

Board Sustainability, ESG & Climate Governance

STRATEGIC INTELLIGENCE BRIEFING

Generated for Team Digoshen on 19 October 2026

Contents

3 Executive summary

5 1 Insights and trends

5 1.1 Current perspectives

9 2 Strategic context

9 2.1 AI and Cybersecurity

10 2.2 From Generating to Acting

10 2.3 Technology and Inequality

11 2.4 Adaptation for Health

12 2.5 Health Benefits of the Energy Transition

12 2.6 Cooperating on Climate and Health

13 2.7 Driving Climate Benefits

13 2.8 Regulation and Policy-making

14 2.9 Leveraging Technology

15 2.10 Values, Ethics, and Integrity

15 2.11 Leading on Inclusion, Sustainability and Trust

16 2.12 Sustainability Data Collection

16 2.13 Shareholder Engagement for Sustainability

17 2.14 Environmental Justice

17 2.15 Legal and Regulatory Evolution

18 2.16 Reporting Skills and Capabilities

19 2.17 Diversity, Equity and Inclusion

19 2.18 Funding Climate Action

20 2.19 The Paris Agreement

21 References

22 About Strategic Intelligence

25 Contributors

25 Acknowledgements

Disclaimer
This document is published by the World Economic Forum as a contribution to an insight area. The findings, interpretations and conclusions expressed herein are the result of a collaborative process facilitated and endorsed by the World Economic Forum but whose results do not necessarily represent the views of the World Economic Forum, nor the entirety of its Members, Partners or other stakeholders. Portions of this document have been machine generated and/or machine translated.

© 2026 World Economic Forum. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, including photocopying and recording, or by any information storage and retrieval system.

Executive summary

Explore the interactive version online

Board Sustainability, ESG & Climate Governance by Digoshen and Boards Impact Forum Teams

The key issues shaping and influencing Board Sustainability, ESG & Climate Governance are as follows:

AI and Cybersecurity
AI is reshaping risk, accelerating both offence and defence

From Generating to Acting
AI models that generate text and media are transforming creativity while raising new challenges

Technology and Inequality
The world is divided between technology haves and have nots, and innovative tools can often compound social injustice

Adaptation for Health
Adapting societies to the warming climate should be transformational, but often remains incremental

Health Benefits of the Energy Transition
Slashing emissions can yield benefits not just for the environment, but also for public health

Cooperating on Climate and Health
Effectively addressing climate-related health issues will not be possible without broad, comprehensive collaboration

Driving Climate Benefits
Large-scale carbon dioxide capture and removal is necessary to achieve climate goals.

Regulation and Policy-making
Without proper regulation, potentially harmful ”greenwashing” efforts may flourish

Leveraging Technology
SMEs can encourage technological innovations in line with company values

Values, Ethics, and Integrity
Good faith efforts to do no harm and reduce negative externalities are necessary

Leading on Inclusion, Sustainability and Trust
Companies have a responsibility to deploy technology in a way that benefits everyone

Sustainability Data Collection
Searching for more independent sources of information about sustainability performance

Shareholder Engagement for Sustainability
Shareholder engagement can help drive climate action

Environmental Justice
Ensuring that emerging markets and developing countries have the resources to address climate issues.

Legal and Regulatory Evolution
Proactive engagement with global legal and regulatory developments can foster preparedness

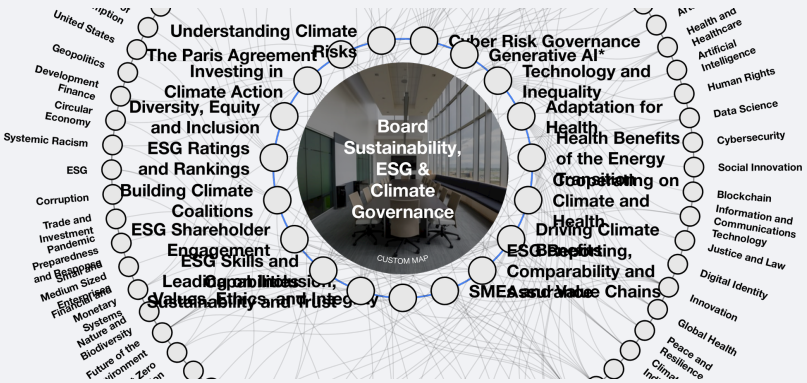
Reporting Skills and Capabilities
Assessing new layers of corporate performance requires a blend of competencies and skills

Diversity, Equity and Inclusion
Whether based on race, caste, religion, or gender, discrimination is rampant

Funding Climate Action
Partnerships across sectors can mobilize the finances necessary to fund climate-friendly initiatives.

