TEKNOSA

SUSTAINABILITY BULLETIN

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World News

Drill, Baby, Drill

Upon taking office in 2025, Trump declared a "national energy emergency," withdrew the US from the Paris Climate Agreement, and loosened environmental regulations to increase oil and gas production. These measures were aimed at lowering energy prices and making the US energy independent. He also planned to increase American oil and gas exports through agreements with countries like India, Japan, and South Korea.

The US's decision to withdraw from the Paris Climate Agreement and its re-implementation of the "drill, baby, drill" policy, frequently used in the context of energy policies in the US, has led to similar steps being taken in other countries.

Indonesia's Response:
Indonesia's Special Envoy for Climate Change, Hashim Djojohadikusumo, questioned why Indonesia should comply with the agreement if the US is not.

Indonesia is among the top 10 carbon emitters.

Djojohadikusumo emphasized that the sense of justice is being questioned, noting that per capita carbon emissions are 13 tons in the US and 3 tons in Indonesia.

Reactions from Southeast Asia and Africa:
The Southeast Asia Climate Action Network stated that this US stance provides an "excuse" for other countries to increase fossil fuel production.

In South Africa, it was stated that the planned $8.5 billion coal phase-out project has slowed significantly and may be delayed further.

These developments risk slowing the global transition to renewable energy, but some experts predict continued growth in the clean energy sector.

EU - **Backtracking** on Supply Chain Law

French President Emmanuel Macron and German Chancellor Friedrich Merz have called for the complete repeal of the EU Supply Chain Law, which they previously supported. This law would require companies to take measures against forced labor and reduce the environmental impact of their operations outside the EU.

Macron stated at a business meeting in Versailles that the law should be "completely removed from the table," adding that he fully agreed with Merz. Merz had recently described the one-year delay as a "first step" before arguing that a full repeal was necessary.

The law has been criticized for putting European companies at a disadvantage, particularly in the face of low-cost competition from China and aggressive US trade policies. French businesses and banks have also complained about high compliance costs and complex reporting requirements.

Under pressure, EU Commission President Ursula von der Leyen decided to simplify and postpone some climate regulations under the Green Deal. However, this has been criticized by environmental organizations and left-wing politicians as an abandonment of EU values and an invitation to the far-right.

The law was set to come into force in 2025 and would have allowed companies to prepare climate transition plans and civil society organizations to sue companies. However, its future has become uncertain due to increasing political and economic pressures.

Sustainability Experiment

from India on the International Space Station (ISS)

