

# CLIMATE REVIEW

**TSKB**

Economic Research



**GREEN SWAN  
PLATFORM**

A TSKB INITIATIVE

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## *Biodiversity Special Edition*

United Nations announced  
**10 year plan**  
to preserve nature

**2021-2030**

A Critical Era for Ecosystem  
Restoration

**COP26  
Special**

**Page 9**

Welcome to our fifth issue of the Climate Review!



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## Upcoming Events

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**2<sup>nd</sup> Session of Fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 15) will be held between 25 April - 8 May 2022 in Kunming, China**

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**17th session of the UN Forum on Forests will be held from 9 to 13 May 2022 in New York, USA.**

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*I am writing this piece shortly after the United Nation's 26th Climate Change Conference, aka COP26. Initially planned to last 2 weeks, the conference was extended for an extra day on top of the schedule to reach the cover decision. With its 40,000 participants, expectations regarding the COP26 had been unrealistically high. As the concept of anthropogenic climate change has gained extreme popularity in recent months, this popularity fueled expectations regarding COP26, which we found to be a misperception. Although the subject is popular, "climate illiteracy" is an important phenomenon<sup>1</sup>, easing pressure on politicians to act boldly and encouraging them to limit climate policies within popular boundaries – which is indeed what happened at COP26.*

*It is of course remarkable that the outcome document of the COP26 includes principles to phase down the usage of coal. And yet it is also clear that the efforts are meagre. In fact, we have a very straightforward question - will all these measures be enough to limit the rise in the global temperature to 1.5 degrees? So far, the answer seems to be a qualified no. The International Energy Agency noted that the pledges set out during COP26 would keep global warming on a track towards 1.8 Celsius degrees of warming, still higher than the targeted 1.5 degrees<sup>2</sup>. It would be a major mistake to think that this is a minor difference; in fact, just the opposite is true. The gap between the target and current trajectory is significant for the planet. Let me give you one example from biodiversity – that is, the multitude of living things that make up life on Earth, encompassing some 8 million species on the planet and the ecosystems that house them<sup>3</sup>. The difference between 1.5 and 2 degrees matters a lot for biodiversity, alas, it is a matter of life and death. Accordingly<sup>4</sup>,*

- *With a 1.5-degree increase, it is projected that 6% of insects, 8% of plants and 4% of vertebrates would lose more than half of their climatically determined geographic range by 2100.*
- *With a 2-degree increase, the aforementioned percentages double or triple, with 18% of insects, 16% of plants and 8% of vertebrates losing more than half of their climatically determined geographic range by 2100.*

*If we continue to accept this irresponsible approach and compromise on global targets, we are in fact sowing the seeds for the destruction of Planet Earth as we know it with our own hands. Some calculate that we need a planet 1.6 times larger than our current home to meet our demands – not possible, huh? And we also love our "Pale Blue Dot" very much, don't we? So, let's not wait until the next COP to act. Today is the day!*

**Burcu Ünüvar**

<sup>1</sup>[https://www.allianz.com/content/dam/onemarketing/azcom/Allianz\\_com/economic-research/publications/specials/en/2021/october/2021\\_10\\_27\\_Climate-literacy.pdf](https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/economic-research/publications/specials/en/2021/october/2021_10_27_Climate-literacy.pdf)

<sup>2</sup><https://www.bloomberg.com/news/articles/2021-11-04/top-energy-agency-says-cop26-pledges-signal-1-8-c-of-warming>

<sup>3</sup><https://www.unep.org/news-and-stories/story/biodiversity-our-solutions-are-nature>

<sup>4</sup><https://yaleclimateconnections.org/2021/08/1-5-or-2-degrees-celsius-of-additional-global-warming-does-it-make-a-difference/>

## The Role of Climate Change in the Energy Crisis



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The volatility in the international energy markets, where prices have been rising for about a year, has increased considerably of late. The cost pressures caused by the rapid spike in crude oil and coal prices, and especially natural gas, combined with production cuts in some activities have recently ushered in new risks in the world economy. In addition to other factors affecting supply and demand, climate change has an important bearing on this imbalance in the natural gas market.

With the global recovery, it has been difficult to meet the rise in demand for natural gas in Asia and Europe throughout the last year from geographical areas other than Russia due to shifts in the weather. While a cold winter in the USA limited natural gas production, developments such as Hurricane Ida disrupted the transportation of natural gas by sea during the recent period. In other words, the extraordinary weather conditions caused by climate change stood out as factors exacerbating the energy crisis on the supply side.

However, carbon prices, which have reached high levels with the increase in climate sensitivity, have increased demand for relatively low-emission energy resources such as natural gas. However, with temperatures rising above their seasonal norms and low levels of rainfall and snowfall have limited the amount of generation from the solar, wind and hydroelectric power plants in many countries. Accordingly, demand for natural gas has surged in order to meet high energy demand, while the upward pressure on prices has increased. The rise in natural gas prices has, after a certain point, increased demand for crude oil and coal. While the greater use of such resources has put upward pressure on carbon prices, it has again led to a cycle which feeds the increase in natural gas demand and prices.