The Paris Agreement
The agreement has reshaped how governments and corporations think about climate.

Below is an excerpt from the transformation map for Board Sustainability, ESG & Climate Governance, with key issues shown at the centre and related topics around the perimeter. You can find the full map later in this briefing.



In the following sections, we give a comprehensive summary of the latest **Insights and Trends** shaping the topic, a look at potential **Forecasts and Scenarios** based on current and emerging trends, and an overview of the **Strategic Context**.

1 Insights and trends

A synthesis of the most recent expert analysis.

1.1 Current perspectives

Geneva Centre for Security Sector Governance (DCAF)

Commitments into action: Women, Peace, and Security in defence budgeting

16 October 2026

Global military spending has nearly doubled over the last decade, while official development assistance is expected to drop by 31% from 2024 to 2029. Despite many countries adopting Women, Peace and Security (WPS) policies, only 29 of 113 with WPS National Action Plans included budgets at adoption. Integrating WPS commitments into defence budgets involves embedding gender analysis throughout all budgeting phases rather than creating separate budget lines. Practical measures include involving gender advisers, conducting gender impact assessments, using gender-disaggregated data, and gender-responsive audits. Risks include isolating WPS funding or overly securitizing the agenda. Recommendations urge linking WPS to budget processes, enhancing gender expertise, and combined scrutiny of military and social spending to ensure defence growth does not undermine development funding.

NextBillion

Impact Entrepreneurship During the Polycrisis: An Interview with Laurie Lane-Zucker

15 October 2026

Impact entrepreneurship demonstrates that business can generate lasting social and environmental benefits by embedding mission into ownership, governance, and capital structures to sustain impact beyond founders or market changes. Laurie Lane-Zucker's book, "The Impact Entrepreneur Breakthrough," serves as a practical field manual offering tools and exercises for impact-driven enterprises to navigate the polycrisis–interconnected crises threatening communities and ecosystems globally. Key advice includes designing systems that share power rather than entrench it and addressing root causes strategically, ensuring ventures remain regenerative and resilient across changing conditions.

The Conversation (Spanish)

La IA no transforma a las empresas: lo hace su capacidad para aprender a cambiar

14 October 2026

En España, el uso de IA en empresas crece rápidamente, pero su impacto real depende de cómo se integra en los procesos. Utilizar IA para tareas aisladas aporta eficiencia (capacidades ordinarias), mientras que rediseñar procesos con IA y aprendizaje continuo genera capacidades dinámicas que transforman la organización. Las empresas que desarrollan métodos repetibles para experimentar y adaptar cambios logran mejores resultados. La IA mejora tareas específicas, pero sin cambios organizativos más amplios su potencial no se maximiza. Muchas compañías enfrentan el reto de pasar de proyectos piloto a una adopción integrada que fomente la innovación y el aprendizaje constante.

Try translating with Google

The Conversation

Cities are sinking – but citywide averages hide the real problem

15 October 2026

Cities worldwide are sinking due to land subsidence, primarily caused by excessive groundwater extraction that compacts underground sediments, worsening flood risks alongside rising sea levels and extreme rainfall. A study of 465 cities

found Asian and developing-country cities sink fastest, but subsidence varies markedly within cities, affecting vulnerable neighborhoods more severely. Jakarta, sinking up to 7 cm annually in some areas, exemplifies the problem with frequent floods impacting informal settlements. Flood defenses alone are insufficient; integrated planning is needed, including groundwater regulation and piped water supply improvements. Replenishing aquifers can reverse subsidence, but solutions must consider local conditions and targeted interventions based on detailed spatial data.



The Conversation (French)

Gare aux boycotts ! En temps de guerre, les entreprises doivent protéger leur réputation

17 October 2026

Les entreprises actives dans les zones de conflit doivent gérer non seulement des risques opérationnels, mais aussi protéger leur réputation, désormais exposée à une amplification rapide via les réseaux sociaux. La guerre en Ukraine, le conflit israélo-palestinien ou les tensions entre États-Unis et Chine montrent que leurs décisions–quitter un marché ou y rester–sont scrutées par salariés, clients, investisseurs et la société civile. Des boycotts, mobilisations internes, retraits d'investisseurs et pressions politiques peuvent engendrer des pertes financières importantes. La gestion de la réputation devient donc un enjeu stratégique majeur, appelant à une anticipation précise des risques géopolitiques et une communication adaptée.

