SUSTAINABILITY BULLETIN

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TEKNOSA

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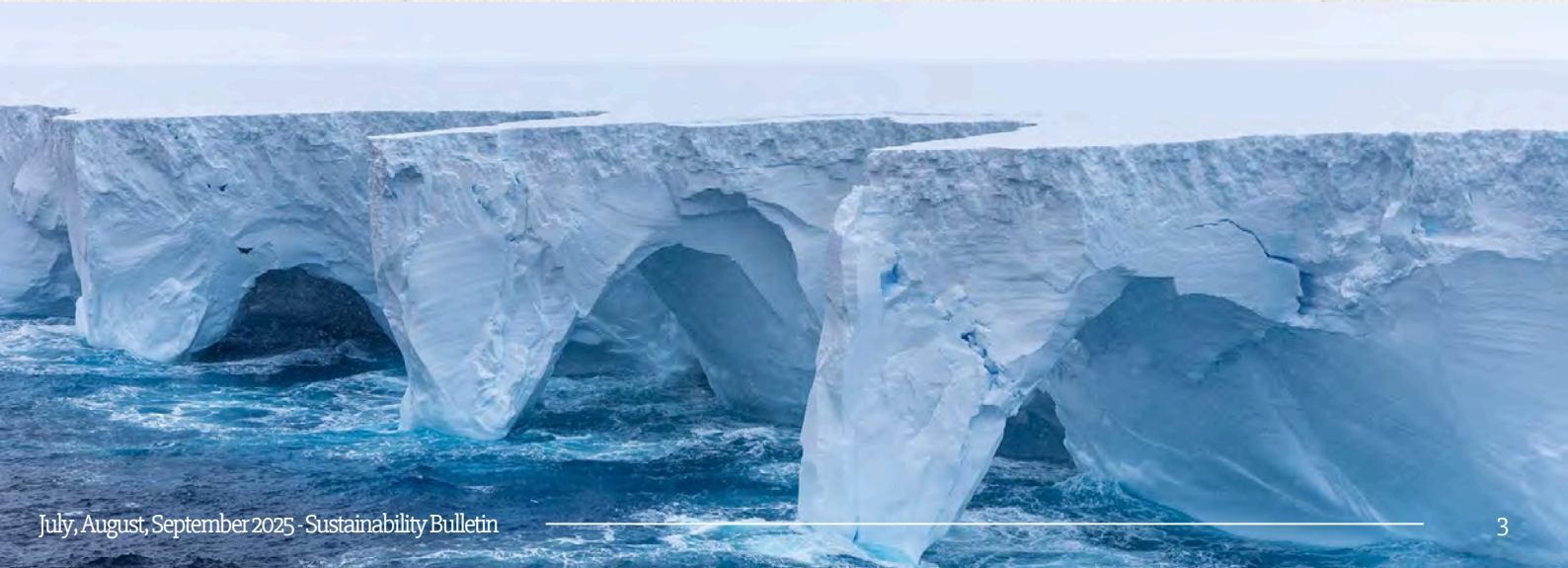
Symbol of the Climate Crisis: The World's Largest Iceberg Has Shrunk