In addition, the news that Russia has not allocated sufficient natural gas supplies ahead of what is expected to be a difficult winter in Europe deepened the crisis. While the short-term supply issue is expected to be overcome with the opening of the Nord Stream 2 pipeline, medium-term factors may limit the decline in prices. For example, although the prices of short-term natural gas contracts decreased between 8-15 October, no decline was observed in prices for long-term contracts. This indicates that the upward pressure from climate change related factors on prices may continue in the medium term. The International Energy Agency has reiterated that while oil and natural gas could meet 20% of the world's energy needs by 2050, the decrease in investments in fossil fuels may cause supply-demand imbalances and thus result in volatility.

As a result, although the severity and duration of the energy crisis experienced have an important impact on short-term macroeconomic indicators, it may affect the course of climate friendly policies in the long run. In other words, "Will the crisis in question lead to the postponement of climate friendly policies in the coming period, or will it serve as a catalyst to accelerate the green transformation?" - we will follow the answer to this question.

## Biodiversity Losses Deepen Financial Risks!

According to a study entitled "A Silent Spring for the Financial System? Exploring Biodiversity-Related Financial Risks in France" conducted by Banque de France, 42% of securities in the portfolio of French financial institutions are issued by the companies which are highly dependent on the natural resources provided by the ecosystem. When the cumulative biodiversity footprint is calculated, the loss in biodiversity created by these bonds corresponds to the biodiversity over an area of 130,000 km<sup>2</sup>, equivalent to 24% of French territory on the European continent.

## China's USD 232 million pledge to promote biodiversity

The Chinese President Xi Jinping announced that the Chinese government had launched a biodiversity protection fund of USD 232 million (Yuan 1.5 billion) for developing countries. Mr. Xi also announced a new national park plan to bring an area of 230,000 km<sup>2</sup> under stronger state protection. The parks encompassing nature reserves in China are home to about 30% of the major terrestrial wildlife species found in the country. China cites financing as the most serious obstacle in its efforts to achieve its climate and biodiversity goals. China's Deputy Environment Minister, Zhao Yingmin, underlined the key role of the transfer of funds, technology and talent to developing countries for the new biodiversity agreement to be successful.

In October 2021,  
the average  
precipitation  
in Turkey was

**20.7**

mm  
below the seasonal  
normal.

## 2021-2030 Period to be Critical for "Ecosystem Restoration"

The United Nations declared the years of 2021-2030 as the "Ecosystem Restoration" period. During this period, the main goals will be to protect ecosystems around the world and to halt and reverse the process of degradation. Ecosystems, in which plants, animals and the physical environment surrounding them interact with each other, contribute to the protection of both climate and biodiversity. The UN Environment Program (UNEP) has identified eight main ecosystems and set out recommendations for the restoration process.

One of the largest ecosystems is arable land. The biodiversity of this ecosystem is threatened by soil erosion and excessive use of fertilizers and pesticides. The UNEP states that the soil can rebuild its own ecosystem under a strategy of reducing soil fertilization, using natural fertilizers and increasing the variety of crops planted. Thus, the soil can store more carbon and be more fertile, and food can be produced for more people without expanding the used land area.

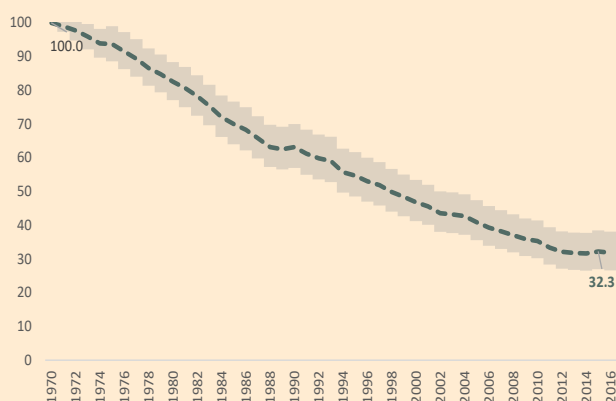
Forests represent another significant ecosystem. According to UN data, forests create a natural environment for more than 80% of amphibian species. The UNEP notes that forests are also threatened as an extension of humanity's search for arable land created by the current food system. While this pressure could be alleviated with a change in ways of food consumption, the UNEP warns that the reforestation of the destroyed forests is imperative in restoring the ecosystem. Moreover, the ecosystem can be restored by putting an end to pollution in lakes and rivers, managing waste and managing the demand for water and fish. Grasslands and savannas, mountains, oceans and coastal environments, peatlands and cities are also classified as areas which need protection and restoration. While the improvements in these areas are likely affect biodiversity in a positive way, as a natural extension of this, they are expected to support efforts to tackle climate change.

### According to the "Living World Index",

which serves as an indicator of the  
world's biodiversity,

there has been a **68%**  
decline in the number of spe-  
cies monitored in this context  
since 1970.

Living World Index  
(Population estimations for 4,807 species, 1970=100)



Source: OurWorldInData, livingplanet.panda.org, TSKB Economic Research

## Bill of Law on Approval of the Paris Climate Agreement Backed Unanimously in General Assembly of the Parliament.

"The Bill of Law on the Approval of the Paris Agreement" was passed by the Turkish Grand National Assembly and became law with its publication in the Official Gazette on 7 October 2021. The "Paris Agreement" was accepted at the 21<sup>st</sup> Conference of the Parties to the United Nations Framework Convention on Climate Change and was signed on behalf of the Republic of Turkey on 22 April 2016. According to the law, it was stated that the "Paris Agreement" should be ratified together with the declaration. The main objective of the Paris Agreement can be expressed as the continuation of global efforts to holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels. In addition, increasing ability to adapt to adverse effects of climate change, ensuring low greenhouse gas emission development and providing stable financing in the way of low-emission and climate-resilient development are also among the objectives of the agreement. While the entry into force of the Paris Agreement creates a legal environment which will pave the way for regulations in policies and laws in line with the objective of limiting the rise in global temperatures to 1.5 degrees, Turkey is expected to update its national contribution declarations within this framework.