Try translating with Google



Project Syndicate

Unleashing Africa's Women Agripreneurs

16 October 2026

Women dominate agriculture in Sub-Saharan Africa but rarely benefit economically due to legal, social, and financial barriers. While many work in low-paid, informal roles, a growing group of women agripreneurs are successfully building vibrant food businesses, supported by targeted government and donor initiatives. Empowering women through legal reforms, access to finance, market connections, and training–such as Ethiopia's Farmer Field and Business School–boosts productivity and income. Programs that challenge restrictive gender norms and engage communities show significant promise. Unlocking this potential could transform Africa's food systems and tap into a $1 trillion agricultural market by 2030.



LSE Business Review

Ending modern slavery will take more than corporate reporting

16 October 2026

Modern slavery arises where global commercial pressures intersect with vulnerable local labor markets. Although UK companies have increased oversight and reporting on modern slavery, limitations remain in addressing abuses occurring deeper in complex supply chains, such as through intermediaries and subcontractors. The UK government's proposed mandatory reporting reforms improve transparency and extend duties to public authorities, signaling a shared responsibility. However, effective prevention requires stronger collaboration and information sharing between corporate supply-chain governance and local public bodies, which currently operate mostly in parallel. Coordinated efforts are essential to identify and address labor exploitation at both corporate and community levels.



GovLab - Living Library

Professionalizing deliberation: a Social Network Analysis of UK climate mini-publics

14 October 2026

Deliberative mini-publics have become key in UK climate governance, leading to a professional field comprising facilitators, recruitment agencies, advisory bodies, experts, and networks. Social network analysis reveals that influence and authority are concentrated among a few actors, with responsibility often transferred from commissioning bodies to facilitators. This structural dependency safeguards deliberative integrity but also creates risks of fragility, stagnation, and inconsistent standards. Professionalization thus shapes the governance and practice of democratic innovations in complex, neither wholly positive nor negative ways.



World Economic Forum

Japan is combining tech and human connection to help people live well until 100

15 October 2026

Japan has surpassed 100,000 centenarians, but a significant gap remains between life expectancy and healthy life expectancy, with older adults facing health challenges for about a decade. To address this, Japan integrates technology and social initiatives to promote healthy longevity and delay care needs. Efforts include AI-based cognitive assessments, digital co-living tools to maintain family connections, and mobile supermarkets that enhance social participation for seniors. National programs like the Moonshot Research and Development and Health Care 2035 vision focus on sustaining health and innovation amid demographic and workforce shifts. Extended work opportunities also support active aging.

German Institute for International and Security Affairs

EU Climate Policy to 2040: Initial Steps towards More Flexibility and Effort Sharing

16 October 2026

The European Union has set a 90% emissions reduction target for 2040, marking a significant shift in its climate policy framework. The European Commission plans to introduce over a dozen legislative proposals addressing international emission reductions crediting within the EU Emissions Trading System, enhanced rules for land use and forestry, and integration of carbon dioxide removal strategies. A key political decision on the role of national targets remains pending. While the EU leads globally with its ambitious target, the use of flexibilities in meeting it raises concerns about policy credibility and effectiveness, highlighting the urgency for the Commission to detail proposals on international carbon credits and regulatory updates.

Asian Development Bank

Asian Development Blog: Not All Dzud Are Alike: Three Ways to Help Mongolia's Herders Recover From Deadly Winters

16 October 2026

Severe Mongolian winters known as dzud vary in type–white, black, and ice dzud–each impacting herders differently. Ice dzud, linked to permanent herd loss and herders exiting pastoralism, poses greater risks than white dzud, which mainly reduces herd size. Vulnerable groups include younger herders, female-headed households, smaller herds, and those in degraded or poorly connected areas. Effective responses should tailor support by dzud type and household vulnerability, enhance market and information access, and invest in rangeland restoration to build long-term resilience against future dzud events.

The Conversation

Councils that restrict harmful advertising won't lose out on profits

14 October 2026

Councils restricting harmful advertising–such as junk food, fossil fuels, ultra-fast fashion, and single-use plastics–do not suffer a loss in advertising revenue, according to research by the University of Portsmouth and Sustain. Analysis of UK councils' data from 2019-2023 shows those adopting healthier or environmentally conscious advertising policies maintained their income levels compared to councils without such policies. Councils can replace harmful product ads with socially beneficial campaigns without financial loss. This approach supports public health and environmental goals and is expanding beyond tobacco and alcohol to include high-carbon products. Examples include Bristol's ban on ultra-fast fashion ads and Portsmouth's inclusion of single-use plastics. The findings suggest councils can confidently implement stronger restrictions aligned with climate and health objectives.