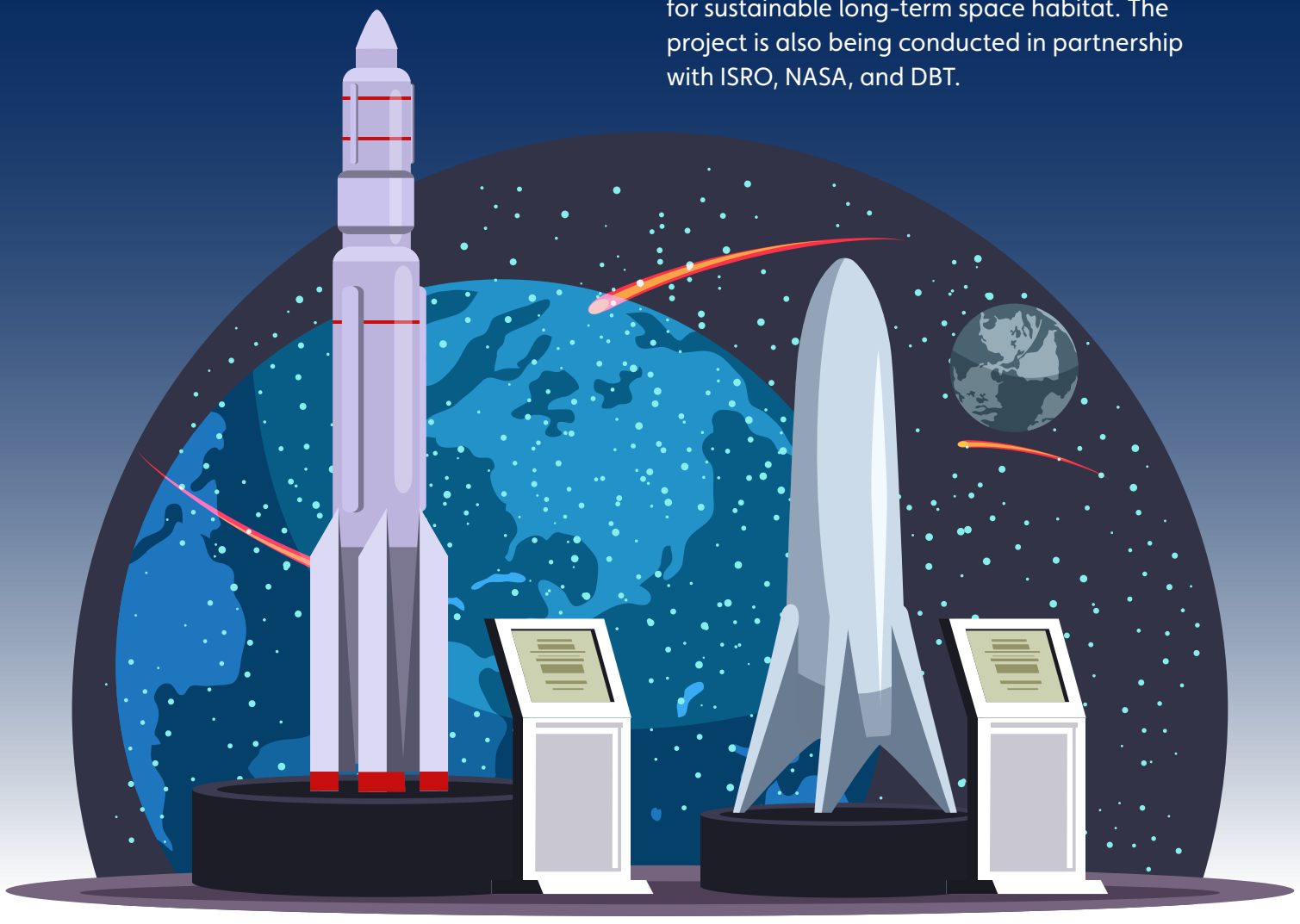
India is preparing to conduct its first biological experiment to examine the sustainability of human life aboard the ISS. This historic initiative is being implemented under the BioE3 Biotechnology Policy launched by Prime Minister Narendra Modi.

The experiments will be conducted on the Axiom-4 mission in collaboration with the Indian Space Research Organisation (ISRO) and the Department of Biotechnology (DBT). Indian astronaut Group Captain Shubhanshu Shukla will be on board.

There are two main experiments in the project:

- The growth parameters, genetic, and metabolic responses of microalgae species in space will be studied, and comparisons will be made with Earth-based samples.
- The response of cyanobacteria such as Spirulina and Synechococcus to different nutrient environments in microgravity will be investigated.

These experiments aim to identify the most suitable microalgae species for the space environment and to establish the infrastructure for sustainable long-term space habitat. The project is also being conducted in partnership with ISRO, NASA, and DBT.



India and Pakistan

Scorching in Heatwaves Becoming the 'New Normal'

India and Pakistan are grappling with severe heatwaves as early as April. While summer temperatures are typically expected to rise in May and peak in June, this year the heat arrived early. Experts say this is becoming the "new normal" brought on by climate change.

Temperatures in Delhi exceeded 40°C in April, 5 degrees Celsius above seasonal norms. Temperatures reaching 44°C in Jaipur, the capital of Rajasthan, caused heatstroke among construction workers and farmers. The Indian Meteorological Department reported that this year, the heatwave has been experiencing days of heatwaves above seasonal norms.

Pakistan is also affected by extreme heat. In Shaheed Benazirabad, in Sindh province, temperatures reached 50°C, about 8.5°C above the April average. Temperatures nationwide have exceeded 40°C.

