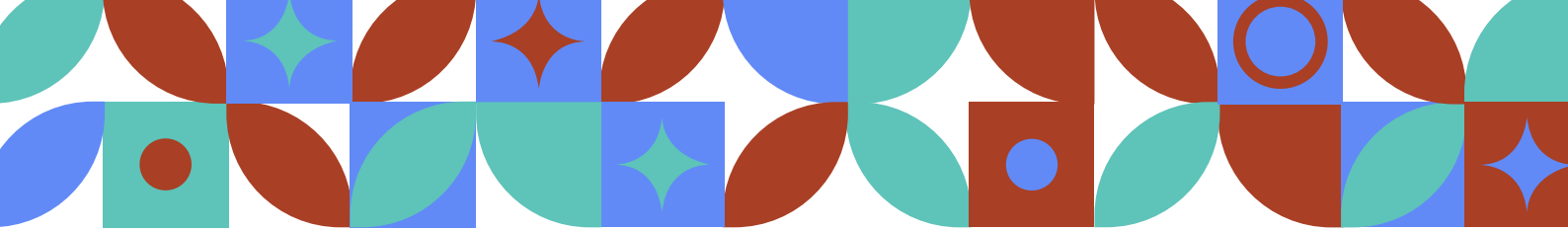


SUSTAINABILITY BULLETIN

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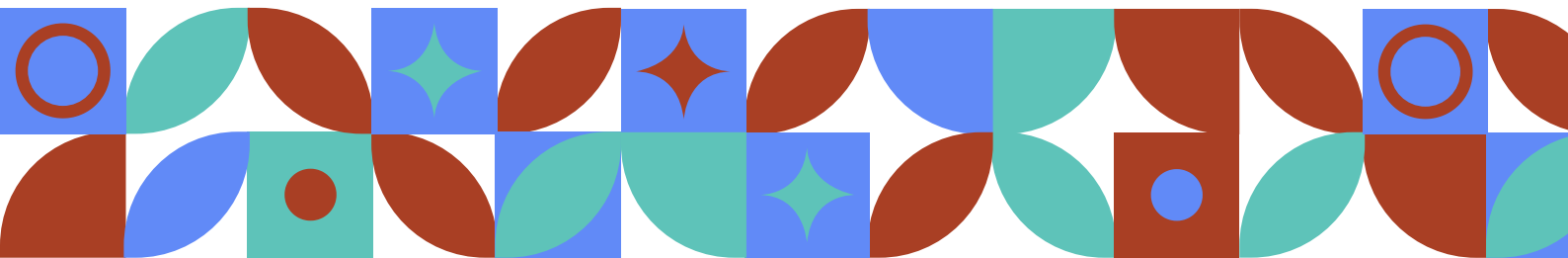
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A New Era of Extreme Weather Events in the Arctic

Recent studies show that unusual weather events in the Arctic—such as heatwaves, droughts, irregular snow cover, and ice formation caused by rain falling on snow—have increased both in frequency and extent. **Central Siberia, Western Scandinavia,** and the coasts of **Greenland** are among the regions where these changes are felt most intensely. According to experts, these new conditions pose serious risks to local ecosystems; vegetation, wildlife, and local communities are struggling to adapt to this rapid transformation.

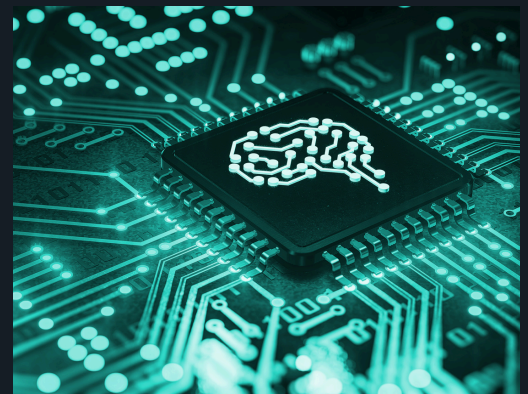
The impacts of climate change are not limited to ecological dimensions alone. The rapid melting of glaciers in the Arctic is enabling the opening of new maritime routes that are shorter and more cost-effective for shipping. At the same time, minerals buried beneath the ice—critical for renewable energy technologies—are becoming more accessible, making the region increasingly attractive from an economic and strategic perspective.