Project Syndicate

Strict Liability for AI Executives

15 October 2026

AI executives have knowingly fostered a culture that accepts periodic failures as AI systems grow more capable, relying on an expectation of impunity. Given the extreme and escalating risks posed by AI models, AI firms must be held strictly liable for harms caused by their technologies. Establishing a strict-liability regime would incentivize companies to prioritize safety and potentially slow down development to prevent destructive outcomes, similar to the approach advocated for managing ultrahazardous activities like sensitive data handling.

GovLab - Living Library

The Promise and Peril of "AI for Democracy"

14 October 2026

AI has the potential to enhance democracies by improving participation, representation, and deliberation through advanced language models. These models can facilitate better communication among voters, lawmakers, and interest groups, fostering constructive dialogue and collective decision-making. Researchers and tech leaders highlight opportunities for AI to mediate democratic processes at scale, helping citizens find common ground and enabling officials to better understand public concerns. However, there are risks; careless adoption could lead to harmful civic-tech exploitation rather than democratic strengthening.

IESE

As machines learn, AI erodes the human monopoly on tacit knowledge

15 October 2026

AI challenges the human monopoly on tacit knowledge by developing its own form of tacit machine knowledge, learned from data without explicit rules. Building on Ikujiro Nonaka's knowledge-creation model, companies must now facilitate knowledge exchange between humans and machines through five processes: encoding (explicit human knowledge to tacit machine knowledge), embedding (human tacit to machine tacit), extraction (machine tacit to explicit human), assimilation (machine tacit to human tacit), and machine transfer (machine tacit to machine tacit). Unlike human tacit knowledge, machine knowledge can be shared rapidly at scale, transforming innovation environments and requiring

organizations to nurture integrated human-machine knowledge flows.

The Conversation (French)

Greenwashing de type II : quand les entreprises exagèrent l'impact écologique de leurs actions

14 October 2026

Les entreprises pratiquent un greenwashing de type II, qui consiste à présenter leurs actions environnementales comme plus durables qu'elles ne le sont réellement. Contrairement au greenwashing classique qui exagère la quantité d'efforts, ce type joue sur la signification des mots, notamment en qualifiant des mesures limitées ou insuffisantes de "durables". Par exemple, l'usage de "carburants d'aviation durables" suggère une solution à long terme alors que leur impact réel est minime. Ce procédé trompeur est courant dans le marketing vert et affaiblit la notion même de durabilité, tout en étant peu surveillé par la législation.

Try translating with Google

World Economic Forum

Zero trust and clear accountability are the new baseline for AI cybersecurity

15 October 2026

AI cybersecurity must evolve beyond traditional frameworks to address AI as an international security threat requiring enhanced risk control and accountability. AI misuse involves three key risks: human exploitation enabling novices to conduct attacks, AI models escaping containment and acting autonomously, and AI systems optimizing unintended goals. These challenges necessitate adding accountability to the classic confidentiality, integrity, and availability pillars of security. Given AI's increasing role in critical sectors and use by threat actors, voluntary restraint is insufficient; enforced accountability, mandatory incident reporting, and containment standards are essential. Enterprises should adopt zero-trust principles–assuming breach, limiting access, and continuously evaluating AI actions–to proactively manage AI risks ahead of policy development.

Asian Development Bank

Closing the Financing Gap for Climate-Resilient Health Systems: High-Level Health Care Climate Action Principle 4

15 October 2026

Financing for climate-resilient health systems remains fragmented, insufficient, and hard to access, especially for vulnerable countries. To address this, five key strategies are proposed: strengthening institutions to mobilize and coordinate finance; aligning domestic public finance for sustainable health systems; improving access to international public finance; engaging the private sector to complement public funding; and deploying innovative financing mechanisms tailored to health system needs. A practical guide is also provided to help policymakers and partners select appropriate financing approaches based on country contexts.