## The World Remains a Long Way from Achieving the Goal of Ending Biodiversity Loss by 2020

According to the UN, 31,000 species remain threatened with extinction, corresponding to 27% of the species on the International Union for Conservation of Nature's (IUCN) red list. The UN's Sustainable Development Goals numbered 14 and 15 address waterborne and land-based life and set goals directly related to the conservation of biodiversity. While forested areas are highly important habitats for terrestrial life, the area of forested land continues to shrink rapidly. Each year, 10 million m<sup>2</sup> of forests are cleared, mostly for agricultural use. It is estimated that 2 billion hectares of forests have been destroyed so far, affecting 3.2 billion people. The most important issue regarding aquatic life is the acidification of the oceans. The increase in carbon density in the atmosphere leads to precipitation which decreases the pH\* rate in the oceans and increases the acidity of the oceans. The UN predicts an increase of 100 to 150% in acidity by 2100, warning that this could affect half of the vitality of all aquatic life. Despite this, only one-third of the 113 countries which aim to reflect biodiversity to their national plans have achieved this in line with their targets.

\*pH: Potential Hydrogen, Power of Hydrogen

### *There's Still Time* to Reverse the Decline in Biodiversity by 2030

The "Natura Positive 2030" report, which was jointly published by the Natural England, the Natural Resources Wales, the Environment Agency of Scotland (NatureScot), the Northern Ireland Environment Agency and the Joint Nature Conservation Committee (JNCC), outlines priority actions to reverse the decline in biodiversity by 2030, and the achievable steps to do so. The report proposes changes that can be implemented quickly by national and local administrations, landowners and businesses. These changes include enabling wildlife to thrive in protected areas on land and at sea, investing in habitat restoration and creation in order to strengthen nature networks which provide better protection of wildlife outside protected areas, biodiversity and climate change; combating air and water pollution, especially pollution arising from nitrogen and ammonia, developing goals and developing green finance markets.

## The European Green Deal Biodiversity Strategy

As part of the European Green Deal, the European Commission published the European Biodiversity Strategy, which will ensure biodiversity recovery by 2030 with a focus on people, climate and the planet. The report cites that 60% of wildlife has been destroyed due to human activity in the last 40 years, adding that the world economy has lost between EUR 5.5-10.5 trillion in the 1997-2011 period due to land degradation as a consequence of the destruction to the ecosystem.

The key policy action objectives which stand out in the strategy, including the EU Nature Restoration Plan aiming to protect biodiversity and natural resources, can be summarized as follows:



### 30-30

Legal protection of at least **30%** of total land and sea by **2030**



### Ecosystem Restoration

In order to achieve regional ecosystem restoration, the following are planned:

- Support for organic agriculture practices in at least **25%** of total agricultural land
- Reduction of pesticide use by at least **50%** until 2030
- Planting at least **3 billion** trees



### Financing

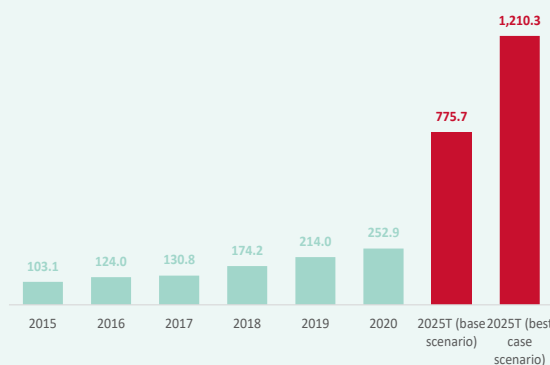
20 billion euros each year will be allocated for biodiversity financing by EU funds, private sector and public spending.

# Climate Finance

## The ESG Investments Transform the European Financial Markets

The growing interest in sustainable investments has enabled funds, which take into account the environmental, social and governance (ESG) criteria, to capture a share of around 40% of the total industry in Europe in the space of just a few years. Projections made in this area also indicate that this vigorous growth will continue. According to a study conducted by PwC, the combined size of private equity, borrowing, infrastructure and real estate ESG assets could reach between USD 776 billion and USD 1.2 trillion by 2025 and had already reached USD 253 billion in 2020. In the best-case scenario, the study projected that borrowing funds would stand at EUR 513 billion by 2025 with EUR 292 billion in capital funds, EUR 252 billion in infrastructure funds and EUR 153 billion of real estate funds.

Europe ESG Fund Asset Size (Billion Euro)



Source: PwC, TSKB Economic Research

## Strong Demand for the EU and UK's First Green Bonds

The European Union completed its first green bond issuance. The EUR 12 billion bond, with a 15-year maturity, attracted EUR 135 billion in bids. In its statement, the European Commission announced that the issuance was the largest green bond issuance at any one time while it had also attracted a record level of demand. The European Union is expected to issue around EUR 250 billion of green bonds by 2025.

The UK's first green government bond issuance attracted £100 billion of bids. The £10 billion issuance, with a 2033 maturity, offers a return 7.5 basis points higher than 2032 maturity government bonds. The collected funds will be allocated to flood defence systems, renewable energy and carbon capture and storage projects.