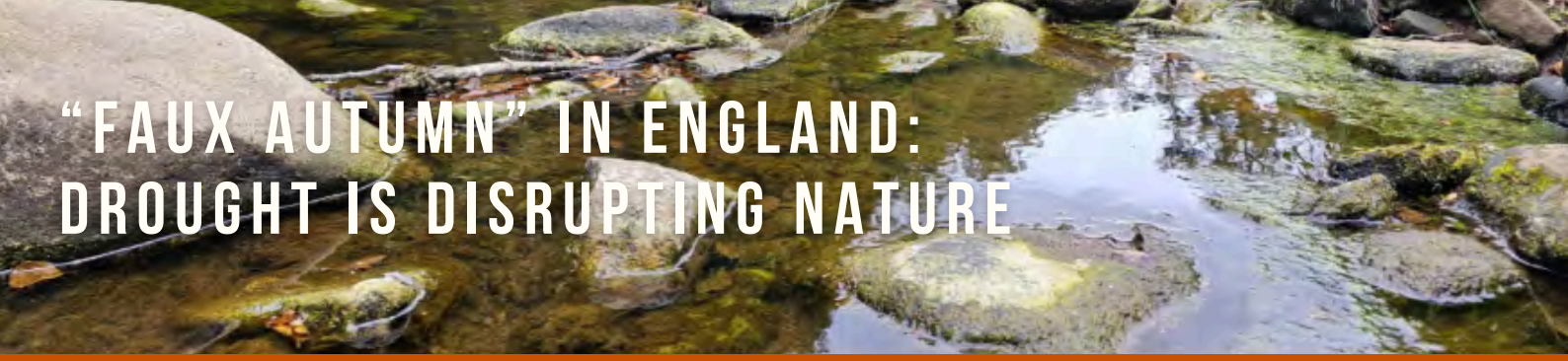
A23a, known as the world's largest iceberg, has rapidly disintegrated, losing its "largest" title. Its area, approximately 1,700 square kilometers, has shrunk to the size of London. Dr. Andrew Meijers, a scientist at the British Antarctic Survey, stated that the iceberg's disintegration is accelerating. With the arrival of spring and its advance towards warmer waters, it may break into smaller pieces and become untraceable.

Experts, noting that ice shelves have lost 6 trillion tons of ice since 1997, warn that while these losses have not yet directly affected sea level, they could accelerate the breakup of large glaciers in the future and lead to sea level rise exceeding 2 meters in the long term.

The researchers also emphasize that the massive amount of freshwater released by A23a could significantly impact marine life around South Georgia, and that such large icebergs could become more common with climate change.

Before its disintegration, the A23a highway covered an area of 4,000 km², almost the size of Istanbul.





“FAUX AUTUMN” IN ENGLAND: DROUGHT IS DISRUPTING NATURE

The East Allen River in Northumberland, England, has become virtually unrecognizable after a dry, hot summer. Normally flowing rapidly, this year the river has shrunk so much that people can barely walk across it. Moss- and moss-covered rocks have dried and cracked, roots are exposed, and ponds have become stagnant pools where oxygen-depleted fish seek refuge. The region experienced four separate heatwaves this summer, and trees began shedding their leaves without waiting for autumn. Experts say this phenomenon is called “false autumn”; the leaf fall is not caused by diminishing sunlight, but by extreme heat and drought stress.

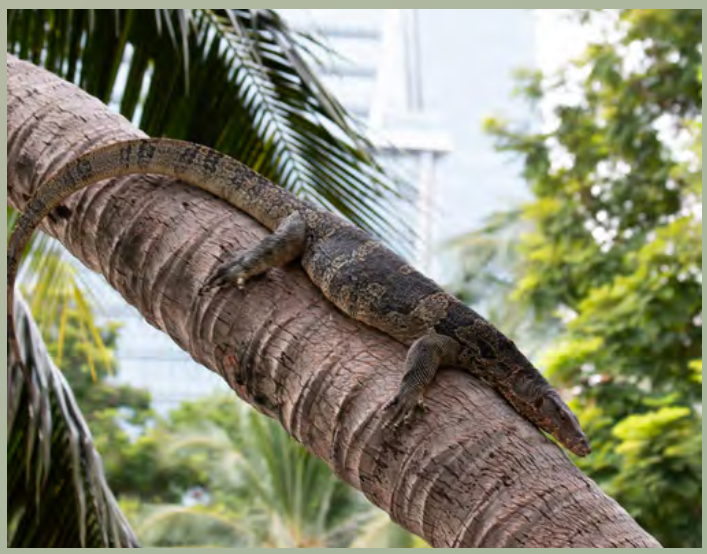
This unusual seasonal shift negatively impacts not only plants but also animals. Birds and mammals are struggling to find the food resources they need as they prepare for winter.

Fruits remain small and dry, and hazelnuts and walnuts drop prematurely, putting a strain on the food chain. Species preparing for hibernation will enter a difficult period without sufficient fat storage. This disrupts the ecosystem's balance and worsens living conditions in the region.