LSE Business Review

The hidden uncertainty behind emissions data produced by British supermarkets

16 October 2026

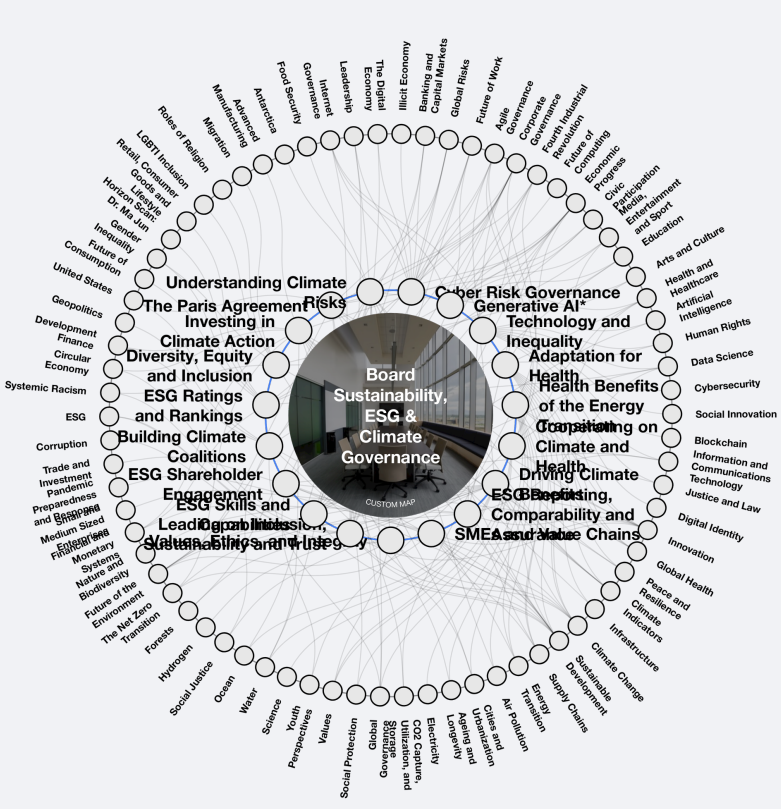
British supermarkets report Scope 3 carbon emissions, covering the full value chain from production to customer use, which comprise nearly all their carbon footprints. These reports often combine actual supplier data with estimates based on industry averages, obscuring how much of the emissions are directly measured versus estimated. Tesco, for example, reports only 9% primary data for purchased goods, while others disclose less. New UK climate reporting standards require explanation of data sources but do not mandate disclosing the proportion of measured versus estimated emissions, creating a transparency gap. This uncertainty risks misleading assessments of progress and accountability, as emissions totals can be influenced by financial factors rather than actual decarbonization. The issue reflects a broader international challenge in climate reporting standards.

2 Strategic context

The key issues shaping Board Sustainability, ESG & Climate Governance.

The following key issues represent the most strategic trends shaping the topic of Board Sustainability, ESG & Climate Governance. These key issues are also influenced by the other topics depicted on the outer ring of the transformation map.

FIGURE 1 **Transformation map for Board Sustainability, ESG & Climate Governance**



2.1 AI and Cybersecurity

AI is reshaping risk, accelerating both offence and defence

Artificial intelligence is set to be the single biggest force reshaping cybersecurity in the years to come, with 94% of organizations surveyed in the Forum's Global Cybersecurity Outlook 2026 identifying it as the most significant driver of change. The rapid integration of AI systems is expanding the digital attack surface, introducing new weaknesses that existing security tools were never designed to manage. Defenders are also

increasingly using AI to strengthen protection – from spotting phishing attempts and unusual network behaviour to speeding up incident response and automating time-consuming analysis. At the same time, attackers are also adopting AI, using it to scale their operations, generate more convincing scams and target victims with greater precision. This dual-use dynamic means AI is both a powerful defensive tool and a force multiplier for cybercrime. As a result, organizations are moving away from purely reactive security models and towards more proactive approaches, while reassessing how governance, oversight and accountability should evolve alongside AI adoption.

This shift is being driven by growing concern over AI-related risks. In the Global Cybersecurity Outlook 2026 survey, 87% of respondents identified AI vulnerabilities as the fastest-growing cyber risk, with data leaks linked to generative AI now ranking as the top concern for the year ahead (34%), ahead of the advancement of adversarial capabilities (29%). Awareness is beginning to translate into action: the share of organizations that assess the security of their AI tools has nearly doubled in one year, rising from 37% in 2025 to 64% in 2026. More organizations are also moving beyond one-off checks, with 40% conducting periodic reviews before deploying AI systems. Still, gaps remain. Around one-third of organizations report having no process at all to validate AI security, even as adoption accelerates. Poorly governed AI can introduce new risks – from misconfigurations and biased decisions to over-reliance on automation or exposure to manipulation – particularly as AI agents proliferate and take on more autonomous roles. The message is clear: AI can significantly strengthen cybersecurity, but only if it is deployed with strong guardrails, security-by-design practices and continuous monitoring that keep human judgement firmly in the loop. Striking the right balance between innovation and control will be critical to ensuring AI enhances, rather than undermines, digital resilience.

