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SYNERGY

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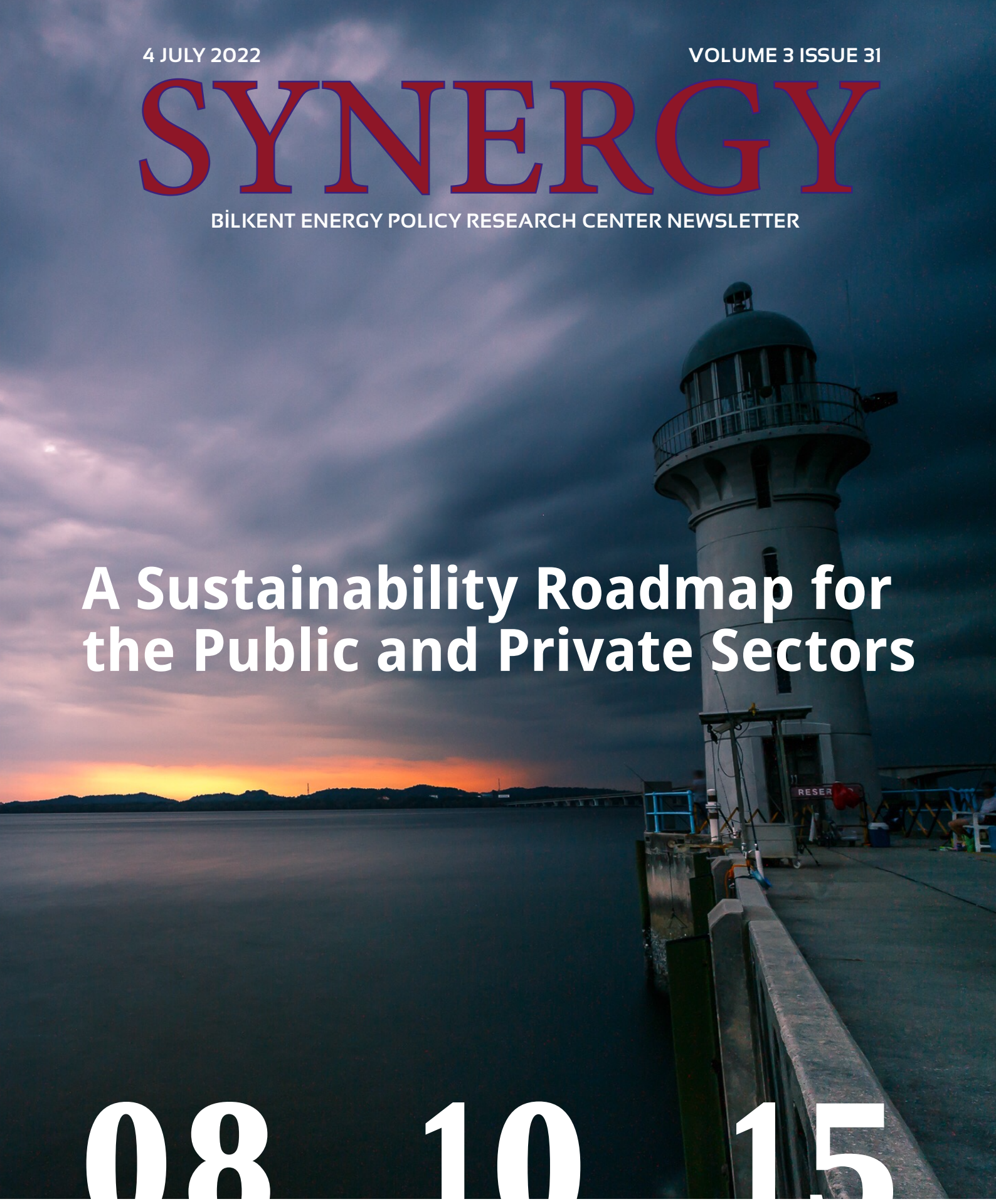

A Sustainability Roadmap for the Public and Private Sectors

SYNERGY
4 JULY 2022 **VOLUME 3 ISSUE 31**
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In This Issue...