Experts say such extreme heat is no longer the exception, but the norm. Furthermore, due to urbanization, cities are an average of 3°C warmer than rural areas. This difference is clearly felt in cities like Delhi and Islamabad. Authorities are canceling afternoon school activities, adding fluids to first aid kits, and urging precautions against signs of heat stress. Experts emphasize that not only awareness but also urgent action is needed.

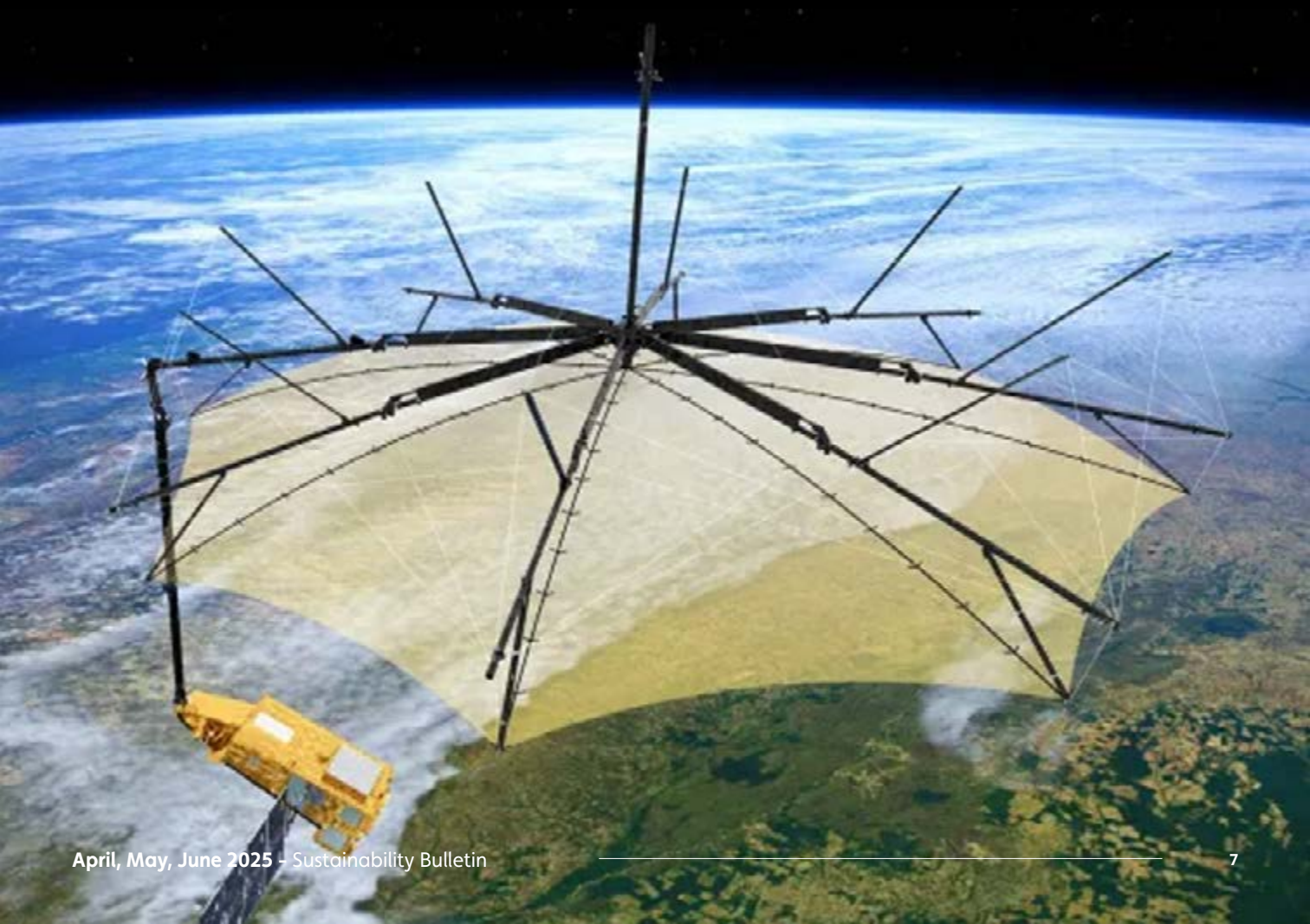
The European Space Agency (ESA) launched the