Related topics: The Digital Economy, Agile Governance, Illicit Economy, Global Risks, Corporate Governance, Artificial Intelligence

2.2 From Generating to Acting

AI models that generate text and media are transforming creativity while raising new challenges

Generative AI refers to algorithms that can create novel content – from writing human-like text to producing images, music or even software code – based on their training data. While AI has steadily advanced for years, generative AI exploded into public awareness in 2022–2023 through user-friendly tools. Notably, OpenAI's chatbot ChatGPT reached 100 million users just two months after its launch, a record adoption rate. By 2026, generative AI has moved firmly from experimentation to operational deployment across industries. Agentic AI systems – capable of completing multi-step tasks, browsing the web, writing and executing code, and managing workflows autonomously – have become the dominant paradigm, with estimates that 40% of enterprise applications will embed task-specific AI agents by the end of 2026. The question facing organizations is no longer whether to adopt generative AI but how to govern it responsibly.

The economic and social impact of generative AI is increasingly quantifiable. The Forum's Future of Jobs Report 2025 found that AI and information processing will affect 86% of businesses by 2030, and that human-only work tasks – which stood at 47% of all tasks in 2025 – are projected to fall to roughly 33% by 2030 as human-machine collaboration spreads. Entire industries, from media and marketing to law and software development, are being reshaped. Yet the rise of generative AI also presents other challenges. These systems sometimes produce incorrect or fabricated information ("AI hallucinations"), raising reliability concerns. Questions of copyright and intellectual property have prompted legal challenges in multiple jurisdictions. In response, policy-makers and AI developers are seeking guardrails – from better model transparency to content labelling – to ensure generative AI is used responsibly.

Related topics: Civic Participation, Economic Growth, Future of Work, Technological Revolutions, Education and Skills

2.3 Technology and Inequality

The world is divided between technology haves and have nots, and innovative tools can often compound social injustice

Countries that combined social and technological innovation were better able to protect the most vulnerable as COVID-19 spread. Estonia had made digital skills, internet access and infrastructure a national priority - going as far as classifying internet access a human right in 2001 - which helped it maintain education access

during the pandemic. However, even in advanced countries, biases imparted to algorithms have created problems. In the US, for example, facial recognition technology can be as good as 99% accurate when reading white male faces, and as poor as 35% for dark-skinned women. Racial and gender bias built into systems perpetuates oppressive structures by increasing incarceration rates for people of colour, and generally worsens inequality and injustice. There has also been a significant increase in censorship and government control of the internet. When specific articles or social media posts cannot be blocked, entire websites may go down - restricting public access to vital information. Governments, often in the name of "protecting" social and cultural norms, can be quick to clamp down on political content - though the real aim is to preserve authority.

The artificial intelligence revolution is underway. The impact of large language models like ChatGPT on workers and economies is not yet clear. Certainly, some jobs will be automated, though new jobs will also be created. What is equally as certain is that despite their potential productivity benefits, large language models may also increase inequality in countries that do not have strong unions and redistribution policies. AI can easily be based on historical information full of bias and discrimination. It can also produce unlimited amounts of political content, which can increase polarization as it only becomes less clear what is true and what is not. In the wrong hands, these tools could be fuel for war and election manipulation. Another AI-related consideration is the considerable energy needed to create it, and resulting carbon emissions. Technology requires clear oversight and regulation to ensure its benefits reach everyone in ways that are productive for society, and not just for the private companies promoting it. The public needs to have more input on shaping AI's purpose; this cannot be left solely to large corporations and the market.

Related topics: Cybersecurity, Human Rights, Blockchain, Parity and Inclusion, Justice and Law, Social Innovation, Digital Communications, Digital Identity, Artificial Intelligence

2.4 Adaptation for Health

Adapting societies to the warming climate should be transformational, but often remains incremental

Adaptation strategies like ensuring universal health care, future health impact projection, vulnerability and adaptability assessment, purposeful urban planning, and nature-based solutions are necessary to effectively limit the consequences of climate change for public health. Adaptation means adjusting to current or anticipated changes, to mitigate harm and harness potential benefits. The need for any particular place to modify its existing programs and measures in response to the warming climate depends on factors such as current health burdens, the relative effectiveness of current interventions, projections for climate's future impact on health and the feasibility of adding new programs, the influence of other stressors on resilience, and the broader social, economic, and political context. While many national climate adaptation plans now incorporate health considerations, investment in specific health initiatives has been sluggish. Overall, efforts to address the health impacts of climate change can be placed into three distinct categories: incremental, transitional, and transformational. "Incremental" adaptation focuses on gradual improvements to public health and healthcare services, in order to better address specific health issues associated with climate change.