A "MINI GODZILLA" SURPRISE TRAIL IN THE CITY: A GIANT LIZARD EXPLOSION IN BANGKOK

Bangkok's famous Lumphini Park is now home not only to joggers but also to hundreds of Asian water lizards. A population of approximately 400 of these giant lizards roam the city's canals, roads, and trees. These animals, once associated with negative cultural connotations, are attracting the attention of tourists and locals thanks to viral videos on social media.

According to experts, urbanization and ecosystem change are bringing these species into closer contact with humans. While water lizards contribute to the ecosystem by scavenging for garbage and animal carcasses, their increasing numbers also increase the risk of accidents and human-animal conflicts. While the Bangkok government is trying to keep the park's population under control, it also emphasizes that these animals have become a symbol of the city's biodiversity.



Women Hit the Road on Electric Motorcycles in Africa

Women are now at the helm of the electric motorcycles that silently cruise through Kampala's morning traffic.

Electric motorcycles are opening new job opportunities for women and offering a solution to air pollution, one of the biggest problems facing cities. There are more than 20 million motorcycles across Africa, most of which run on gasoline and emit harmful gases. A study conducted in Kampala revealed that air pollution caused more than 7,000 premature deaths in just four years. Because electric motorcycles produce no exhaust emissions, they contribute to cleaning the air in cities.

Thanks to new programs in Uganda and Kenya, hundreds of women have received training in areas such as electric motorcycle operation, repair, and solar energy infrastructure. This makes motorcycle taxi driving and maintenance, previously dominated by men, accessible to women.

The economic advantages of electric motorcycles are also significant. Riders save approximately $500 annually compared to fuel-powered vehicles. This represents a significant advantage, especially for women struggling to make ends meet.

The Power of Salt and Freshwater: Japan Takes a New Step in Renewable Energy

The city of Fukuoka has become home to one of the world's most extraordinary energy sources. Japan's first **osmotic energy plant**, opened in 2017, generates electricity from the natural interaction of freshwater and seawater. With an annual capacity of approximately 880,000 kilowatt/hours, the plant will power the city's desalination center. This production capacity is equivalent to meeting the annual consumption of several hundred households.

HOW DOES IT WORK?

The system is actually based on a very simple principle of nature: **osmosis**. Freshwater is on one side of a semi-permeable membrane, while saltwater is on the others. The water passes towards the salty side to balance the density. This flow creates pressure and is converted into electricity by turbines, allowing for uninterrupted power around the clock, without the need for wind or solar energy.

The continuity of energy production distinguishes osmotic power from other renewable sources. The system continues to operate even at night when the sun is out or when the wind dies down. This means it will have a more stable place in the energy basket in the future.

Significant Decision from the European Union (EU) Court: Nuclear and Natural Gas to Be Considered "Green" Investments

A significant decision has been announced regarding the sustainability classification established for green investments in the European Union. The General Court of Justice of the European Court of Justice ruled that the regulation acknowledging nuclear energy and natural gas investments as "environmentally sustainable" is lawful. This decision could pave the way for hundreds of billions of euros in private investment in nuclear and gas projects. The EU Commission stated that the decision confirms the compliance of sustainability criteria with the legal framework and could accelerate the transition to renewable energy for the 2050 climate neutrality target.

Austria and Luxembourg objected to the decision, arguing that it amounted to "greenwashing" (granting green labels to climate-damaging technologies). Meanwhile, countries such as France, Poland, and Finland stand behind the decision by supporting nuclear energy investments.