"Biomass" satellite on April 29

The European Space Agency (ESA) successfully launched its "Biomass" satellite, developed to collect data on climate change, deforestation, and the carbon cycle, into space on April 29, 2025. Manufactured by Airbus and designed entirely for this mission, the satellite will scan the globe with radar waves to measure the carbon storage capacity of forests.

Thanks to its specialized radar technology, the Biomass satellite maps forest biomass and density in three dimensions, allowing for carbon calculations without touching the ground. This will allow scientists to more accurately determine the amount of carbon stored by forests, especially in tropical regions.

The satellite, which will orbit 15–16 times a day, will be used to observe changes in forests throughout its mission—approximately five years—and to analyze the long-term impacts of the climate crisis on forest ecosystems.



Women's Carbon Footprint

26% Lower Than Men's

A new joint study conducted by the London School of Economics (LSE) and the CREST research center has revealed that women in France emit 26% less carbon than men due to their food consumption and transportation habits. These two sectors account for more than half of the average French citizen's carbon footprint.

The researchers analyzed individuals' transportation and dietary patterns using highly representative survey data. The results showed that the main drivers of carbon footprint differences are red meat consumption and car use. These two high-emission consumption habits are often identified as preferences associated with male identity. The research highlights that gender differences in these preferences directly impact emissions inequality.

Household structure was also found to be a significant determinant. For example, food consumption among couples tends to converge, and women's diets tend to be more carbon-intensive than those of single women. However, the difference in transportation emissions is particularly pronounced among couples with children. The researchers note that who one lives with and how household roles are divided significantly shape individual climate impacts.

One of the most striking policy implications of the study is that it may be easier for women to adopt consumption habits compatible with net-zero targets. This may also explain the higher levels of concern women in high-income countries exhibit about climate change. The study suggests that climate policies should consider not only sectoral but also societal behavioral patterns and gender inequalities.

News from Turkey

Fig Sustainability Award

The Aegean Dried Fruit and Products Exporters' Association's "Sustainable Management of Aflatoxin-Contaminated Dried Figs" project received the Sustainability Award at the 42nd World Dried Fruit and Nut Congress, held in Spain on May 8-10, 2025. The project aims to contribute to both the environment and the economy by converting aflatoxin-contaminated dried figs, which are not suitable for export, into energy in biogas plants without harming the environment.

Turkey accounts for more than 60% of global dried fig exports, and the Sarılop variety, grown in the Aegean Region, is a pioneer in this field.

This project, launched in 2024, prevented approximately 1,500 tons of contaminated products from entering the environment or the food chain.

Gökçeada is on the way to a plastic-free island!

Gökçeada Municipality, with funding from the Beyond Plastic Med Association (BeMed), has launched the "GÖKÇEADA IMPACT" project. The project's primary goal is to eliminate single-use plastics from the island within three years and transform it into a sustainable island model.
The Single-Use Plastic Action Plan, prepared considering Gökçeada's local conditions, will be shaped with the contributions of the islanders, businesses, and public institutions. The plan includes numerous activities, including awareness campaigns, sustainability training, filtered water fountains, the renovation of potable water points, and ecological festivals.

Mayor Bülent Ecevit Atalay stated, "Together with our people, we will transform Gökçeada into a model plastic-free island," while BeMed Coordinator Claire Richard described the project as "an inspiring social transformation."
Strategy and Sustainability Manager Dr. Neslihan Özman emphasized that the project is a strong local step in preventing plastics from entering the Mediterranean:
"In a world where hundreds of trucks of plastic waste enter the Mediterranean every day, this project is an effort to protect not only the island but also our future."

Rail Transportation in

Kayseri Now Runs on Wind!