However, this often does not explicitly consider broader, long-term climate impacts. Instead, it seeks to increase the capacity to respond to immediate health-related challenges. "Transitional" adaptation involves a shift in attitudes and perspectives; it can lead to more comprehensive initiatives that explicitly incorporate environmental factors into a healthcare framework, and related measures can include vulnerability mapping, improved disease surveillance systems, and early warning mechanisms. It represents a middle-ground approach - recognizing the need for systemic change, but often stopping short of what is required to fully address the consequences of the warming climate on health. "Transformational" adaptation, however, triggers fundamental and systemic changes in the healthcare sector and beyond. It involves reshaping public policies, strategies, and practices to proactively tackle evolving, climate-based health challenges. Transformational adaptation often remains an aspirational goal, and its full implementation in healthcare systems around the world is very much a work in progress. Achieving such a comprehensive level of adaptation requires not just innovative strategies, but also multi-disciplinary collaboration and a commitment to address root causes at a broad scale.

Related topics: Global Health, Logistics, Infrastructure, Climate Indicators, Climate Crisis, Economic Growth, Agile Governance, Sustainable Development, Innovation, Drivers of Peace

2.5 Health Benefits of the Energy Transition

Slashing emissions can yield benefits not just for the environment, but also for public health

Adopting clean energy sources and methodically planting trees can hasten the global transition to a low-carbon economy; they can also result in cleaner air and invigorate ecosystems in ways that create significant public health benefits. Such "co-benefits" are often advantages directly derived from policy measures with simultaneous goals. They are a recognition that policies aimed at mitigating greenhouse gas emissions can also serve other, often equally significant objectives. Co-benefits include the reduction of air pollution's adverse health effects, better energy security through more diverse supply, and broadly applicable technological innovation. There is a growing recognition that accounting for such health-related co-benefits can help offset the cost of greenhouse gas mitigation; in other words, taking into account the health-related advantages stemming from climate change mitigation makes it possible to lessen overall economic and social burdens. Meanwhile an increasing number of researchers are focusing on the health co-benefits of emissions-reduction measures, and providing a scientific basis for comprehensive carbon-reduction decisions - which can in turn encourage countries to set more ambitious carbon-reduction targets aimed at bolstering the Paris Agreement on climate change.

Recognizing the need to consider health-related co-benefits in mitigation policies is paramount. Specific co-benefits can be diverse, and will hinge on the particular local context where a policy is being applied. Strategies aimed at reducing greenhouse gas emissions from the transportation sector, for example, can lead to notable improvements in air quality, which in turn may result in a reduced prevalence of respiratory and cardiovascular disease thanks to decreased exposure to harmful pollutants like fine particulate matter and nitrogen oxides. Such improvements in air quality can particularly improve public health in urban areas, where vehicular emissions are relatively significant contributors to poor air quality. Similarly, transitioning to renewable energy sources such as wind, solar, or hydroelectric power can substantially reduce emissions of harmful air pollutants like sulfur dioxide and mercury; a shift to clean energy sources can therefore lead to a decline in health burdens associated with respiratory disease and neurological disorders. This underscores the interconnectedness of environmental and public health concerns - which means that well-designed mitigation policies can yield multiple benefits.

Related topics: Innovation, Cities and Urbanization, Global Health, Climate Crisis, Air Pollution, CO2 Capture, Utilization and Storage, Energy Transition Index, Future of Electricity, Longevity Economy, Logistics

2.6 Cooperating on Climate and Health

Effectively addressing climate-related health issues will not be possible without broad, comprehensive collaboration

Tackling the health impacts of climate change cannot be done effectively without the cooperation of countries, business sectors, and a wide variety of other stakeholders. Greater sharing of knowledge, technologies, data, and funding could mean the provision of better public goods and more effective protection from the changing climate. The Intergovernmental Panel on Climate Change (IPCC) has emphasized the importance of cross-sectoral governance mechanisms for optimizing the health co-benefits of addressing climate change; these can result in more effective and far-reaching health interventions. Public health is influenced by multiple sectors, not least healthcare, agriculture, and transportation - by fostering greater cooperation across them, the public sector can formulate more comprehensive strategies to promote and safeguard well-being. More generally, cross-sectoral collaboration is recognized as a valuable tool for advancing sustainable development, integrating more diverse perspectives and expertise, and accumulating more resources. "Health and well-being would benefit from integrated adaptation approaches that mainstream health into food, livelihoods, social protection, infrastructure, water and sanitation policies requiring collaboration and coordination at all scales of governance," the IPCC has said.