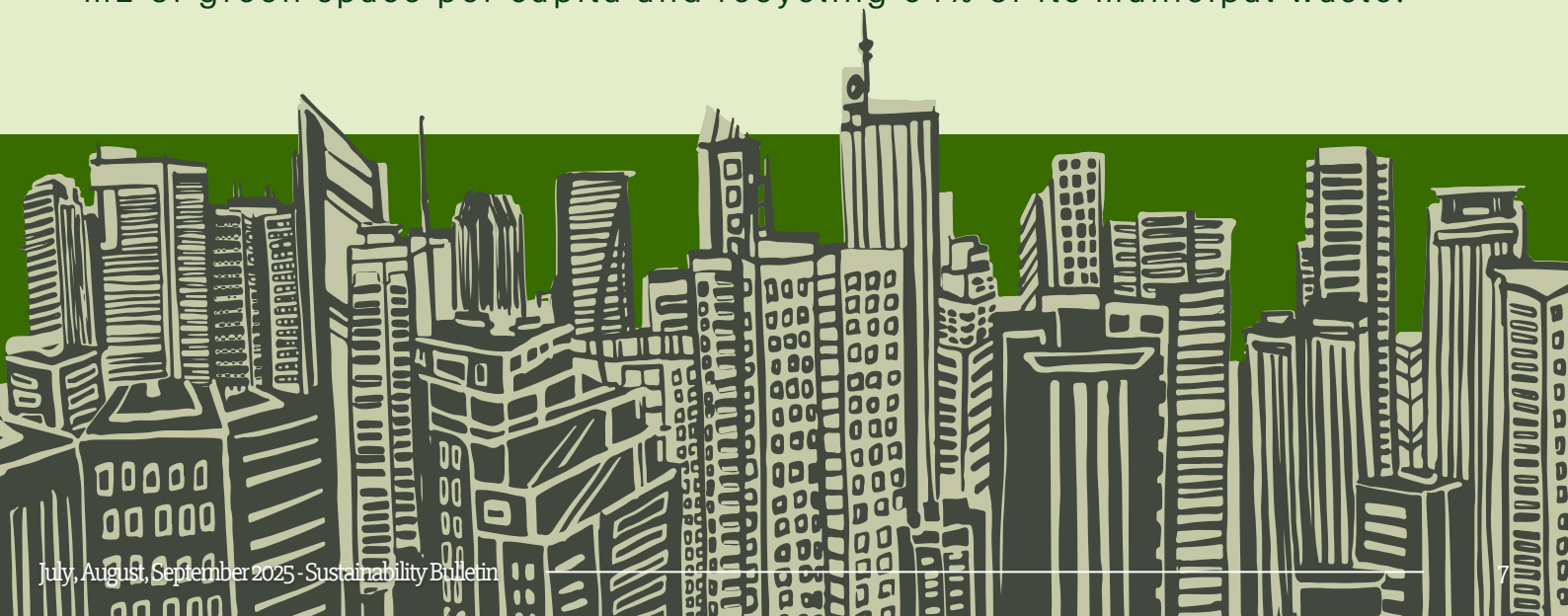
This development has rekindled debate in Europe about which technologies should truly be considered "green." While the decision highlights the bridging role of nuclear and natural gas in the energy transition, it also raises concerns about the long-term environmental risks and waste management of these technologies. The decision has further fueled ongoing debates in Europe about which energy sources should be considered truly "green."

Green Cities of the Future: 7 Cities Leading in Sustainability

While climate change, pollution, and biodiversity loss put our cities under increasing pressure, some cities are taking courageous steps in the face of these crises. Seven cities have implemented urban sustainability initiatives stood out with its innovative practices and made it to the finals of this year's Green City Awards stayed. These cities reduce their carbon emissions by expanding their green spaces by reducing their waste, incorporating it into the circular economy, and benefiting its citizens. By including it in the process, it inspires the climate resilience cities of the future.

Among the finalists, **Debrecen** (**Hungary**) improved the city's microclimate by increasing its green spaces by 16%, planting thousands of new trees, and launching exemplary circular economy initiatives. **Heilbronn** (**Germany**) successfully aimed to reduce noise and air pollution, improve water management, and involve citizens in decision-making through its "2030 Landscape Plan" and "Mobility Concept." **Klagenfurt** (**Austria**) is working to reduce both carbon emissions and water pollution with electric cargo bikes, sustainable heating projects, and advanced wastewater treatment systems.

Smaller-scale cities are proving just as ambitious as their larger counterparts. The Dutch city of **Assen** has made the circular economy a part of daily life with its innovative waste collection systems and "Repair Cafés." Despite heatwaves, **Benidorm** (**Spain**) reduced its water consumption by 18% and increased its reuse rate to 36%. The French city of **Saint-Quentin** achieved a notable improvement in air quality by reducing ammonia emissions from agricultural sources, and it encourages citizens to recycle through digital reward systems. Finally, **Siena** (**Italy**) is demonstrating an impressive sustainability performance by providing 28 m2 of green space per capita and recycling 61% of its municipal waste.