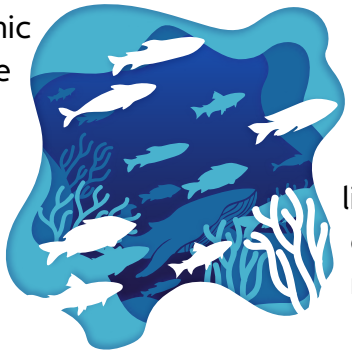
Kayseri Metropolitan Municipality has integrated clean energy into rail transportation. Thanks to a 21 MW wind power plant in the İncesu district, the city's 79 trams now rely on renewable sources for electricity.

The energy generated by the three turbines, with an annual production capacity of 60 million kWh, both powers the tram system and generates revenue for the municipality by selling the surplus. Mayor Memduh Büyükkılıç stated that the system will pay for itself within four years, adding, "We are on our way to becoming a self-sufficient city in energy."

Dangerous Warming in the Black Sea: 4°C Rise by 2100 Threatens Ecosystems and Agriculture

According to a new ocean simulation model developed by scientists at Istanbul Technical University, sea surface temperatures in the Black Sea could rise from 15.5°C to 19°C by 2100. The research shows that if global greenhouse gas emissions are not controlled, sea warming will have serious environmental and economic consequences, especially under the worst-case scenario of RCP8.5.

Rising temperatures will increase the intensity of storms, raise sea levels, increase fish kills, and lead to productivity losses in coastal agricultural areas due to salinization. Simulations also project an average increase in sea salinity of 2–3 grams per kilogram. This would make soil, especially in low-lying plains, unsuitable for agriculture.



As temperatures rise, the frequency and intensity of marine heatwaves are projected to increase, increasing the pressure on marine life. Experts warn that global carbon emissions must be rapidly reduced to change this situation.

The Climate Crisis Threatens Women's Health

The impacts of global warming are not limited to melting glaciers or rising sea levels. Recent comprehensive studies by scientists are revealing previously underappreciated impacts of the climate crisis on human health. Perhaps most striking of these is the significant increase in the incidence and mortality rates of certain cancers, particularly in women.

According to a multinational epidemiological study covering the Middle East and North Africa region between 1998 and 2019, each degree Celsius increase in temperature is associated with statistically significant increases in both the incidence and mortality rates of breast, ovarian, uterine, and cervical cancers in women. This increase is particularly pronounced for breast and ovarian cancers, with cervical cancer showing the least increase. However, it is noteworthy that mortality rates increased for all four cancer types.

These findings reveal that the climate crisis is exacerbating not only environmental but also gender-based health inequalities. Experts believe that women are more vulnerable to the health impacts of climate change due to structural inequalities, as well as their physiological characteristics. Women are more affected by environmental stressors due to factors such as physiological vulnerabilities during pregnancy, inadequate access to screening and treatment, and limited healthcare infrastructure in low-income areas. These inequalities, combined with the biological stress caused by rising temperatures and the increased risk of cancer, pose a critical public health threat.

Researchers explain the link between rising temperatures and cancer not through direct causation, but through complex and multiple mechanisms. While extreme heat can increase exposure to known carcinogens, it also suppresses the immune system, leaving the body vulnerable. Furthermore, climate-related interruptions and intensification of healthcare services delay early diagnosis and intervention. They also emphasize that heat-related stress at the cellular level can predispose to cancer by increasing DNA damage.

Research shows that health impacts can exacerbate social inequalities, and that women, in particular, will be among the groups most affected by the burden of climate-related diseases if adequate measures are not taken. Therefore, it is more important than ever that climate policies be addressed with an inclusive approach that includes gender equality and equitable access to healthcare.

The Energy Footprint of Artificial Intelligence is Growing

While artificial intelligence is rapidly integrating into every aspect of life, there is a silent but massive energy consumption behind the scenes. According to a new analysis by MIT Technology Review, many actions, from asking a chatbot a question to creating an image, may seem small on an individual level, but when repeated billions of times, they lead to enormous energy demands and increased carbon emissions.