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ABOUT US

Energy Policy Research Center

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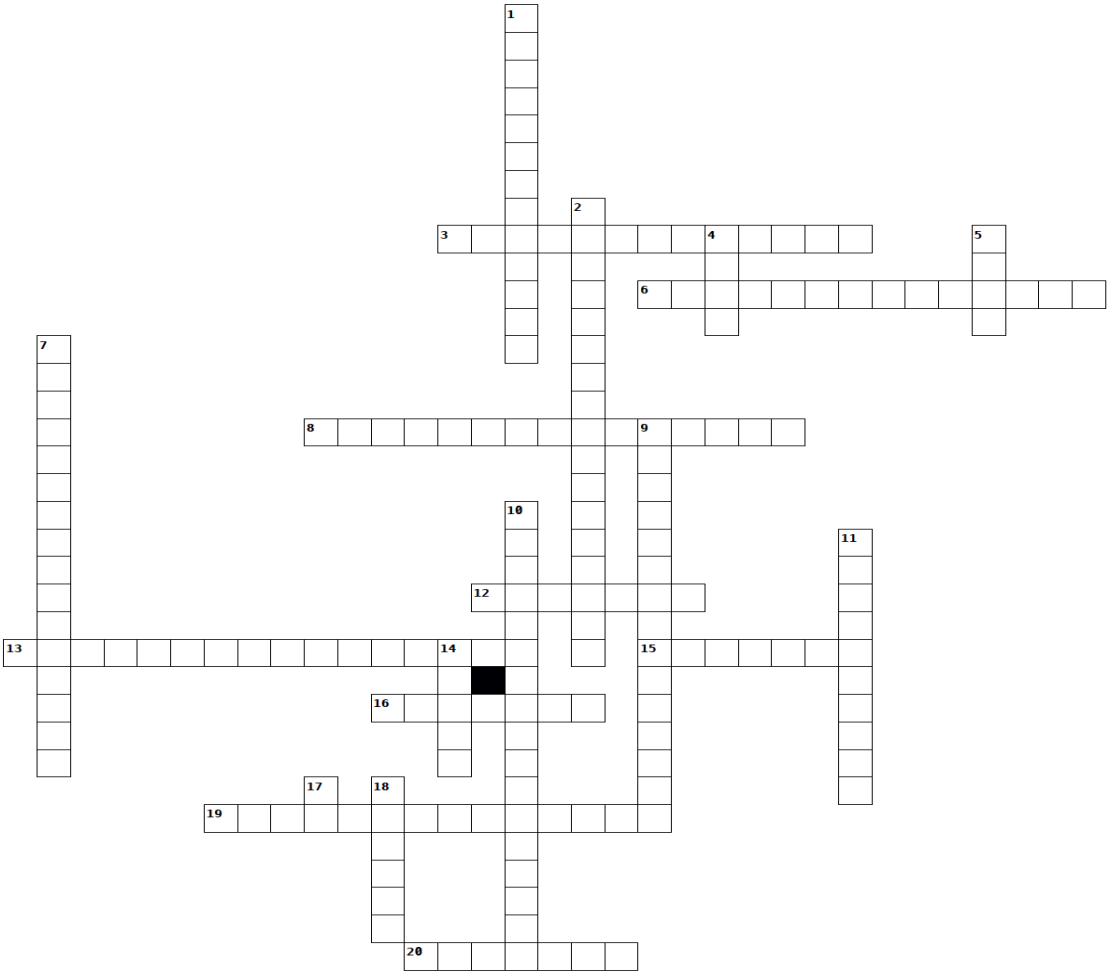
BRENT OIL	111,38 $/BL	GASOLINE	25.32 ₺/LT
USD/TRY	16.82	DIESEL	26.80 ₺/LT
EUR/TRY	17.59	FUEL OIL	16.58

Weekly Puzzle

Prepared by Büşra Öztürk



Across

3. The general name of CO2 removal technology

6. A rough calculation for a refiner's margin from converting 3 barrels of crude oil into 2 barrels of gasoline and 1 barrel of diesel

8. A diagram to show the resources and energy transformation visually and quantitatively

12. A Russian based oil and natural gas company

13. A type of hazardous waste that is byproduct from nuclear reactors, fuel processing plants, hospitals or research facilities

15. Type of wind power plant established on an area rather than at sea

16. The leading country in the transition to clean energy in South-East Asia

19. An application area where artificial intelligence is widely used in the energy sector for the electrical transmission network

20. The country that implemented the first underground warren for disposing of spent nuclear fuel

Down

1. A phrase used to describe the threat of global warming and effects

2. A system in which electricity producing solar panels are mounted on the roof of a residence or commercial building or structure