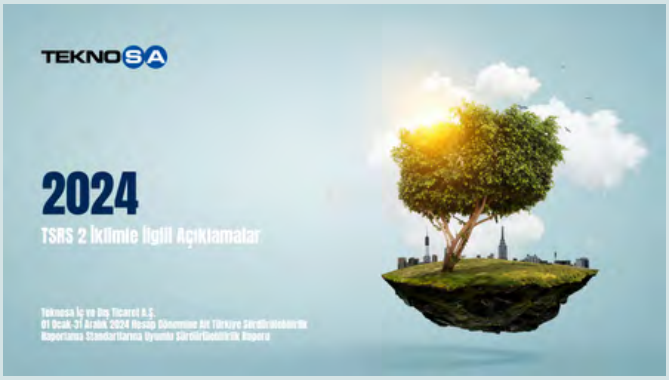


Teknosa Publishes Its First TSRS-Compliant Climate Report

Teknosa has shared its first TSRS-compliant report, which discloses its climate change mitigation and adaptation performance for 2024. The report was prepared in full compliance with TSRS 2 – Climate-Related Disclosures, published by the International Sustainability Standards Board (ISSB) and became mandatory in Türkiye as of January 1, 2024.

The data included in the report covers Teknosa's activities between January 1 and December 31, 2024. All information was prepared using internationally accepted methodologies and is presented in a truthful, representative, and reasonable manner.

The currency used in climate-related financial disclosures is Turkish Lira (TL), consistent with the company's financial statements. Teknosa made a clear and unconditional declaration of compliance with the TSRS provisions in the report.



Teknosa also plans to publish its second TSRS report for 2025 in 2026, in compliance with both TSRS 1 - Sustainability-Related Financial Information and TSRS 2 - Climate-Related Disclosure standards.

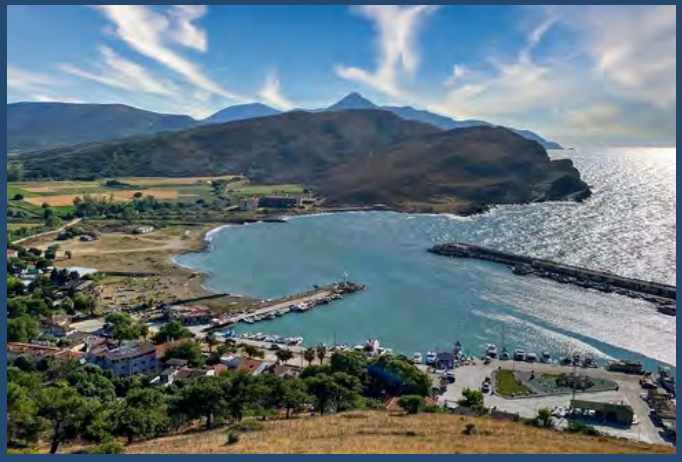
TSRS: Turkish Sustainability Reporting Standards

Gökçeada Says Goodbye to Fossil Fuel : Full Support from İklimsa

İklimsa, Teknosa's leading brand in the air conditioning sector, contributes to the "green and waste-free island model" implemented by the Gökçeada Municipality with environmentally friendly solutions and special payment advantages.

With over 40 years of industry experience, İklimsa is expanding its use of renewable energy solutions such as heat pumps, vehicle charging stations, battery systems, and rooftop solar power plants (SPPs) instead of fossil fuel systems. This way, the islanders are reducing their carbon footprint and taking a major step toward energy independence.

İklimsa has increased its informational activities in Gökçeada, providing technical consulting to residents wishing to benefit from municipal incentives and supporting them with product selection and application processes.



With this transformation, island life is undergoing a radical transformation:

- Coal transportation, storage, and stove cleaning are being eliminated.
- With rooftop solar power plant applications, the islanders generate their own electricity and sell the surplus to the system, generating additional income.
- With the reduction of fossil fuels, the island's air is becoming much cleaner.
- A more comfortable, healthy, and sustainable island life is becoming possible.

İklimsa's work in Gökçeada is making its first green and waste-free island model a reality and building a brand new energy future for the islanders.