These developments are turning the Arctic into a growing area of competition among global powers. Regions such as Greenland are attracting greater attention due to their natural resources and strategic location. Experts emphasize that this interest is largely driven by factors such as energy transition and supply security.

Meanwhile, the Arctic is warming much faster than the global average, clearly demonstrating that this transformation is a direct consequence of the climate crisis. Increasing extreme weather events, ecosystem degradation, and changes in the carbon balance have the potential to create not only regional but also global impacts.

AI “Greenwashing” Debate Gains Attention

Claims that artificial intelligence could provide solutions to the climate crisis are now being questioned following a new report. While technology companies highlight AI’s potential to improve energy efficiency and support climate action, the research reveals that these claims are largely unsubstantiated. In particular, the rapid expansion of energy-intensive generative AI applications is increasing demand for data centers, indirectly supporting fossil fuel use. According to the report, the sector obscures this contradiction by presenting different types of AI within the same framework, making their environmental impacts appear more limited than they actually are.



The report indicates that most of the examined claims are either based on weak data or lack concrete evidence altogether. Considering the high energy consumption of generative AI applications—such as video generation and deep analysis—no strong evidence has been found to support their positive impact on the climate.

The study also highlights that presenting low-energy traditional AI applications alongside highly resource-intensive generative AI systems within the same framework is misleading. This approach is seen as a new form of “**greenwashing**” that downplays the sector’s environmental costs.

According to experts, the rapid expansion of AI is increasing the energy demand of data centers, thereby intensifying pressure on the climate. Therefore, it is emphasized that technology companies should share their energy use and emissions more transparently and take greater responsibility for the environmental and social impacts of these technologies.



The Climate Impact of Volcanoes Is More Recent Than Previously Thought

New findings suggest that the impact of volcanoes on Earth's climate may be a much more recent phenomenon than previously thought. According to a recent study, although volcanic arcs—located along tectonic plate boundaries—are significant sources of carbon today, this was not the case until **around 100 million years ago**.

The research shows that a major shift in the carbon cycle occurred approximately 150 million years ago with the emergence of phytoplankton possessing calcium carbonate shells. When these organisms died, the carbon accumulated on the ocean floor and was transported into the Earth's interior through plate movements, eventually being released back into the atmosphere via volcanic activity.

In earlier geological periods, however, carbon emissions mainly occurred through continental rifting and along mid-ocean ridges. Although carbon emissions from volcanic arcs have **increased** today, the amount of carbon stored in the oceans still exceeds these emissions. These findings provide an important perspective on how the impact of geological processes on the climate has evolved over time.

Warning of a Global “Water Bankruptcy”

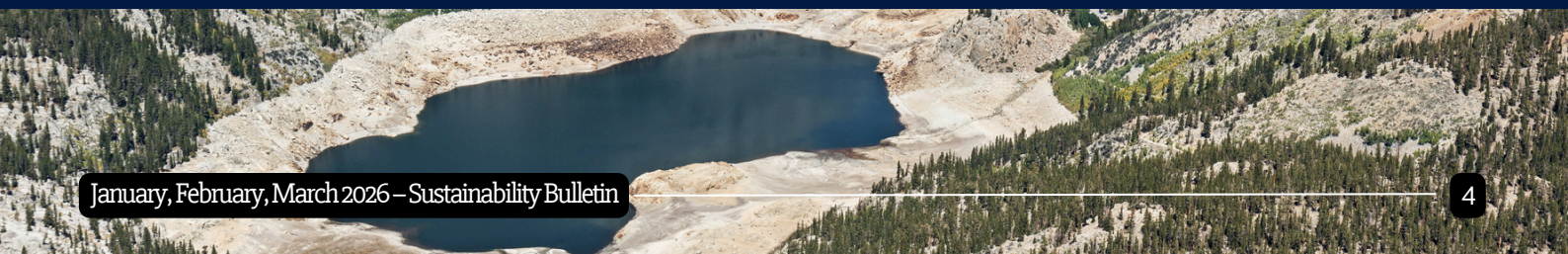
A new report published by the United Nations warns that the world has entered a critical phase described as “**global water bankruptcy**.” According to the report, the overuse and pollution of water resources are triggering a systemic crisis affecting billions of people, with many water systems already crossing thresholds that are difficult to reverse.

