivered to Europe. The current

crisis environment, which also spread to the global energy markets, necessitated the construction of new and versatile energy policies for countries. The establishment of energy supply security must be at the center of energy policies to be planned and implemented. The developments experienced in recent months necessitate the orientation of the countries to new energy routes to guarantee their energy security. Increasing the capacity of alternative energy transmission lines that have already been put into practice is seen as a reasonable option in terms of establishing a stable energy supply. The Southern Gas Corridor, which is among one of the most successful energy projects in recent history, offers opportunities to the European Union and other European countries in terms of turn to alternative natural gas routes. In the long term, it seems possible that various natural gas fields in the region will be included in the Southern Gas Corridor through new natural gas pipelines. Turkey's strategic importance is great in providing the energy needs of both its region and Europe by creating new energy corridors. Turkey, which is ready to offer constructive solutions to overcome the current energy crisis, demonstrates a concrete will for the establishment of new energy routes that have the potential to be one of the important tools of regional development. Thanks to its advanced infrastructure, institutions, and companies with years of experience in the field of energy, Turkey is moving forward to become the future energy hub of the region.

## The Possibility of an Early Demand Destruction Barış Sanlı in

We have no tools other than past experiences when trying to survive an energy crisis. There are nuances between crises, but the elements are consumers, prices, and geopolitics at the most basic level. Every time there are differences from the previous crises, this time is no exception. In this crisis, the most important difference is the availability of data. From Google and Apple, we have aggregated mobility data. These data reveal to us the underlying dynamics of oil usage. So far in the US, we have seen two different data. One of them is the Vehicle Miles Travelled, and the other is gas consumption numbers from Gasbuddy-like platforms.

In VMT, we see a strong base for transportation due to trucks, but other vehicles' have been seeing a drop in usage. The demand for travel looks a lot weaker. Contrasting to this data is Gasbuddy data, showing an increase in demand.

In very simple terms, are people consuming more gasoline but traveling less? There are contrasting data on this level. US's EPA report on "Automotive Trends" claims real-world emissions and fuel economy have improved for years. Since 2005 the improvements are obvious. But the devil is in the details. The first one is classification. In the US, 4000 pounds (1800 kg) is the limit to differentiate between car SUVs and truck SUVs. There is a linear relation between CO2 emissions and car weight. The engines are much more efficient. All vehicles are at least 79% more power-packed. Horsepower and emissions are also correlated despite having a lower correlation coefficient than in the 1970s. 0-100km has also dropped 50% since 1978, and we have 50% faster accelerating cars.

So cars are much more efficient, faster, heavier, and clean. But these are machines. We must look at driving habits too. Unfortunately, we do not have widely available reliable data on this. Why does all this matter about our assumptions about demand destruction?

If all the data is correct and real-life proven, the consumer demand for oil should not lose steam until 200\$/barrel. The June 2008 price for oil was 147\$/barrel(193\$/barrel of 2022). But that price record was reached much slower way such that consumer has adjusted their consumption gradually. The recent one is much faster. The consumer may panic and act faster.

My theory is baseless. But covid has attached more drivers to their cars. But also the driving habits of drivers are not that efficient. The engine may be efficient, but users are not. They have the most powerful cars of their generation. What is this power for? Just to drive more efficiently.

So, the consumption increased, but travel miles have dropped. We may be much more inefficient than in 2008. Therefore, the gasoline expenditures in the budget may be higher despite lower travel numbers. We may be in a worse situation than in 2008, but this brings hope. The oil demand destruction may happen at much lower prices. We will see.



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