TÜRKİYE ENTERS THE NEW WATER YEAR WITH SEVERE DROUGHT

Record Temperatures and Lack of Precipitation

According to data from the General Directorate of Meteorology, August 2024 was the fourth-warmest August in the last 55 years. Average precipitation across Türkiye was 7.9 mm, 47% below average for the 1991-2020 period and 43% lower than the same period last year.

Drought Indicators Sound Alarm

- 3-Month Data: Inadequate rainfall and high temperatures are deepening the drought.
- 12-month data: Prolonged and severe drought continues in the Eastern Black Sea, Northeastern Anatolia, and regions outside Muğla.

The August drought map reveals that severe drought is particularly effective in many regions, including southern Central Anatolia. The current situation: agricultural, hydrological and ecological droughts are also becoming more widespread and their impacts are increasing.

Solution: Integrated Drought Management

With the increasing impacts of climate change, every drop of water becomes more valuable. Experts recommend the following steps for a solution:

- Preparing integrated drought management plans at the basin level,
- Protecting groundwater and water collection basins,
- Expanding efficient agricultural irrigation techniques (e.g., drip irrigation),
- Strengthening water conservation awareness throughout society.

THE IMPACT OF CLIMATE CHANGE ON FIRE RISK IN TÜRKİYE

In 2025, 5,832 fires broke out in Türkiye, burning 70,000 hectares of forest and releasing approximately 4.5 million tons of carbon dioxide into the atmosphere. According to analysis by World Weather Attribution, the hot, dry, and windy weather conditions that fueled fires this summer have become 10 times more likely and 22% more severe due to climate change. A 14% decrease in winter precipitation and an 18-fold increase in evaporation have caused forests to rapidly lose moisture and become more flammable during the summer months. Stronger northerly Etesian winds make controlling fires even more difficult.

This situation isn't unique to Türkiye. The summer of 2025 was the worst fire season in European history; lightning caused most of the fires in Spain. In Canada, twice the normal forest area burned. Modeling in the western United States predicts that lightning-caused fires will increase by 98% in the future, and the resulting smoke pollution could cause more than 20,000 deaths annually by 2050.

Experts warn that simply increasing firefighting capacity is not enough; It emphasizes the need to reduce fuel burden, strengthen local surveillance networks, reactivate rural residents in the first fire response, and update land management to take climate change into account.