## Climate 101

**Biodiversity:** Abbreviation of the phrase "biological diversity". The term refers to the diversity of all life forms on our planet.

**Biodiversity Net Gain:** Increasing the biodiversity value of a region by creating habitats.

**Biodiversity Footprint :** Gains or losses occurring in biodiversity as a result of human activities

**Eutrophication :** Excessive proliferation of plankton and algae presence in aquatic ecosystems as a result of a large increase in nutrients.



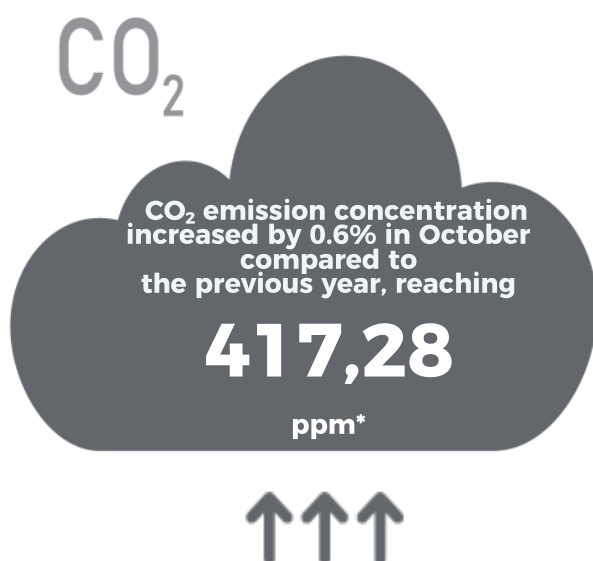
## IPBES Emphasizes the Importance of Cooperation for Biodiversity Conservation

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) underlines the need to increase solidarity between countries for the protection of biodiversity. Referring to an assessment report published by IPBES in 2019, Ms. Anne Larigauderie, the Secretary General of IPBES, noted that the natural environment was deteriorating on an unprecedented scale. Ms. Larigauderie claimed that 85% of the freshwater ecosystems had been lost and only 3% of the ocean surface could be considered free from human pressure. Ms. Larigauderie said one million of an estimated 8 million plant and animal species had become extinct. Ms. Larigauderie added that the loss of biodiversity has an impact on most of what humanity can obtain from nature, and underlined the losses occurring especially in pollinators, which affect the capacity of ecosystems which regulate air and soil quality, especially crops. Stating that the next 10 years were highly critical, Ms. Larigauderie noted that the scientific basis provided by the IPBES reports will contribute significantly in helping governments set ambitious goals in order to protect biodiversity for the future. Ms. Larigauderie also added that it was crucial to establish a reliable monitoring framework and financial support mechanisms to achieve the biodiversity goals.

## 10-Year Plan to Protect Nature

The United Nations (UN) continues to work on the text of the worldwide plan to protect nature for the next decade. According to the draft of the Global Biodiversity Framework prepared, a target has been set for protecting of at least 30% of the world's land and oceans. Targets have also been set out to reduce the use of plastic wastes and pesticide by at least two-thirds. The relevant document is expected to be approved after negotiations next April. The key targets in the draft agreement, including the targets to be achieved by 2030, are as follows:

- ◇ Conserving at least 30% of the land and seas through effective, equitably managed measures
- ◇ Cutting food waste by at least half
- ◇ Reducing the use of pesticide by at least two-thirds
- ◇ Eliminating the discharging of plastic waste
- ◇ Increasing the contribution of nature in global efforts to reduce greenhouse gas emissions
- ◇ Allocating at least USD 50 billion per year to initiatives and practices beneficial to biodiversity
- ◇ Increasing funding directed to the protection of nature to at least USD 200 billion per year



\* Parts per million

## Nitrates continuing to pollute the water supply

According to a report published by the European Commission in 2021 based on 2016-19 data, the high level of nitrates in the water leads to oxygen depletion and eutrophication by damaging both human health and ecosystems. It is noted that water cleaning activities carried out by national authorities and farmers have a positive impact on the drinking water supply and biodiversity as well as the industries that depend on them, such as fisheries and tourism. It is also stated that nitrate concentrations in both surface and underground water sources in the European Union have decreased when compared to the levels seen before the Nitrate Directive was adopted in 1991. The new report, on the other hand, assesses that the pace of change has been rather slow, and that therefore little progress has been achieved with respect to nitrate pollution in water over the past decade, thus, limiting the growth in biodiversity.

## EU Commission Announces New Step Towards Combating Deforestation

The new Bill, which was published by the EU Commission on 17 November, aims to prevent consumers from purchasing products which cause global deforestation. In the text of the law, one of the biggest factors leading to deforestation is livestock activities and the expansion of agricultural land allocated for wood, cocoa, coffee, palm oil and soybean production. Within the scope of the law, companies seeking to sell these products in the EU markets will be expected to fulfill a number of technical obligations with the risk of deforestation of countries to be calculated on the axis of these agricultural products. According to the information set out in the text of the Bill, 420 million hectares of woodland was destroyed worldwide between 1990 and 2020. This area corresponds to an area larger than the entire geographical area of the European Union.