Data centers, used to train and run AI models, are now central not only to the internet but also to the energy infrastructure. In 2024, the electricity consumed by AI-focused servers in the US alone was approximately 76 terawatt-hours, equivalent to the annual consumption of 7 million households. By 2028, this figure is projected to reach 165–326 terawatt-hours, representing 22% of all US households.

The energy demand of AI grows rapidly, especially during the model-inference phase. The energy consumed to generate an answer to a simple text question can be a few hundred joules. However, for more complex queries, large models, and high-resolution image or video production, the energy consumption can reach several million joules. This is equivalent to running a microwave oven for hours.

More strikingly, much of this data remains opaque. Leading companies like OpenAI, Google, and Microsoft are hesitant to disclose details about the true energy and carbon impacts of their AI systems. Most of the estimates are based on indirect calculations, and researchers note that this deficiency prevents many stakeholders, from policymakers to the public, from seeing the true impact.

Moreover, infrastructure investments in AI are not only increasing; this growth is largely fueled by fossil fuels. Most data centers are located in coal- and natural gas-heavy regions. While some projects offer nuclear or renewable energy, the predominant burden on the existing energy grid still comes from fossil fuels. And the cost of this transformation isn't just environmental. According to a Harvard University analysis, the discounted tariffs provided by energy companies to tech giants could impact consumer bills, potentially impacting data center loads. In some regions, this difference is estimated to reach $30–$40 per month.

A simple command we issue to an AI application today may only use a few seconds' worth of energy. However, a world where these commands are repeated billions of times poses a crisis of magnitude that will reshape energy grids. Given the lack of transparency, the need for systemic transformation, and sustainability, AI is emerging as not only a technological but also a political and environmental issue.

1 Million Species

Face Extinction

Biodiversity, the foundation of life on our planet, is at a historic turning point. According to the Global Biodiversity Outlook 3 report, approximately 1 million animal and plant species worldwide are currently at risk of extinction. The impacts of climate change, deforestation, melting sea ice, coral loss, and the spread of invasive species are among the primary drivers of this crisis.

May 22nd International Day for Biodiversity serves as a reminder to highlight this trend and to move toward sustainable development goals in harmony with nature. The 2025 theme, "Harmony with Nature and Sustainable Development," emphasizes that biodiversity is not only an ecological issue but also a vital factor in areas such as climate, food, water security, health, and the fight against poverty.

This year's theme is also directly linked to the Kunming-Montreal Global Biodiversity Framework, adopted in 2022. By 2030, the goal is to restore at least 30% of degraded ecosystems, reduce the spread of invasive species by 50%, and reverse landscape loss.

However, reports indicate that achieving these goals is becoming more difficult with current trends. For example, while the rate of deforestation has slowed, losses remain significant; one-fifth of mangrove forests, most coral reefs, and one-third of terrestrial vertebrates are irreversibly threatened. Furthermore, global changes such as the melting of Arctic ice and ocean acidification are creating pressures that affect all species.

Biodiversity loss puts not only species but also humanity's future at risk. Because 80% of sustainable development goals depend, directly or indirectly, on a living system compatible with nature. Therefore, it is no longer necessary to simply protect nature, but to re-establish ways to live together with nature through nature-based solutions.