4. The most harmful and dangerous pollutants whose diameter is smaller than 10 micrometer

5. A public corporation that performs the regulatory and supervisory functions in the energy markets

7. An actor with the identity of an outspoken environmental advocate as a Messenger of Peace of the United Nations

9. The measurement for amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization, or community

10. A plan to make Europe the first climate-neutral continent by 2050

11. A different type of renewable energy produced from the wind

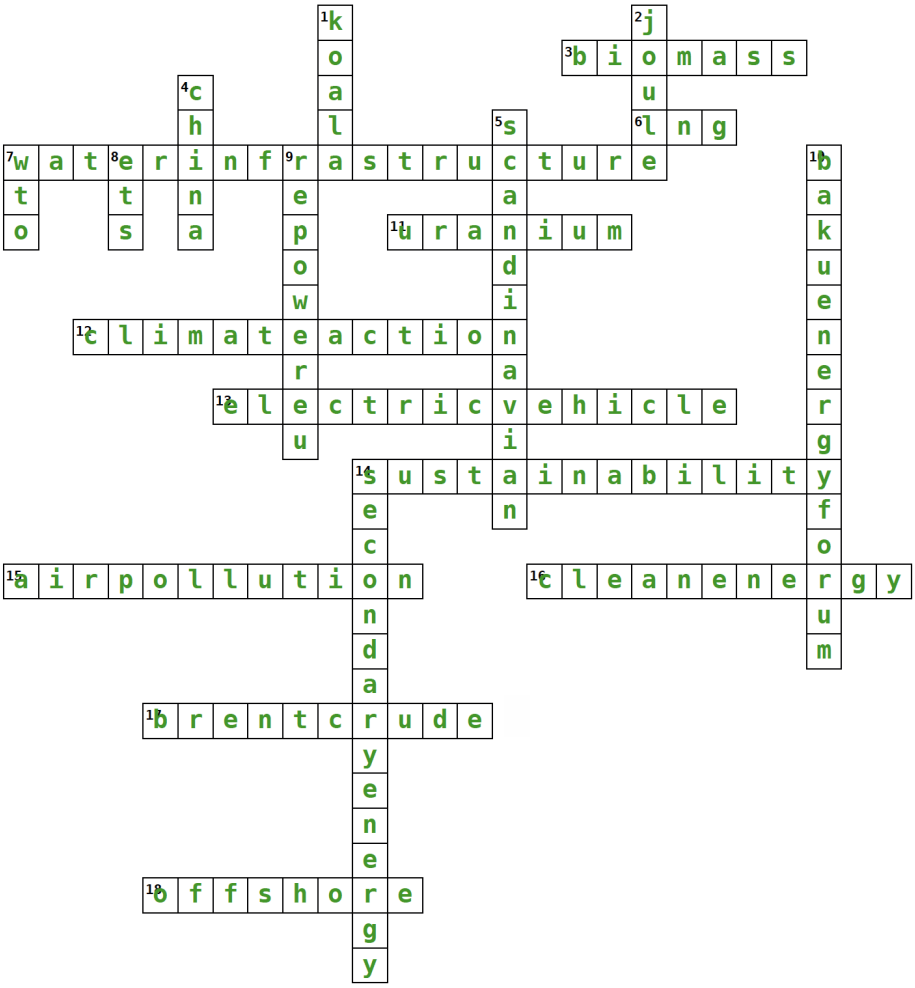
14. The property of crude oil that the sulphur density is low and considered a valuable and efficient

17. The symbol of an element that is an important component in electronics and being used in many new technologies such as fuel cells

18. A unit of liquid volume that equals to 3.79 litres in the U.S. standard or equals to 4.55 litres in the British standard

Previous Week's

Correct Answers



Across

4. The process of replacing fossil-fuel-based technologies with technologies that use electricity as a source of energy

5. The country which has had the highest recycling rate since 2016

7. The country which is a major producer and exporter of natural gas, oil and oil products

8. The name of the meeting where climate and energy policies cooperation was also discussed by seven developed countries

11. The group of wind turbines used for electricity generation

12. The shift from an energy system based on fossil fuels to one based on renewable energy sources that produce low carbon emissions

13. A unit of volume measurement that is mostly used to describe amounts of oil and gas by U.S. industry

15. A synthetic fuel that can be produced from water, fossil fuels and biomass to obtain energy by the methods of combustion and fuel cell

17. The term related to concerns about the inequitable outcomes of climate impacts and the fairness of policies to address climate change

18. An abbreviation for the group of elements that have diverse energy applications such as use in magnets and electric motors in wind turbines or in petroleum refining

Down

1. The conversion of waste materials into new materials and objects

2. The country which has had the lowest recycling rate since 2018

3. The term for ensuring a reliable energy supply against the event of collapses such as price increases or fluctuations in supply