The research reveals that water balances are being disrupted due to the over-extraction of groundwater, destruction of wetlands, and water use exceeding natural replenishment rates. Climate change is accelerating this process through glacier melt and the increasing frequency of extreme weather events. Today, a large portion of the global population lives in regions experiencing water insecurity.

The impacts of the water crisis are not only environmental but are becoming increasingly visible in economic and social dimensions as well. Growing water scarcity threatens agricultural production and food security, while intensifying competition over water resources. The rapid rise in water-related conflicts in recent years highlights the deepening of this risk on a global scale.

The report also notes that excessive groundwater extraction has led to land subsidence in some cities. In Türkiye, sinkholes forming in the Konya Plain are cited as concrete examples of this crisis. Experts emphasize that current water use models are unsustainable and that the need for a fundamental transformation can no longer be postponed.

This situation highlights how critical sustainable water management has become at the global level, while also underscoring the importance of **World Water Day**, celebrated annually on **March 22**. This special day aims to raise awareness about the protection, efficient use, and fair distribution of water resources, pointing to the need for all stakeholders—from individuals to institutions—to take responsibility in addressing the growing water crisis.



Call from Greenpeace for Stronger Action on the Plastic Crisis

A new draft regulation aimed at banning single-use plastics in Türkiye has been opened for public consultation. Prepared by the Ministry of Environment, Urbanization and Climate Change, the regulation seeks to restrict the placing on the market of products such as plastic forks, knives, plates, and straws. While Greenpeace considers this step important, it emphasizes that the scope must be expanded to effectively combat plastic pollution.



According to the organization, banning usage alone is not sufficient; production must also be limited. As long as the production of single-use plastics continues, these products will keep entering circulation through various channels, and their environmental impacts will persist on a global scale. It is also highlighted that, under the current system, the cost of plastic pollution is borne by nature, local authorities, and society, while producers do not take on sufficient responsibility.

Greenpeace states that the solution lies in adopting an “**extended producer responsibility**” approach. Within this framework, plastic producers should be held accountable for the entire lifecycle of their products. The organization also calls on the public to support the draft during the consultation process and urges Türkiye to take more comprehensive and effective steps in line with its “**Zero Waste**” goals.

In this context, **Global Recycling Day on March 18** highlights the importance of circular approaches in waste management, while also emphasizing the need to go beyond simply reusing resources. The focus is shifting from managing waste to establishing systems that prevent waste generation from the outset.

Nature-Based Recovery in the Earthquake Region

The United Nations Development Programme (UNDP) and Amazon have launched a collaboration to restore ecosystems in regions affected by the 2023 Türkiye earthquakes. Supported by €1.5 million in funding from Amazon, the project aims to strengthen both environmental recovery and community resilience through nature-based solutions.

As part of the project, **habitat restoration** will be the primary focus in earthquake-affected areas. Ecosystem revival is planned through initiatives such as constructed wetlands, rainwater harvesting systems, compost production, afforestation efforts, and seed banks. At the same time, these activities aim to create sustainable livelihoods for local communities.

Initial implementation is planned to begin in a pilot village in Adiyaman, with the intention of scaling the experience to other regions. Within the scope of the project, training and technical support will be provided to local stakeholders, and approximately 200 hectares of land will be restored. Additionally, broader rehabilitation efforts are expected to expand the overall impact area.

Climate Awareness Is High, Policy Awareness Remains Limited

Public awareness of climate change in Türkiye remains strong. According to a recent report published by İklim Haber and KONDA Research, **9 out of 10 people acknowledge the existence of climate change**. While this indicates a high level of awareness across society, acceptance is even more widespread among younger individuals and those with higher levels of education.