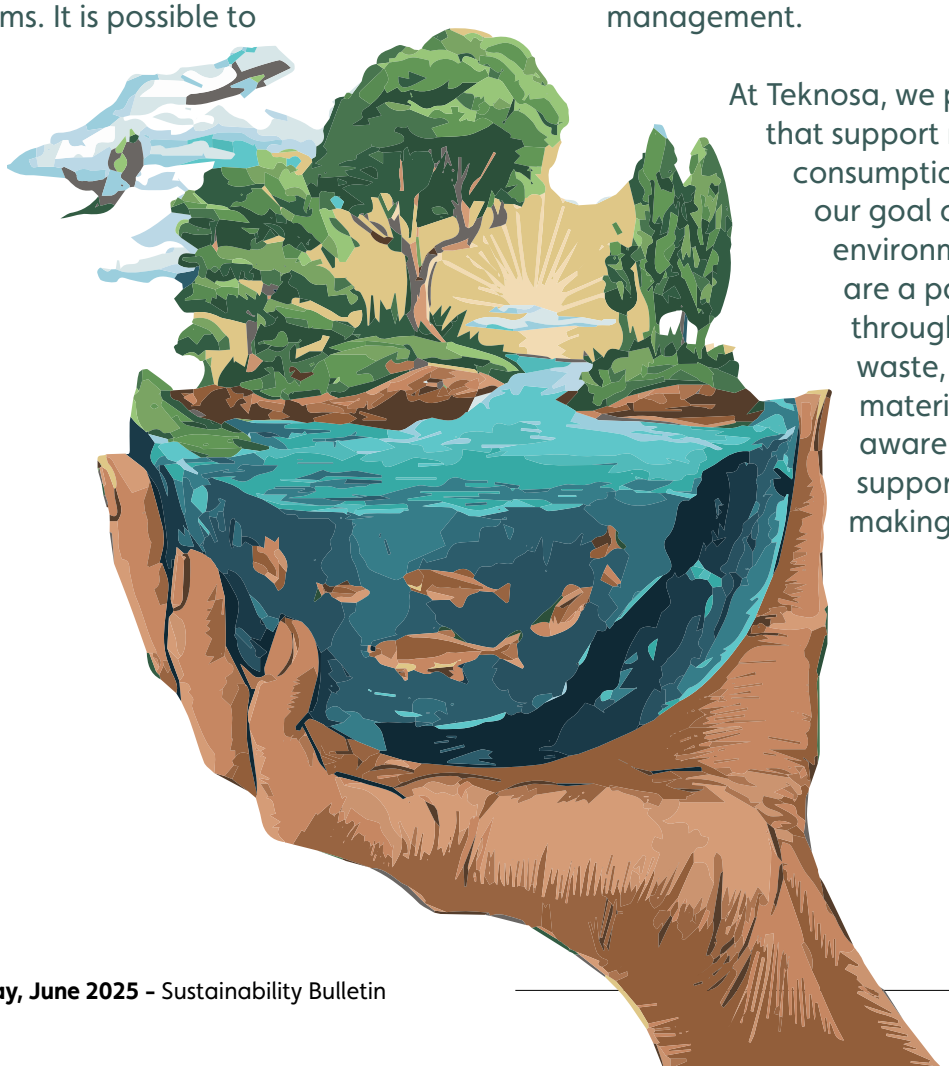
World Environment Day

World Environment Day, celebrated annually on June 5th, this year called for global action against plastic waste under the theme “Beat Plastic Pollution.” The event, organized under the leadership of the United Nations Environment Programme (UNEP), was hosted by the Republic of Korea. The main celebrations took place in Jeju Province, a province known for its exemplary practices in combating plastic.

Plastic pollution is no longer just an environmental problem; it poses a major threat to human health, the climate, and biodiversity. Plastic particles seep into the water we drink, the food we eat, and even our bodies, affecting every corner of the planet. However, according to UNEP, this crisis is also one of the most vulnerable environmental problems. It is possible to reduce waste at the source, expand reuse systems, and increase recycling rates.

Throughout 2025, UNEP urged governments, companies, and individuals to reject, reduce, reuse, recycle, and rethink their plastic use. At the same time, negotiations for the global plastics agreement, which began in 2022, gained momentum. Korea played a key role by hosting the fifth session of this agreement in 2024.

Jeju Province, home to World Environment Day, has adopted the goal of becoming a “plastic pollution-free zone” by 2040. Practices such as collecting household waste only at designated recycling centers and a deposit system for disposable cups make Jeju an example of sustainable waste management.



At Teknosa, we prioritize practices that support responsible consumption in line with our goal of reducing our environmental impact. We are a part of this effort through reducing packaging waste, using recycled materials, and raising awareness campaigns that support our customers in making sustainable choices.

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