5. The city where the 2021 United Nations Climate Change Conference or COP26 was held

6. Finnish state energy company that sells the nation's natural gas

8. A refinery product made from a mixture of petroleum liquids used as an engine fuel in vehicles

9. A non-profit organization aiming to exchange ideas on key energy issues in Southeast Europe

10. Executive Director of the International Energy Agency since 2015

14. An organization that aims to coordinate and unify petroleum policies of its Member Countries

16. The term for achieving a carbon balance in which the amount of carbon added to the atmosphere equals the amount removed

This Week at Bilkent EPRC

Enerji Politikaları Araştırma Merkezi

Enerji Söyleşileri

Dr. Sohbet Karbuz

Akdeniz Ülkeleri Enerji Şirketleri Birliği
Petrol ve Gaz Direktörü

5 Temmuz 2022
21:00 zoom

Kayıt için:

Will be available on YouTube on July, 5!

Is the Technology Ready for the Energy Transition?

Barış Sanlı

No. If you look at the railroads and locomotives from the early 20th century, you may well contemplate high-speed trains then. Trains were invented 150-200 years ago and are widely used, but they do not dominate the mode of transportation in many other countries. Having some sort of steam locomotive is one thing; operating a high-speed rail is another. The knowledge accumulation needed to get from one to another is years.

On the other hand, from mobile phones to smartphones, speed is a much different issue. The distinction lies in the difference between large socio-technological systems essential for modern civilization and quasi-essential information technologies.

If you read "From the Earth to the Moon" by Jules Verne in 1867, you may think the technology is there to achieve a moon landing. You will need a bigger cannon, just like Hitler's super-gun "General Gustov," and you can fly to the moon. The 1910s or 1920s are the right time to forecast moon travel. Maybe in the 1950s, a colony on the moon is feasible if you look from 1867. But we know how the story ended.

Are we becoming a black box society? This means we are just looking at all sorts of systems around us as black boxes. We skip the detail and always try to frame it in terms of inputs and outputs. It is a mental shortcut for understanding complex everyday examples. But in energy transition, we are talking about changing the biggest real-time supply chain in the world: the electricity system. The current system is a packet of crystallized ideas of billions of engineers and scientists. How hard can it be to change this system?

Flash forward to 2007 and 2008. We will see references to the "Green New Deal" from writers to economists. Then in 2012, in 2019 in the US, followed by the EU, different versions of green deal discussions restarted. Just like business cycles, there are green cycles. Most of these intentions are good

and real. But the "black box" understanding of the energy system keeps these ideas falling back into reality. More coal or gas or oil.

There are more pledges now. If you go back and check whether politicians are reviewing their past pledges, you can hardly find any evidence. Unfortunately, Europe may be trapped inside a pledge-more pledge-further pledge-like cycle without moving a bit. I call these gamblers' energy transitions. More pledges may sound good. But eventually, if you can not take the rabbit out of the hat, the show is over. The crowding out the investors left with bitter memories is a real threat.

We should go back and understand how all these discussions keep popping up. The first rule is that these discussions initiate with high reserve capacity in fossil systems and low fossil fuel price periods. Afterward, just as prices increase, they intensify. When the prices peak, the discussions run out of steam since consumers do not enjoy high energy prices. Their priority is to fill their gas tanks as cheaply as possible.

The other issue was about technology. The recent discussions are motivated by solar cost decreases. The technology is not new, just like railroad technology. But the scaling, manufacturing, automation, and efficiency effects are like high-speed rails.

What is needed now is to increase R&D exponentially on the details. Black box thinkers and their oversimplified models may have misled the world. Kodak was one of the early experimenters of digital photography. As of today, you can practically demonstrate every single technology to be deployed in the grid for the next 30 years. Does it mean you need to just scale up? No. Scaling up brings new challenges and technologies that black box philosophers can not even think about. Inventing the digital camera is one thing; getting to an iPhone with a front-face selfie is another. The distance is huge in engineering terms.

Notes on Energy and Climate from The G-7 Summit

Yaren Öztürk

The G-7 Leaders' Summit on 26-28 June, considered one of the crucial platforms in the search for solutions and implementation of global economic and political problems and a strong coalition with a significant influence in the international arena, was held at Elmau Palace in Bavaria, Germany. The leaders of the G-7, consisting of the world's seven largest economies, including the USA, England, France, Canada, Italy, Japan, and Germany, discussed mainly the ongoing Russia-Ukraine war, food insecurity, energy insecurity, rising inflation, and climate crisis.