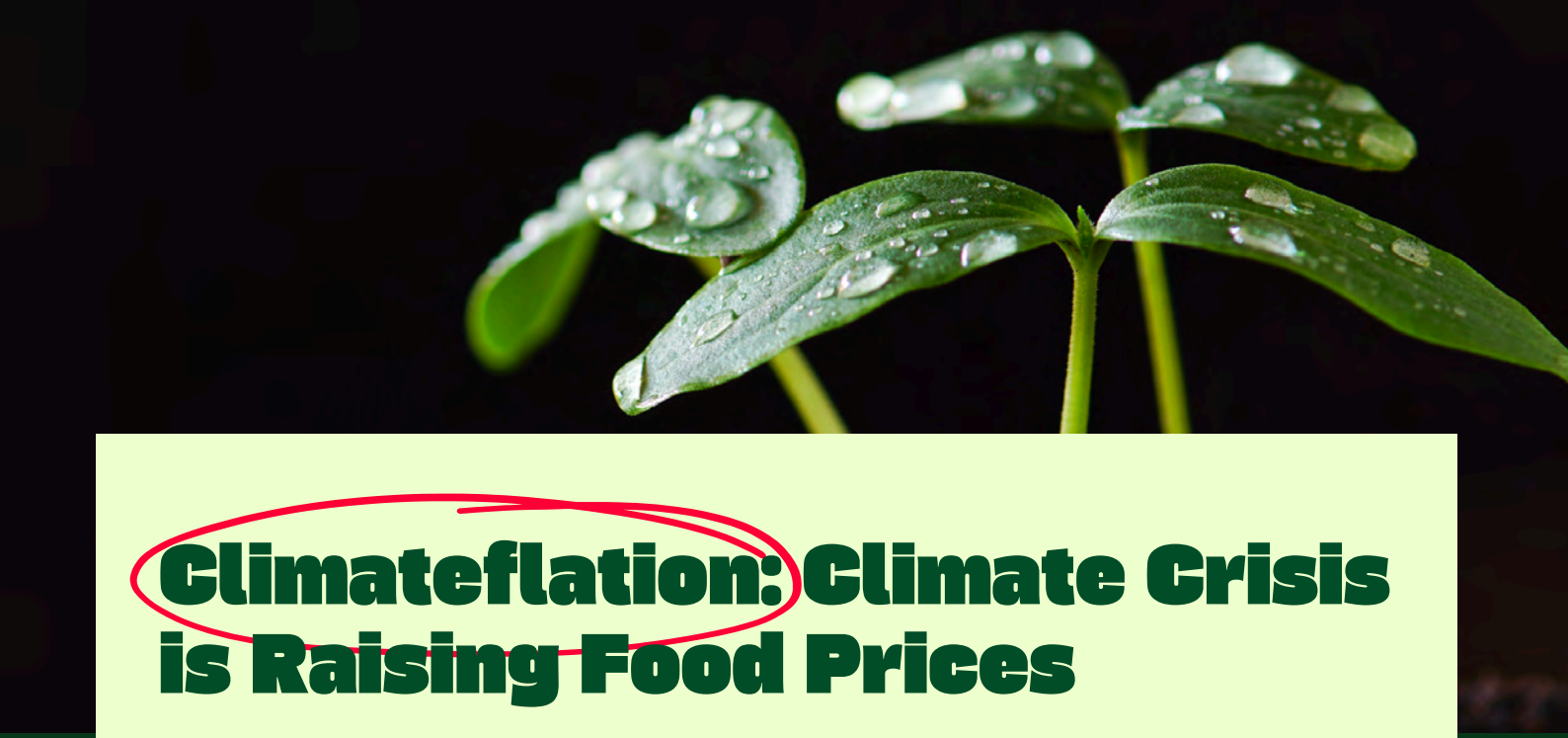
30% MORE TREES = 1.16 MILLION FEWER DEATHS

A comprehensive study has been published showing that planting more trees in cities not only has aesthetic value but can also save lives. According to modeling studies by scientists at Monash University, increasing vegetation cover in urban areas by 30 percent could have prevented more than a third of heat-related deaths between 2000 and 2019. The study is the first to simultaneously examine the effect of green spaces in reducing daily temperatures and the heat-death relationship.

Heat-related deaths have become one of the most serious public health threats posed by human-induced climate change. High temperatures are estimated to cause half a million deaths each year, accounting for 0.91% of the global total. The research team states that the impact of increasing green space varies depending on factors such as climate type, socioeconomic status, and demographic structure of cities, but generally, vegetation reduces ambient temperatures by shading surfaces, reflecting solar radiation, and improving air circulation by increasing evaporation. This reduces the number of people exposed to extreme heat.

The study determined that increasing vegetation levels by 10%, 20%, and 30% would reduce daily average temperatures by 0.08°C, 0.14°C, and 0.19°C, respectively. Under these scenarios, 0.86 million, 1.02 million, and 1.16 million deaths could have been prevented, respectively.
It was estimated that 396,000 lives could have been saved in Europe alone, and 528,000 in Asia.

Increasing green space not only reduces heat-related risks; It improves mental health, increases social interaction and physical activity, and contributes to overall well-being by reducing air pollution. Experts state that green infrastructure must become a priority in urban planning. Otherwise, as the effects of climate change intensify, heat-related deaths could reach 2.5% of deaths in Northern Europe and 16.7% in Southeast Asia, particularly by the 2090s.



Climateflation: Climate Crisis is Raising Food Prices

Climate change is no longer just affecting the environmental agenda; it's also affecting the price tags on supermarket shelves. This phenomenon, known as "climateflation," means that climate-related events like extreme temperatures, droughts, floods, and wildfires reduce food production and drive up prices.

In recent years, global food prices have directly reflected the effects of the climate crisis. In 2024, extreme heat in Ivory Coast and Ghana crashed cocoa production, sending global cocoa prices soaring by 280%.

That same year, heat waves in India caused an 80% increase in onion and potato prices. In the US states of Arizona and California, drought in 2022 increased vegetable prices by up to 80%. The situation in Europe is no different.