However, the level of knowledge regarding climate policies is not as strong. More than half of the respondents state that **they do not have sufficient information about Türkiye's Climate Law**. While there is a general positive attitude toward the existence of such regulation, many participants consider its content to be inadequate.

The research also presents notable insights into energy preferences. **Solar and wind energy** emerge as the most supported sources across all demographic groups, whereas public support for coal and nuclear energy remains more limited. This reflects a broader societal tendency toward cleaner and more sustainable energy sources.

At the same time, the impacts of the climate crisis are becoming increasingly visible to society. A large majority of respondents report that extreme weather events have increased in recent years, while a significant portion considers the level of preparedness for risks such as wildfires to be insufficient. According to experts, these findings highlight the need to support high awareness levels with effective policy and communication strategies. The year 2026 is expected to be a critical period for Türkiye in terms of climate policies and public communication.



Soil Loss Reaches Critical Levels

Soil degradation in Türkiye has reached a critical point. **The Soil Atlas 2025 – Türkiye** report highlights that soil is not only essential for agricultural production but also a vital resource for climate, water, and food security. The report emphasizes that climate change, improper land use, urbanization, and industrial agriculture practices are increasing pressure on soil systems.

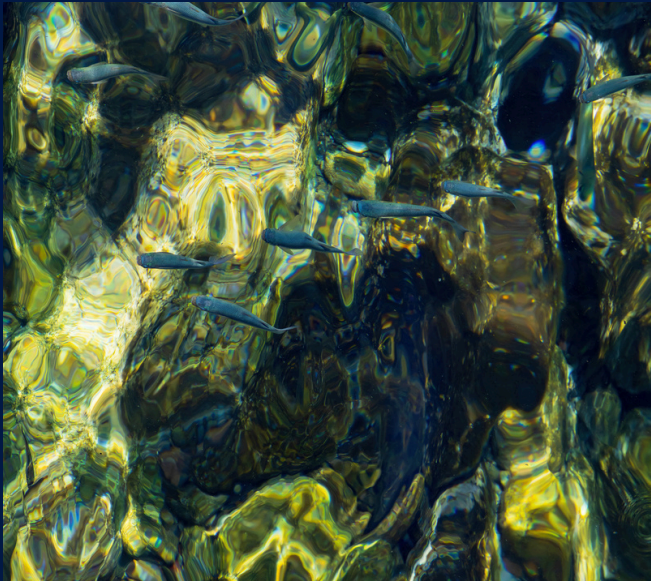
Globally, approximately **one-third** of soils are already degraded. In Türkiye, the situation is even more striking: approximately **642 million tons** of fertile topsoil are lost each year due to erosion, and a significant portion of the country's land surface is under erosion risk. In addition, the risk of desertification is steadily increasing, while improper irrigation practices and excessive groundwater use further accelerate this process. The loss of organic matter in soil reduces water retention capacity, increasing the risk of drought.

The Soil Atlas points out that agriculture models based on intensive chemical use are accelerating this degradation, while agroecological approaches and sustainable soil management practices offer viable solutions. The report stresses that the steps taken today will determine not only agricultural productivity but also climate resilience and the future adaptability of societies.



Critical Threshold in the Oceans

Scientists warn that the oceans are entering a critical transformation process due to climate change and human-induced pressures. New research reveals signs of a fundamental shift in marine ecosystems, referred to as a “regime shift,” and highlights that this transformation could have serious consequences for both ecological balance and the global economy.