## *Kunming Declaration* Signed on the Improvement of Biodiversity

In the first session of the United Nations Convention on Biological Diversity in the 15<sup>th</sup> meeting of the Conference of the Parties (COP15), hosted by China on 11-15 October 2021, the Kunming Declaration, which aims to implement policy steps to improve biodiversity at a global level by 2030, was signed. In addition to the declaration, the Chinese President, Mr. Xi Jinping announced that China had implemented the Kunming Biodiversity Fund of Yuan 1.5 million (approximately USD 233 million) for the protection of biodiversity in developing countries. He invited other participating countries to contribute to the fund. Meanwhile, the European Union announced that it will double the financing means for biodiversity. The second session of COP15 will be followed by face-to-face sessions in Kunming, China, between 25 April and 8 May 2022.



## The World's Richest 1% Must Reduce Their Emissions by **97%** by 2030 in order to Limit Global Temperature Rise to 1.5°C

According to a study conducted by Oxfam, which is based on research studies conducted by the Institute for European Environmental Policy (IEEP) and the Stockholm Environment Institute, carbon emissions would need to be an average of 2.3 tonnes per capita per year by 2030 in order to limit the temperature rise to 1.5 degrees Celsius. This figure corresponds to about half of the current emission level per capita. On the other hand, the carbon footprint of the richest 1% of the world is calculated to be 30 times greater than the Paris Climate Agreement target of limiting the global temperature rise to 1.5 degrees Celsius by 2030. In order to reach the carbon footprint level compatible with the 1.5 degrees Celsius target, a person from this wealthy segment would need to reduce their emissions by 97% by 2030. According to the details of the study, it is estimated that 23% of the greenhouse gas emissions of the richest 1% of the world will come from China, 19% from the USA and 11% from India.

# COP26 Special

## Hot Topics of the 2021 United Nations Climate Change Conference of the Parties (COP26)

The messages of world leaders, who spoke at the 26<sup>th</sup> Conference of the Parties to the 26th United Nations (UN) Framework Convention on Climate Change, continue to resonate. Emphasizing that the time has already passed on climate change, the leaders warned that measures should be taken as soon as possible. Noting that climate change is already causing great harm to the world, the **US President Joe Biden** warned that we were at a turning point in the world's history. President Biden said that his administration was working with the Congress to quadruple the US's climate finance to developing countries by 2024. He also added that the US wanted to help these countries accelerate their transition to clean energy. **The German Chancellor, Ms. Angela Merkel** called for the Paris Climate Agreement to be implemented by the middle of the 21<sup>st</sup> century. Emphasizing that the actions of governments alone will not be enough to tackle climate change, Ms. Merkel stated that there is a need for a comprehensive transformation in people's lives and jobs. **The British Prime Minister, Mr. Boris Johnson** stated that the time had already passed in the fight against climate change and that it was "one minute to midnight" while warning that future generations would not forgive current leaders unless concrete steps were taken. **The President of France, Mr. Emmanuel Macron**, stated that the trade agreements signed between countries should comply with the determined targets regarding the climate, and emphasized that local solutions should be found to the climate related problems in Africa and the South America.

### Developed Countries Far From Their USD 100 billion Target for Climate Financing

According to the report titled "Climate Finance Delivery Plan: Meeting the US\$100 Billion Goal" which was published jointly by Canada and Germany at the COP26 summit, USD 79.6 million of the USD 100 billion financing, to which developed countries have committed to provide to other countries with relatively lower incomes in order to combat climate change by 2020, was implemented. According to the estimates set out in the report, the entire USD 100 billion in financing will be realized by 2023.



### India Announces "Net Zero" Carbon Emission Target

The Indian Prime Minister, Mr. Narendra Modi, announced that the Indian government planned to reach the net zero carbon emissions target by 2070. Speaking at the COP26, Mr. Modi pointed out that India's non-fossil energy capacity would reach 500 gigawatts by 2030. He stated that India would obtain 50% of its energy needs from renewable energy by 2030, and that the projected total carbon emissions would decrease by 1 billion tonnes by 2030. India currently accounts for the highest level of emissions in the world after China and the USA.

### Two New Initiatives Launched at the COP-26 Summit

With the initiative of the EU and the USA, more than 80 countries reached a consensus on the reduction of methane gas emissions. Accordingly, methane emissions will be cut by at least 30% by 2030 when compared to their 2020 level. Also at the Glasgow summit, more than 100 countries pledged to halt deforestation by 2030 and reverse the situation on land that had been lost to deforestation. In line with this goal, USD 12 billion in public financing and USD 7.2 billion in additional private sector financing will be allocated by 2025. The countries signing the agreement include countries with large forested areas such as Brazil, China, Colombia, Congo, Indonesia and Russia as well as Turkey.

### Glasgow Financial Alliance for Net Zero (Gfanz) Discloses on Financing for Net Zero Emissions Target by 2050

At the COP26 Climate Summit, the coalition of international financial institutions, led by the former Governor of the Bank of England, Mark Carney, pledged to provide financing in line with the net zero emission targets by 2050 with its assets of USD 130 trillion as part of the fight against climate change. The Gfanz, which consists of more than 450 banks, insurance companies and asset managers in 45 countries, announced that it could provide up to USD 100 trillion in financing over the next 30 years to help the economies transition to net zero emissions in the coming period.

### More than 40 Countries Agree to Stop Coal-Fired Power

According to the agreement, developed countries will undergo a phased withdrawal from coal use by 2030 and smaller economies will stop using coal by 2040. The countries which signed the pledge include Canada, Poland, Ukraine and Vietnam, where use of coal is common. On the other hand, a number of countries which are dependent on coal as well as developed economies, such as Australia, China, India and the USA remained outside the agreement.