With the suggestion of German Chancellor Olaf Sholz, the G-7 countries came up with the idea that is complementary to the European Union's carbon limit tax decision. The idea consisted of accelerating the achievement of the countries' climate targets; it was proposed the establishment of a climate club consisting of certain countries. It plans to base the climate club on three pillars. Its first column is a platform where member countries can discuss the impact of the policies they have implemented to reduce carbon emissions and the effects of the climate crisis on their countries and economies. In the second column, a common industry transformation is aimed. This industry transformation is planned to be accomplished through the industrial decarbonization agenda, creating a hydrogen action pact and expanding markets for green industrial products that often seek to compete on price with their more polluting fossil competitors. The last pillar of the climate club emphasizes the importance of partnership and cooperation with countries such as South Africa and India under the name of "Just Energy Transition Partnerships" (JETPs). Climate club member countries are planning to receive financial and technological support to achieve their climate goals through these Just Energy Transition Partnerships (JETPs). Another essential point emphasized at the G-7 summit was the increasing urgency of reducing global greenhouse gas emissions by approximately 43 percent until 2030 and accelerating the decision-making phase as much as possible. While Europe's increased reliance on coal for further power generation and growing record coal use levels in countries such as India and China, no details were given about how it would be possible to reduce greenhouse gas emissions. On the other hand, climate activists reacted strongly to the goals of combating the climate crisis set at the summit. The main reasons for these reactions were the failure to prevent the use of fossil fuels, the fact that coal power plants were allowed to operate for longer than usual, and as a result of the energy crisis that became evident in Europe with the war between Ukraine and Russia. Also, coming demand from Japan, the decision to make half of all vehicles zero emissions by 2030 was abandoned, and a promise was given to increase vehicle sales. Activists expressed that they found the climate club announced by the G-7 leaders to coordinate the policies implemented to combat climate change and achieve climate goals by 2050 insufficient due to its inadequate content. Climate activists

also included allegations that G-7 leaders were using the ongoing war in Ukraine as an excuse to step back in tackling the climate crisis.

Another important point from the summit was imposing a ceiling price on oil imported from Russia to curb the rising oil and natural gas prices. In this context, it was emphasized that the European Union would work with international partners to find ways to stop the increasing energy prices, including the feasibility of imposing a ceiling price on imports from Russia, which will be a temporary practice. It was also stated that reliance on civilian nuclear-related products imported from Russia would be reduced, including by helping countries that want to diversify and increase their supplies. Although the G-7 countries stated that they announced the ceiling price practice to prevent Russia from financing and profiting from the war in Ukraine, this practice also raises question marks. In theory, the price ceiling would severely impede Putin's ability to make money from oil exports and keep oil on the market. It would cut off a significant flow of finance for Russia's war in Ukraine while at the same time lowering rising inflation and energy prices. However, implementation will not be that simple. It will take a long time to organize the negotiations and reach a common agreement in the first place. Adequate participation from countries worldwide will be required for any measure to be aligned with existing sanctions. Cooperation with any government that transports, refines, or imports crude oil from Russia will require coalition formation, which will require great effort. If the possible establishment of a coalition, India, and China must be included, which are in a great trade flow with Russia. According to the International Energy Agency, Russia's revenues increased in May, although sanctions against Russia since the war began have reduced Russia's oil export volume. On the other hand, India and China significantly increased their oil purchases from Russia with the war began, creating an alternative source of income for Russia. This situation drags the price ceiling practice to a more debatable position.

The last essential point is that the G-7 leaders pledged $4.5 billion to tackle food insecurity and the risk of food shortages. Although this promise was made to increase the resilience of food systems worldwide and reduce the risk of famine, The United Nations World Food Programme says that the amount required for the target is approximately $22.2 billion. In conclusion, although at the G-7 summit there were many issues and ideas were discussed, the position reached is still insufficient. There should be detailed work on decisions. It only seems possible that decisions will reach their goals by realizing the importance of the criticisms made and combining them with feasibility studies.

A Sustainability Roadmap for the Public and Private Sectors

Erkin Sancarbaba

Recent international developments and changes in the internal dynamics of countries require organizations in both the private and public sectors to produce policies that are flexible, sensitive to rapid changes, and based on continuity. It has become necessary for governments and companies to strike a balance between managing short-term crises and building long-term policy goals. While companies try to keep up with the suddenly changing economic and geopolitical atmosphere in the international arena, on the other hand, they have to adapt to the changing regulations and legal environment within the countries. On the side of the public sector, institutions aim to protect and observe the balances in the domestic market while implementing changes and updates that adopt a principle to increase competitiveness and, at the same time, protect the strategic interests of the countries in their areas of dominance.

Organizations within the institutional structure, both in the private and public sectors, carry the risk of missing essential details regarding establishing sustainability at the policy-making stage. With the roadmap to be revealed, it will be possible for governments and private sector players to plan their investments strategically and implement policies that focus on sustainability.