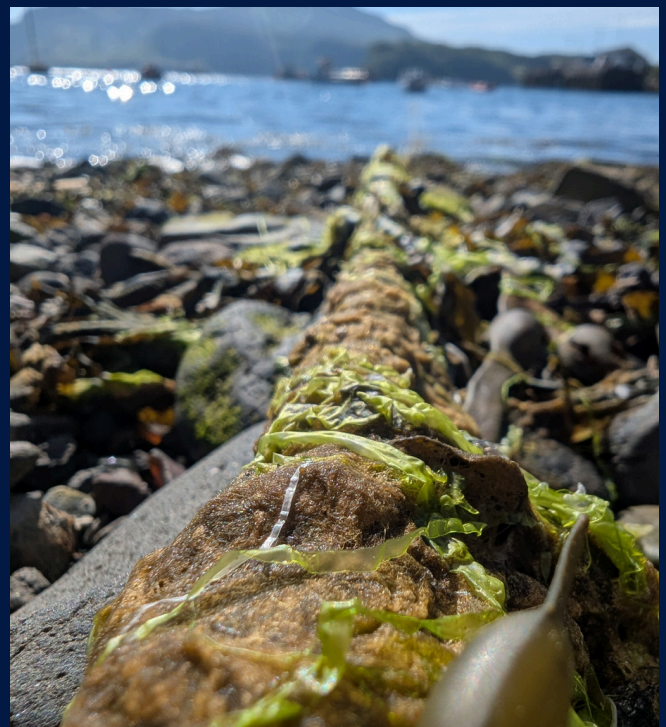
Studies analyzing 1.2 million satellite images using AI-supported methods show that algal blooms have **increased rapidly** in recent years. In particular, this increase **exceeds 13%** annually in the tropical Atlantic and the western Pacific, and is directly linked to global warming and nutrient pollution. Rising algal density has the potential to darken underwater ecosystems, altering both biological structures and chemical balances.

This transformation is not limited to ecosystems alone. A new economic analysis reveals that ocean degradation significantly increases the overall cost of climate change. According to calculations that, for the first time, include ocean-related impacts, the social cost of carbon emissions nearly doubles. Declining fisheries revenues, damage to coastal infrastructure, and disruptions in the food chain are among the main drivers of these increased costs. Small island states and coastal economies are particularly affected disproportionately.

Meanwhile, global efforts to protect the oceans are also gaining momentum. An international agreement—aimed at conserving biodiversity in the high seas and enacted after years of negotiations—provides a binding framework for countries. Under this agreement, it is targeted to protect **30%** of the oceans by 2030, along with introducing mechanisms for environmental impact assessments and more equitable sharing of marine resources.

However, experts note that current developments indicate that the multi-dimensional risks facing the oceans are not yet fully under control. Warming waters, increasing pollution, and overexploitation are rapidly transforming marine ecosystems, making the impacts on both nature and human life increasingly visible.

This transformation in the oceans clearly demonstrates that the climate crisis has deep and lasting effects not only on terrestrial systems but also on marine environments. Experts emphasize that implementing science-based, holistic, and accelerated policies is critical to protecting ecosystems and reducing economic risks.



WOMEN'S ECONOMIC PARTICIPATION AND THE STRUGGLE FOR EQUALITY

Structural Barriers Persist

Although women's participation in the labor force in Türkiye has increased over the long term, this growth has slowed in recent years. According to experts, women's participation in employment is not only an economic indicator but also a key reflection of social equality, the effectiveness of social policies, and access to opportunities. While progress in this area remains limited in Türkiye, women continue to face significant barriers both in entering the workforce and advancing in their careers.

According to recent data, the labor force participation rate of women in Türkiye stands at around **36%**, which is significantly below both the global average and the European Union. Moreover, women's representation in managerial positions remains at around **20%**, with invisible barriers—often referred to as the “**glass ceiling**”—hindering career advancement. While similar patterns exist globally, in Europe the main issue is concentrated at senior leadership levels, whereas in Türkiye inequality is more pronounced both in participation and advancement.

One of the key factors limiting women's participation in the workforce is the disproportionate burden of care responsibilities. The lack of adequate public services for childcare, elderly, and patient care, along with limited flexible working models, directly affects women's ability to enter and remain in the workforce. In addition, wage inequality, sectoral segregation, and career interruptions further weaken women's position in economic life. The fact that women's average earnings in Türkiye are lower than men's highlights the structural nature of this inequality.