# COP26 Special

Hot Topics of the 2021 United Nations Climate Change Conference of the Parties (COP26)

## Declaration on Zero Emission Vehicles by COP26

More than 100 stakeholders signed the declaration aimed at accelerating the transition to vehicles with 100% zero emission within the scope of COP26. Under the declaration, a target has been set for all new vehicle sales in leading markets to be zero emission vehicles by 2035 at the latest, and by 2040 worldwide. A total of 33 countries, including Turkey, the United Kingdom, India and Canada, 40 cities, 11 vehicle manufacturers, including Ford, General Motors, Jaguar Land Rover, Mercedes - Benz and Volvo, and 27 fleet owner organizations have signed the declaration. The countries and manufacturers signing the agreement account for about one-third of global motor vehicle sales.

## By What Year Have Countries Pledged to Reach Net-Zero Emissions?

2035	2050		2053	2070
Finland	USA	Spain	Turkey	India
	Argentina	Switzerland		Mauritius
2040	Australia	Italy	2060	
Austria	UAE	Japan	Bahrain	2 <sup>nd</sup> Half of 21 <sup>st</sup> Century
Iceland	United Kingdom	Canada	China	Malaysia
	Brazil	Colombia	Kazakhstan	Namibia
2045	Denmark	Hungary	Nigeria	Singapore
Germany	France	Portugal	Russia	Thailand
Sweden	South Korea	Chile	Saudi Arabia	
Nepal	Ireland	Vietnam	Sri Lanka	
	Israel	New Zealand	Ukraine	

Net-Zero Target Set in Law or Policy

Political Pledge to Reach Net-zero

Source: World Resources Institute, TSKB Economic Research

## More than 190 Countries sign COP26 Agreement

The 26<sup>th</sup> session of the Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change has been concluded. One of the aims of COP26 was to ensure that the target of limiting the rise in global temperatures to 1.5 degrees Celsius when compared to pre-industrial levels, was achievable. In his closing speech, the COP26 President Alok Sharma stressed that the target was still achievable, but “the pulse is weak”.

At the end of the 2-week event, there were a number important highlights in the text of the decision, which was signed by more than 190 countries. Although the phrase “to accelerate the exit from use of coal” in the draft text was changed to “accelerate reductions in the use of coal” with India’s last-minute intervention, the use of such a phrase about coal for the first time in a United Nations document can be considered an important breakthrough. Likewise, although stopping “ineffective” fossil fuel subsidies has been included in the resolution document for the first time, it remains unclear as to which subsidies are considered “ineffective”. The countries agreed to strengthen their emissions reduction targets for 2030 at the COP meeting to be held next year.

# How is Biodiversity Loss Putting Future Medicines in Danger?

From willow bark to mosquitoes, nature has been a vital source of medicine for centuries. But the extinction of species caused by human activity also puts medicine production at risk. The scientists say that the unsustainable use of wild medicinal plants is causing a loss of biodiversity and could limit future opportunities to obtain medicines from the nature. Dr. Cassandra Quave, a medical ethnobotanist and Associate Professor at Emory University, warns that we risk losing many important species when we need them most. Penicillin, morphine and some of the most effective cancer chemotherapeutics we have today are derived from natural resources. Many deadly diseases, including cancer and heart disease, are treated with medicines derived from plants and fungi. According to the World Health Organization, 11% of the world's essential medicines are obtained from flowering plants. Assoc. Prof. Dr. Quave cited that estimated 700,000 people die worldwide each year due to antimicrobial resistant infections, and this figure is estimated to increase to 10 million by 2050. According to a report published by Kew Gardens in 2020, the increase in demand for naturally produced medicines is playing a role as a driving factor in biodiversity loss.



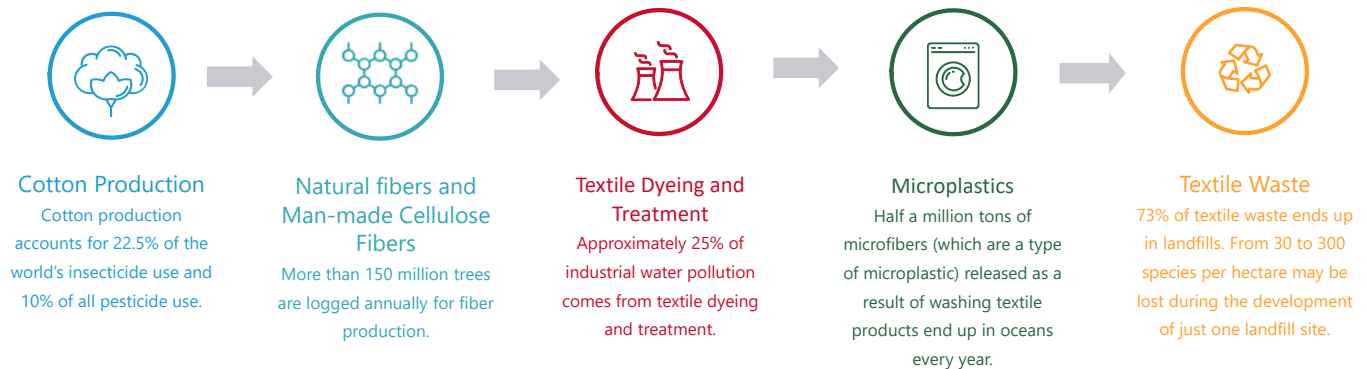
## Protecting Biodiversity Increases Welfare

According to a report entitled 'The Biodiversity Advantage: Thriving with Nature - Biodiversity for Sustainable Livelihoods and Food Systems' published by the International Fund for Agricultural Development (IFAD), investments to protect biodiversity bring progress in many areas of development, from food security to gender equality and youth employment support. According to figures set out in the report, while 40% of the world economy is derived from biological resources, 80% of the world's poor need natural resources because as they rely on agricultural activities to sustain their lives. On the other hand, around 1 million animal and plant species are on the verge of extinction. The average number of native species in terrestrial habitats has declined by 20% since 1900 while more than 40% of amphibious creatures, which are able to live both on land in water, and almost 33% of the world's coral reefs are now endangered.