While olive, citrus, and vegetable production in the Mediterranean basin has experienced significant declines, agricultural losses in the EU are expected to increase by an average of 66% annually by 2050. Hay production in the UK has fallen by 50% this year, and farmers have been forced to sell their livestock because they can't feed them.

Experts say this isn't just about temporary price fluctuations. Price increases triggered by extreme temperatures can last up to 12 months, and food prices are projected to increase by 30-35% by 2050. This poses a significant burden, especially for households that spend a significant portion of their income on food.

Climate inflation also threatens healthy eating habits. Research shows that during periods of price increases, people are the first to reduce their consumption of fresh fruits and vegetables. This trend can increase long-term public health risks such as obesity, type 2 diabetes, heart disease, and even mental health problems.

Scientists emphasize that the only way to stop this structural price increase is to reduce greenhouse gas emissions and expand climate-resilient agricultural practices.

WE MISPERCEIVE THE IMPACT OF CLIMATE-FRIENDLY STEPS

New research from the National Academy of Sciences reveals that people make systematic misconceptions when evaluating individual choices that impact climate change. In the study, participants ranked numerous actions that could be taken in daily life according to their climate impact. The findings showed that the highest-impact actions were underestimated by most people, while low-impact actions were perceived as more critical.

Steps that significantly reduce carbon footprints, such as avoiding air travel and using renewable electricity, were particularly underestimated by participants.

In contrast, more visible but limited-impact actions, such as recycling, changing light bulbs, or using energy-efficient appliances, were among the most important.

This is due to the long history of public campaigns and advertising highlighting everyday, tangible actions like recycling, creating the perception in people's minds that these behaviors are the most critical tools in combating climate change.

However, invisible or less noticeable carbon sources, such as air travel, our energy choices, and our modes of transportation, account for a much larger portion of total emissions.

The research also reveals that access to accurate information changes people's behavioral intentions. After learning about effective actions, participants reshaped their priorities and expressed a willingness to shift toward choices that will have a greater impact. This suggests that climate communication should be supported by appropriate prioritization and awareness strategies.

The findings highlight the importance of redesigning communication and education efforts to shift individual contributions to the climate crisis to areas that will have the greatest impact. Focusing on the choices with the highest carbon reduction potential, rather than the most visible actions in our daily lives, is seen as critical to the success of collective climate action.

How Will the Automotive Industry Adapt to Carbon Neutrality?

The European Union aims to achieve a carbon-neutral economy by 2050, and the transportation sector plays a critical role in this journey. Road transport accounts for approximately a quarter of the EU's total greenhouse gas emissions. Therefore, the European Commission has made a significant decision as part of the Green Deal: sales of new vehicles with internal combustion engines will be halted from 2035 onward.

This decision represents a giant leap not only in combating climate change but also in reducing air pollution. However, for the automotive sector, this represents a radical transformation. The internal combustion engine, which has dominated for over a century, will be replaced by electric and alternative fuel vehicles.

Big Investments, Big Challenges

Automotive manufacturers are preparing multi-billion euro investment plans for this transformation. However, high battery costs and lack of charging infrastructure make the process challenging. This transformation impacts the entire ecosystem, from manufacturers to suppliers, from the battery supply chain to consumer habits.

Impacts on Employment

Automotive giants like Germany and Italy are highlighting the employment impact of electrification. In Germany alone, it's estimated that more than 50,000 jobs could be lost in the first years of the electrification transition. Consequently, some countries are advocating for engines powered by carbon-neutral synthetic fuels to play a role in the transition.

Health and Environmental Dimension

Environmental organizations and health experts, however, warn that postponement will pose serious public health risks. Nitrogen dioxide (NO_2) and fine particulate matter (PM2.5) from road transport are directly linked to respiratory illnesses and premature deaths. Therefore, this target is critical not only for climate change but also for the right to clean air and public health.

Conclusion: A Critical Turning Point

The period leading up to 2035 is reshaping both Europe's climate targets and industrial policy. The pace of the transition to electric vehicles, the scope of infrastructure investments, and Europe's position vis-à-vis global competition will be decisive in the coming years.

REFERENCES

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