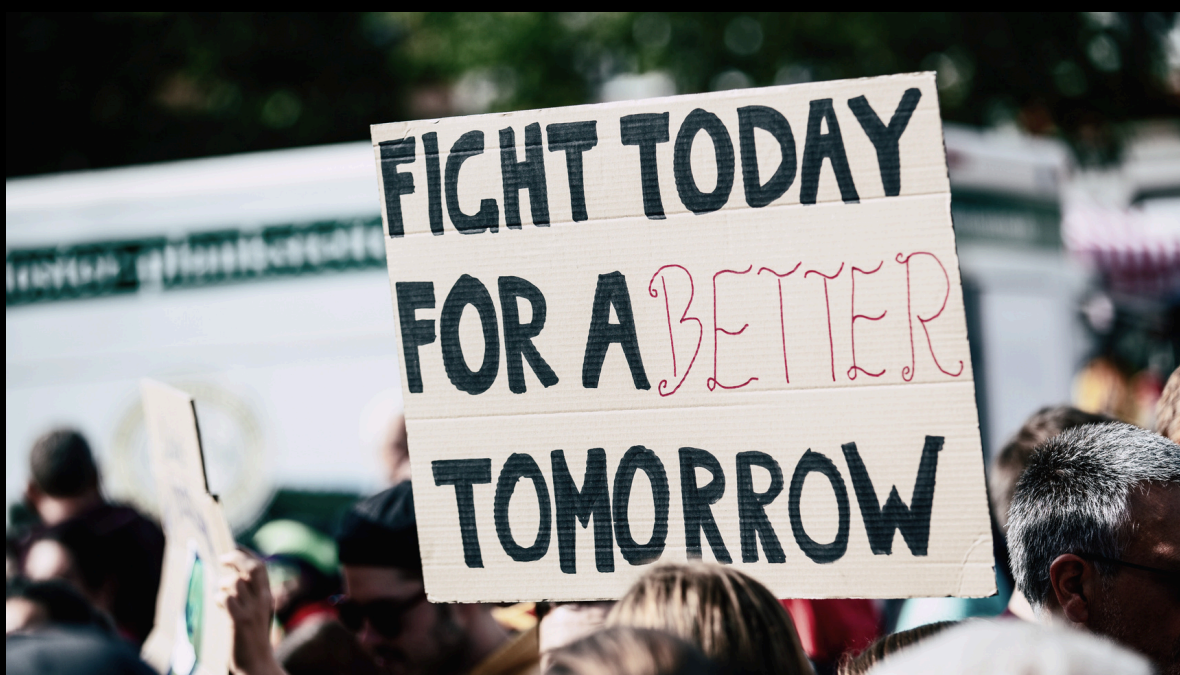


This picture is not limited to Türkiye. Globally, women’s labor force participation remains at around **50%**, with a gap of nearly **20 percentage** points compared to men. In Türkiye, however, the situation is more striking: out of approximately **33.7 million** women of working age, only **11.7 million** participate in the labor force, while **around 22 million remain outside** it. This highlights not a lack of potential, but inequalities in access to opportunities.

Full and equal participation of women in economic life is essential not only for individual well-being but also for building a stronger economy and a more inclusive society. Therefore, solutions must be addressed through holistic rather than fragmented policies. Strengthening care infrastructure, expanding flexible and secure working models, increasing wage transparency, and promoting greater representation of women in leadership positions are among the key steps for this transformation.

At the same time, significant challenges persist globally in terms of women’s rights and access to justice. As emphasized during the **United Nations Commission on the Status of Women** meeting, women and girls in many countries still do not have equal access to fundamental rights. Conflicts, restrictions on the right to education, and structural inequalities underscore the depth of this issue.

According to experts, real progress will be possible not only through women’s participation in the workforce, but by ensuring full access to equal opportunities, justice, and decision-making mechanisms. Steps taken in this direction will play a critical role in accelerating economic development and strengthening societal transformation.



The Debate on Responsibility & Accountability Deepens

New research revealing that a significant share of global emissions is generated by a limited number of companies is bringing corporate responsibility in the climate crisis back into focus. According to the latest data, just **32 fossil fuel companies** were responsible for nearly **half** of global carbon dioxide emissions in 2024. This highlights how emissions are increasingly concentrated among a smaller number of high-producing actors.

Analyses based on the Carbon Majors database show that state-owned companies play a particularly decisive role in this landscape. The fact that most of the highest-emitting companies are publicly owned points to a strong link between climate policies and political decision-making processes. Notably, many of the countries to which these companies are tied remain hesitant toward international initiatives aimed at phasing out fossil fuels.