The Murat Stream Basin Rehabilitation Project was also included in the report, which presents the outcomes of IFAD's projects which are implemented to combat biodiversity loss. The project, which was implemented in cooperation with the IFAD and the Turkish government and is planned to be completed over the 2013-2022 period, aims to protect fauna and flora by mitigating the socio-economic causes of environmental degradation. In this context, many actions have been taken such as the restoration of eroded soil in the region, afforestation, rehabilitation of pasture and meadows by keeping the number of grazing animals under control, and limiting the use of wood for heating. Within the scope of the project, in the areas where the work is continuing, there has been a 20% decrease in the incidence of erosion and a 30% increase in the amount of vegetation. The projection has also contributed to a 35% increase in yields per hectare in wheat and barley production. On the other hand, energy efficient cookers have been distributed to 5,562 households, and thermal insulation has been provided to 3,269 households, achieving energy savings of 40-50%.

# Industrial Processes Affect Biodiversity

Industrial production affects biodiversity. McKinsey's study on global textile and apparel value chains reveals the multiple ways industry may harm biodiversity.



Source: McKinsey - Biodiversity: The Next Frontier in Sustainable Fashion, TSKB Ekonomik Araştırmalar

On the other hand, initiatives on recycling textile waste has gained prominence. As a result of European Clothing Action Plan, initiated in 2019 under the cooperation of 11 countries with high shares in apparel industry including Denmark, England, Germany and Italy, apparel retailers saved 834 thousand tonnes of CO<sub>2</sub> emissions and 50 million m<sup>3</sup> of water.

## Construction Structures to be Targeted for Providing Net Gains to Biodiversity.

With the British Parliament planning to adopt the Environment Law within the scope of the 25-Year Environment Plan, the obligations of the new law on biodiversity have also become a matter of debate. If the law is passed, real estate project developers will have to compensate for biodiversity losses that may occur as a result of the construction projects they implement and to record the biodiversity net gain of 10% of the loss starting from 2023.

While the net gain in biodiversity, which is calculated by the UK's Department of the Environment, Food and Rural Affairs (DEFRA), refers to the net increase in animal and plant diversity in a region, it is evaluated based on the factors such as the area, type of habitat, the woodlands surrounding the area and the type and length of any waterways. The net gain in biodiversity can be realized through real estate development areas while off-site gains can also be included in the calculation.

According to DEFRA calculations, based on the housing delivery rates in 2019, habitat creation has to be carried out in an area of 5,400 hectares each year in order to achieve a net gain in biodiversity. Assuming 25% of this figure will be realized off-site, 1,300 hectares of off-site habitat creation may be needed each year. This area represents 20% of the land allocated for housing in England.

Again, according to the estimation studies carried out by the Ministry in 2019, one unit of biodiversity for off-site habitat creation would cost around £11,000. At the same time, protecting habitats for the next 30 years could cost £20,000 per hectare per year.



## Deterioration of Underwater Habitats May Threaten the Mediterranean Tourism



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Biodiversity plays a key role in tourism all over the world. While coastal regions, mountainous areas, rivers and forests offer a range of opportunities for entertainment and recreation for tourists, the fact remains that food and clean water, which directly contribute to tourism services, require healthy biodiversity. However, as one of the fastest growing sectors before the COVID-19 pandemic, tourism is one of the activities potentially placing stress on ecosystems given the location of tourism activities close to sensitive natural and cultural areas. For developing countries such as Turkey, where a relatively high proportion of tourism activity is based on natural resources, it is imperative to focus on certain policies in this regard.

Mediterranean Basin is “the world's most popular tourism destination”. Turkey commands an important position in the tourism sector with its Aegean and Mediterranean coasts. With 519 blue flag beaches, most of which are on the Mediterranean coast, Turkey ranks 3rd in the world in terms of its number of blue flag beaches after Spain (615) and Greece (545). However, a report published by the World Wide Fund for Nature (WWF) last June highlighted that the sea temperature had increased 20% more rapidly than the global average in the Mediterranean on the back of climate change. The Mediterranean has become the fastest warming and most saline sea in the world. It is claimed that around 1,000 foreign species have migrated and replaced local species due to the warming in the Mediterranean Sea. According to the report, extreme weather events threaten the coastline while destroying fragile seagrass meadows and coral communities. The presence of species on the seafloor is important both for the life of many other creatures, which they provide habitat for, and for the future of the climate due to their function of being a natural carbon sink. The topic touches heavily on the economy of the region, with its implications for areas such as fishing, diving tourism and coastal security.