Governments & Public Sector

Governments worldwide should combat rising inflation rates and develop policies to control and reduce social inequality due to the current crisis environment. In this respect, one of the most critical tests facing governments is to control inflation rates without causing an economic recession. The increase in interest rates, the high inflation rates, and the public debt levels make governments uneasy, especially developing country governments. This situation makes developing countries more dependent on export revenues.

Another challenge governments are facing is maintaining the long-term growth trend. Through their fiscal policies, governments try to keep the balance in the domestic market and establish long-term growth. In line with the International Monetary Fund (IMF) forecasts, the expected medium-term global growth rate for 2021 is 6.1%, while the predicted global growth rate for 2022 and 2023 is 3.6%. The anticipated decline in the global growth rate is pushing governments to a critical crossroads. Governments should not abandon long-term sustainable development goals to increase short-term growth rates. Developing a long-term and sustainable new economy vision is possible using fiscal policy instruments. To create long-term employment and establish sustainable

and green growth, governments should determine critical sectors to provide financial incentives to accelerate R&D activities in these sectors. Policies should be implemented, and, if necessary, governments should incentivize foreign direct investments (FDI) to be made in the specified sectors. Thus, international private sector players can realize new and long-term sustainable investments with low carbon emissions.

On the other hand, governments can reduce subsidies provided to carbon-intensive and high pollutant business lines, and agricultural subsidies can be delivered to overcome the global grain supply crisis with the resource to be saved, and resource transfers in sustainable industrial areas can be possible. However, when examined, it can be said that countries around the world have accelerated the use of fossil fuels in order to overcome the energy crisis. Russia's reduction of natural gas to Germany via Nord Stream 1 by 60% capacity and the consequences of this development can be given as an example. As a result of the decrease in gas supplies to Europe, countries such as Germany, Austria, and the Netherlands are reopening their previously shut down coal-fired power plants, as well as increasing the generating capacity of the coal plants they already have. Decisions taken can be met as reasonable and understandable up to a point. On the other hand, it is necessary to balance long-term sustainable policies with short-term crisis management in the conditions in question. With the worldwide energy crisis losing momentum, it can be predicted that the importance given to carbon-intensive sectors by governments will decrease over time. Therefore, in the future, the support and incentives currently given by governments to fossil fuel production should be gradually reduced. In addition, with the overcoming of the energy crisis, it may be possible for governments to focus entirely on sustainable and long-term energy policies by increasing subsidies for renewable energy.

Private Sector

The Covid-19 pandemic and the geopolitical crises that developed after the pandemic reveal the necessity of adopting flexible and open-to-change policies for companies. In this respect, company managers have to ensure that the units within the company work simultaneously and in a coordinated manner to not be harmed by the changing economic and political ecosystem and even to turn the crisis environment into an advantage. In this direction, it would be beneficial for companies to establish strategic planning units that will follow global economic and political developments and analyze the

impact of these developments on the investments that the company currently has and plans to implement in the future. Companies should set parallel targets similar to the net-zero targets set by governments by focusing on sustainable and green investments. In this way, they can adapt to the long-term and sustainable economic vision of the countries in which they operate. Then, as sector representatives, they can play a role in helping countries achieve their sustainability goals of countries by working in coordination with governments. In this way, they can eliminate the uncertainties in front of their investment plans by adopting the governments' long-term and sustainable new economy vision.

Companies using the Environmental, Social, and Governance (ESG) reporting system can meet market confidence by demonstrating concrete will to implement sustainable policies. Private sector executives should take precautions by understanding their company's environmental, social, and governance risks by turning to the rising trend of ESG reporting. In this way, companies meet new regulatory requirements. They can also make investments as a company that meets the expectations of investors and stakeholders.
The steps taken by governments to keep up with the arduous economic and political environment have the potential to change market conditions. Companies must be prepared for sudden new government regulations to maintain and increase their competitiveness. Therefore, in addition to having a solid legal and advisory staff, companies can purchase services from experienced consultancy firms that follow developments in various sectors and business lines. In this way, private sector players can be informed about the new regulations in advance and can quickly adapt to the latest market conditions.

Since the issue of sustainability is becoming a trend day by day, inevitably, the regulations implemented should also take care of the issue of sustainability. In this respect, another advantage of benefiting from professional consultancy service emerges. Professional consulting and law firms have recently focused on sustainability and have specialized in the requirements that companies must meet their sustainability goals. Therefore, it has become effortless for companies to eliminate their legal problems regarding sustainability by obtaining consultancy services.
In short, governments and companies must not compromise on short-term crisis management and long-term, sustainability-focused goals. A balance should be adopted between crisis-oriented short-term policies and sustainability-based long-term policies. In this direction, both public and private sector players should act in a planned and careful way by adopting a comprehensive roadmap to adapt to the long-term and sustainable new economy vision.