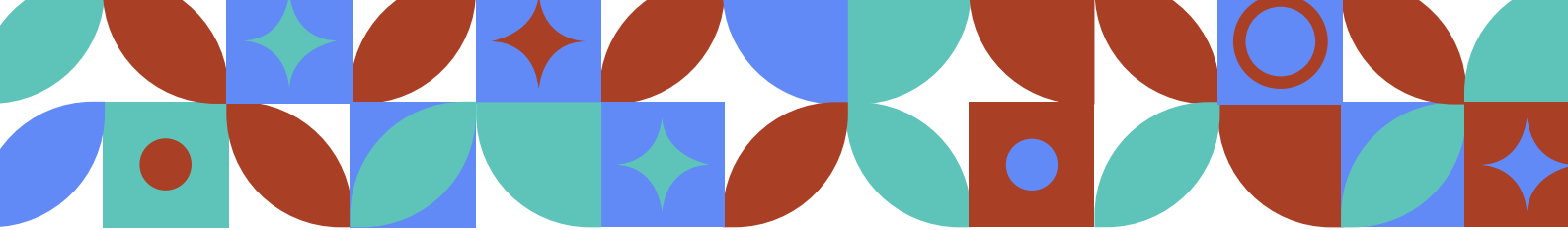


Research also demonstrates that the activities of these companies contribute not only to rising emissions but also directly to the intensification of extreme weather events. Recent studies indicate that emissions from some major fossil fuel companies have made it possible for heatwaves—once considered “virtually impossible”—to occur. These findings show that the impacts of the climate crisis can now be more concretely and measurably linked to corporate activities.

At the same time, despite the acceleration of clean energy investments globally, the continued rise in fossil fuel production exposes a major contradiction in the energy transition. Experts emphasize that while emission reduction targets are becoming increasingly difficult to achieve, even a single degree of warming can have severe consequences for ecosystems and societies.

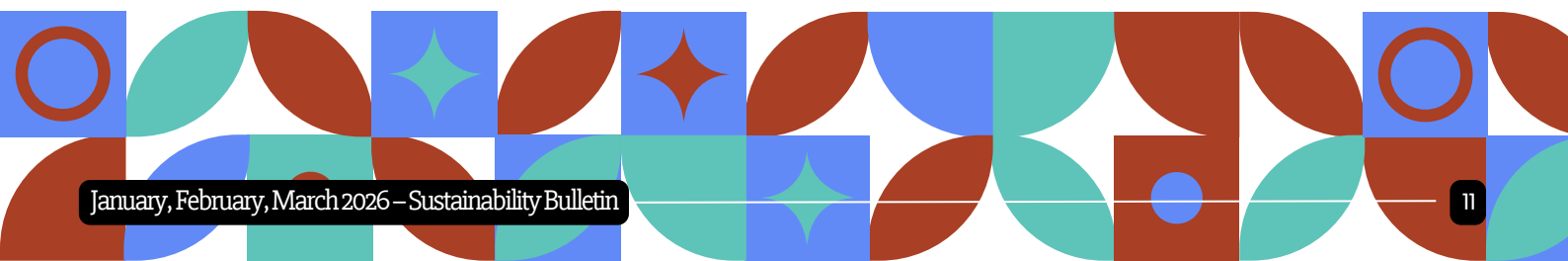
Growing scientific evidence suggests that major polluters may face not only environmental but also legal accountability. The Carbon Majors database has become an important tool in climate litigation, helping to establish corporate responsibility, while in some countries new regulations are being introduced to require these companies to contribute financially to climate-related damages.

According to experts, achieving effective outcomes in the fight against the climate crisis requires strengthening accountability not only at the individual level but also at corporate and systemic levels. In this context, gradually phasing down fossil fuel production and accelerating a just energy transition are among the key priorities for a sustainable future.



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- ◆ A New Era of Extreme Weather Events in the Arctic
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- ◆ The Debate on Responsibility & Accountability Deepens





**For your
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suggestions:**

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