Under these conditions, it is imperative that the tourism sector develops in a manner harmonious with environmental factors. The widespread use of sustainable tourism practices will not only support employment and income generation in the long run, but also raise public awareness of the products and services offered by biodiversity.

## Ozone Pollution - a Growing Threat to Biodiversity

The danger posed by ground level ozone to human health has long been known. The number of trees in the 300 meter tree groves of the Sequoia National Park is dwindling rapidly due to wildfires in the state of California. However, for the first time insects have been observed to be killing sequoias in the groves. There is also a more hidden threat to these trees and the forest ecosystem, of which they are a part. Ozone levels in the park are among the highest in the United States due to the smog blowing from urban areas in the region, farming and industrial activities. Studies demonstrate that high ozone pollution negatively affects plant growth, vitality, photosynthesis, water balance, flowering process and the ability of plants to defend themselves.

Ozone, which is an invisible, odorless gas found in the upper atmosphere, is essential for life as it protects the Earth from the sun's harmful ultraviolet rays. At ground level, ozone is toxic to life as well as being the third most potent greenhouse gas after carbon dioxide and methane. Ground-level ozone is generated by pollutants such as methane and volatile organic compounds emitted by cars, lorries, refineries, power plants and oil and gas development, and is mostly created by people.

According to an article published in 2020, ozone can cause a series of changes which reduce biodiversity. Ozone also damages the leaves of trees and accelerates their aging, resulting in reduced photosynthesis and diminished sugar production by plants. Ozone damage also alters the timing of leaf fall and reduces leaf size, reduces litter and affects the microbial communities which develop among decomposing leaves. Microbes in litter and soil are critical for uptake of nutrients, helping trees to resist diseases and use water efficiently. In addition to these, insects, mammals and birds are also exposed to the harmful effects of ozone resulting from ozone pollution.

**In October,  
Turkey's average  
temperature was**

**0.1°C**

**below the long term  
October average.**

# In Short

## Util Highlights Low ESG Standards

The London-based fintech company, Util, published a study on the sustainability performance of the ESG funds. According to the study, which makes use of data released by companies to the public, sustainable funds demonstrate a marginally higher sustainability performance when compared to other funds. On a scale ranging from -100 to 100, the average sustainability fund received a score of 3, while other funds received a score of 1. The striking finding of the study was that the environmental net effects of the ESG funds were negative on average. Environmental impacts include the companies' performance in areas such as clean water, climate action and protection of wildlife on land and in the air.

## Only a very small part of today's world looks like the Earth 500 years ago.

A recently published study indicates that only 3% of the earth's terrestrial surface is ecologically undisturbed. This finding was well below the previous estimate of 20% to 40%, based on satellite imagery. The authors of the study emphasize that 11% of the untouched areas were currently under protection, but that all should be protected.

## Call for biodiversity by Russia

The Russian President, Vladimir Putin, called for closer international cooperation in protecting biodiversity and providing relevant support to developing countries. Underlining the need to respect the sovereignty of states over their natural resources and economic activities, Mr. Putin declared that he fully supported the idea of reaching closer international cooperation on all urgent issues related to the protection of flora and fauna, as well as air and water resources.

## Effects of Housing on Biodiversity

One of the biggest causes of the global loss in biodiversity has been the loss of natural habitat caused by human activities, with housing being one of the key drivers behind this loss. Housing has increased the watertight surface area as well as increasing the risk of fire, while spreading pollutants and transforming food and biochemical cycles. At the same time, landscaping activities can lead to a spread of invasive species which are alien to the region, with domestic predators endangering the lives of other creatures.

## Biodiversity decline continuing in Australia

Environmentalists have warned Australia that it needs to expend greater effort to halt the decline in biodiversity. Earlier this year, government officials recognized 13 Australian species as being extinct, including 12 mammals, taking the number of mammals which have fallen extinct in Australia to 34. Following this announcement, environmentalists urged the Australian government to do more to stop the decline in biodiversity.

## Name of the Ministry of Environment and Urbanization in Turkey changed to the "Ministry of Environment, Urbanization and Climate Change"

According to a Presidential Decree published in the Official Gazette, the General Directorate of Combating Desertification and Erosion within the Ministry of Agriculture and Forestry and the General Directorate of Meteorology were also affiliated to the Ministry of Environment, Urbanization and Climate Change. In addition, a Department of Climate Change was established within the Ministry.

## About Green Swan Platform

The concept of "Green Swan", which expresses the low probability but high destructive risks related to climate, occupies the first rank globally in the agenda with the increasing effects of the climate crisis every day. Today, the climate crisis stands against us as the biggest obstacle to sustainable and inclusive development.

The industrial Development Bank of Turkey, which has been working for Turkey's economic, development and social development for 70 years, established "Green Swan Platform" in order to produce solutions to this global threat.

Aiming to bring public-private sector and NGO representatives, international organizations, academics, students and the press together, the Platform invites all stakeholders to think together and produce solutions in order to achieve "Green Economic Recovery".

## About TSKB Advisory Services

While TSKB supports Turkish private sector investments with its thematic loans and innovative financing products, we continue to create added value for the business world and all of the drivers of development with our sector specific advisory services which we have been offering for 35 years. With our advisory teams consisting of financial advisors, engineers and economists, we guide the companies operating in the sectors driving the Turkish economy in its journey of transformation, development and sustainability. TSKB supports businesses to assess the risks and opportunities with data-based methods associated with environmental, social and governance (ESG) policy and to analyse the public and political expectations.

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