Updates from the Black Sea Gas

Büşra Selin Kartal

Turkey has made great discoveries in recent years by carrying its hydrocarbon exploration activities to the seas, which gained momentum as of the 21st century. Turkish Petroleum Cooperation (TPAO), which carries out state-owned hydrocarbon exploration activities has been rising since 2004 in the Black Sea. Hydrocarbon exploration activities first started with seismic activities, and at this stage, as a total 142,000 km of two-dimensional (2D) seismic and 37,610 km2 of three-dimensional (3D) seismic data were accessed. With the data collected from these studies, TPAO has drilled 6 deep sea and 10 shallow sea exploration wells, 16 of which are in total. In addition, the number of wells has been increased in promising areas, such as the Akçakoca-3 and Akçakoca-4 wells.

Promising data for natural gas were obtained as a result of the activities of the Barbaros Hayrettin Paşa Seismic Research vessel, which was launched in May 2019, in the Sakarya Gas Field, before the great discovery made in 2020 in the Black Sea. As a result of the detection of gas reserves in the region, Fatih, the first drilling ship that Turkey added to its inventory in May 2018, was sent to the area on 29 May 2020. On 21 August 2021, the natural gas discovery of 320 billion m3 in the Tuna-1 Well by the Fatih drilling vessel was announced. Tuna-1 well is located in Turkey's Exclusive Economic Zone in the Black Sea. This discovery, ranked second among the discoveries made in the world in 2020. The president of the International Energy Agency, Fatih Birol, points out in his statement that the finding of 320 billion cubic meters corresponds to a value of 80 billion dollars and that this invention is a turning point for Turkey. After this discovery, which is an important step in Turkey's hydrocarbon exploration activities, in October 2020, the existence of an 85 billion cubic meters natural gas reserve was also found in the Tuna-1 well. Thus, Turkey's total amount of natural gas detected in the Tuna-1 Well has reached 405 billion cubic meters.

Another important discovery in the Black Sea was made in the Amasra-1 well, which was announced at the Filyos Port and Natural Gas Operating Facility ceremony in June 2021. With the detection of 135 billion cubic meters of natural gas reserve in this well, the total reserve in Sakarya Natural Gas Field increased to 540 billion cubic meters. Another important aspect of this discovery was the explanation of how natural gas would be brought to the country at the ceremony. According to this plan, Turkey would first establish natural gas production systems on the seabed, establish a facility to process natural gas on land in the second step, and finally establish a pipeline to provide the connection between sea and land. The plan is aimed to be completed and delivered to the public in 2023. In addition, drilling ships continue to work. After the exploration in Amasra-1, Fatih concluded its exploration activities in Turkali-1 and Turkali-2 wells.

In the Black Sea, there are currently 16 vessels, 3 of which are involved in the search for drilling vessels. Joining the TPAO inventory after Fatih, Yavuz has the same technical features as the Fatih drilling vessel and can drill up to 12,200 meters. The third drilling vessel in charge, Kanuni, is also capable of drilling up to 12,200 meters. According to TPAO's report dated May 2022, the Fatih Drilling vessel completed its activities in Karasu-1 and Gökçebey-1 wells and started its new duty in the Türkali-9 well. Kanuni drilling vessel completed its work in Türkali-4 and Türkali-5 wells and moved to the Türkali-3 well. The third drilling ship, Yavuz, continues its activities in the Türkali-2 well.

On 13 June 2022, the "First Black Sea Gas Sea Pipe Lowering and Welding Ceremony" was held at the Filyos Port and Natural Gas Operating Facility. In this way, it can be said that the three-stage plan that was announced earlier has been largely realized. In the first quarter of 2023, it is expected that the gas extracted from the Black Sea will be delivered to homes. In addition, Zonguldak, where Filyos is located, has been turned into a center for Turkish energy with its Black Sea natural gas and coal deposits.

The potential in the Black Sea was already underway before Turkey began serious work. There are also countries such as Romania and Bulgaria that are already actively engaged in natural gas extraction in the region. Romania's continental shelf in the Black Sea has an estimated 200 billion cubic meters reserve. Lukoil in the E X-30 Trident; Black Sea Oil & Gas in the XIII-Pelican and XV Midia West; Petroceltic in the E X-27 Muridava; and Exxon Mobil in the XIX Neptune West continue their operations.

Bulgaria also continues its natural gas exploration efforts especially in the Khan Asparuh region, French Total and Romanian OMV Petrom continue their search. Another energy giant, Shell, continues its activities in the Han Kubrat region. In addition, the Galata-1 and Galata-2 fields, discovered by Texaco in the 90s, are also in an important position in the natural gas exploration adventure of the country. In the 2000s, the Kavarna and Kaliakra fields were also explored. Research and exploration activities in these regions are still ongoing today.

Turkey, Bulgaria, and Romania continue their research and exploration activities in the region. All three have something to learn from each other's work because each region of study has its own characteristics. There is no doubt that a cumulative accumulation of knowledge will be derived from the studies carried out in the Black Sea region. All three countries spend large sums of money and try to attract investors to their countries to eliminate their energy dependence and export. If Turkey reaches its 2023 targets, it is expected to produce 10 million cubic meters of natural gas per day. This will create a potential that can take the country much further than its other counterparts.

Gustavo Petro's Environmental Policy: Keeping Fossil Fuels Underground

Sarper Göksal

Gustavo Petro, won the Colombian presidential election with 50.5 percent of the vote. Despite getting the most votes in the first round held on May 29, Petro fell short of 50 percent plus one. On June 19, in the second round of the presidential elections, Petro defeated Rodolfo Hernández Suárez and made history as the first left-wing president of Colombia. In addition to making history as Colombia's first left-wing president, Gustavo Petro emerged as a radical politician, different from everyone else with his powerful promises throughout the election process.

Gustavo Petro aroused great interest in both local and global media with his bold promises and campaign platform as soon as he announced his candidacy for the presidency. Petro's election promises included promoting green energy instead of fossil fuels and reducing economic inequality. In 2020, carbon emissions reached the level of 89 million tons. Colombia, can reduce its greenhouse gas emissions by implementing the plans to be made within the framework of Gustavo Petro's promise to keep fossil fuels underground.

While Petro promised a green energy transition by reducing greenhouse gas emissions and fossil fuel use, it gave a strong message to the whole world, especially the Colombian people, by designating Francia Márquez, an Afro-Colombian human rights, and environmental activist and Goldman Environment Award winner, as her assistant. In 2018, Francia Márquez received much attention across the country, receiving the Goldman Environment Award for her work and organization to stop illegal gold mining in La Toma. Francia Márquez's work to stop mining must have caught the attention of the elected president, Petro, who, during his election campaign, proposed an agrarian reform that would restore productivity to 15 million hectares to end narco-feudalism. With the agrarian reform planned by Petro, it aims to stop oil exploration to free Colombia from its dependence on the mining and fossil fuel industries. Petro's proposals to change the country's economic model have been highly criticized for switching oil and coal investors to clean energy. Critics of Gustavo Petro said that Colombia's effort to shift more of its wealth to the poor has potential to turn the country into Venezuela.

Petro also criticized Venezuela's commitment to oil, underlining that former Venezuelan president Hugo Chavez had made a serious mistake by linking his social program to oil revenues. Petro delivered essential messages about the transition to renewable energy, citing "Maduro's Venezuela's commitment to non-renewable energy and the "authoritarian drift" of both governments.

Thirty-six percent of Colombia's exports in 2020 are crude oil and coal briquettes. In addition, Colombia earned a total revenue of 11.59 billion dollars from the non-renewable fossils it exports. Petro has been criticized for its intent to keep oil underground and phase out the oil sale in Colombia, which depends heavily on oil exports. By expanding the construction of hydroelectric dams, which are a potential source of green power, Gustavo Petro signals that revenue from the oil can come from clean and renewable energy sources in the long run, if not the short term. In addition, Petro's environmental policies are strongly advocated by the International Energy Agency. It says all new fossil fuel exploration projects must be stopped immediately in 2021 for the world to have a chance to reach net-zero emissions by 2050.

As a result, the election of Gustavo Petro as Colombia's new president could make Colombia the most significant producer to ban fossil fuel production. Gustavo Petro's nomination of renowned environmentalist Francia Márquez as his aide is a testament to the growing commitment to environmental issues in his plans. One of Márquez's campaign slogans against mining activities, the motto "We are a part of nature, we do not own it," has been a hope for the future of the Colombian people and the planet, and this hope is expected to become a reality with the election of Gustavo. Progressive solutions for the energy transition can be achieved by taking risks, and the whole world needs to have a significant share. Therefore, the fearless attitude of Gustavo Petro can play a leading role in the energy transition of the whole world.

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