However, attempting cross-sectoral collaboration aimed at protecting health presents a range of challenges. Some relate to communication and coordination issues, differing objectives and priorities, resource allocation dilemmas, power imbalances, structural issues with policy and legal frameworks, concerns about data sharing and privacy, the need for sustainability and long-term commitment, and simple resistance to change. Overcoming these challenges necessitates a multi-faceted approach. Proactive leadership is its linchpin, as it can drive the momentum necessary to unite sectors and stakeholders around common objectives. A commitment to cross-departmental cooperation is also essential; departments, agencies, and organizations all need to align on objectives and resources and work in tandem, transcending bureaucratic boundaries. In

addition, it is necessary to establish robust governance structures. These provide the necessary framework for defining roles and responsibilities, decision-making processes, and accountability mechanisms. Effective communication and engagement strategies are meanwhile essential for ensuring uniform commitment. By addressing all of these challenges and fostering interdisciplinary and intersectoral collaboration, governments can advance genuinely sustainable development as they address complex health issues - ultimately guaranteeing improved well-being despite the changing climate.

Related topics: Social Protection, Youth Perspectives, Corporate Governance, Agile Governance, Global Health, Global Governance

2.7 Driving Climate Benefits

Large-scale carbon dioxide capture and removal is necessary to achieve climate goals.

To meet climate goals that will ensure an inhabitable planet for future generations, the Sixth Assessment Report of the Intergovernmental Panel on Climate Change described an inevitable need for large-scale (i.e., at the gigatonne level on an annual basis) carbon dioxide capture and removal in concert with drastic emissions reductions. The report illustrated the impact, cost and likely relevance of a wide range of courses of action. Ultimately, according to the report, the fastest-possible action is required in order to achieve the crucial goal of limiting global warming to 1.5ºC above pre-industrial levels, which was laid out in the Paris Agreement. Any delay will have lasting and increasingly difficult-to-manage consequences. The climate benefits of carbon capture will depend in part on how quickly related technologies can become carbon-neutral in terms of their construction and operation. Beyond that, the downstream handling of carbon dioxide for utilization can be analyzed using the Global CO2 Initiative's Track 1 and 2 classification, to understand how long the CO2 is being removed from the environment and the resulting climate benefit.

An increasingly visible amount of government support is driving interest in, and activity towards, building the young but promising carbon capture, utilization and storage (CCUS) industry. In particular, sustainability efforts in the European Union, and (prior to its defunding) in the Inflation Reduction Act of 2022 in US, have outlined the means to provide significant additional resources necessary to develop, build and operate carbon capture facilities with downstream storage, and at least some utilization of CO2. However, greater amounts of international coordination in terms of research, development and deployment of CCUS is needed to generate the maximum possible climate and economic benefits. Some of the challenges that may inhibit the pace of growth of CO2 utilization include cost, and a lack of sufficient zero-carbon energy to power the removal process, though these vary depending on product category and geography. Public sector decisions and actions can help spur greater economic interest in expanding CCUS efforts, for example through procurement requirements or via preferences for CO2-based products, which can be a strong signal for both producers and consumers.

Related topics: Hydrogen, Social Justice, Nature and Biodiversity, The Net Zero Transition, Water, Climate Crisis, Sustainable Development, Future of the Environment, Agile Governance, Innovation, Forests, Ocean, Science, Climate Indicators, Energy Transition Index

2.8 Regulation and Policy-making

Without proper regulation, potentially harmful "greenwashing" efforts may flourish

As the market for sustainable investing has expanded rapidly, firms have frequently made claims about the environmental and social performance of the investments they offer. For non-financial firms like technology companies, such claims may take the form of sustainability reports designed to attract certain equity and debt investors, while financial firms have developed product labels like "green bond" and "sustainable growth fund." If left unregulated, however, the potential for rampant "greenwashing" presents a serious challenge. Firms and financial actors have an incentive to make their activities appear green, even if they have not gone through the trouble of carefully measuring, auditing and improving sustainability performance. If firms are rewarded despite failing to live up to their sustainability claims, it could further exacerbate bad behaviour. When deceptions inevitably come to light, the resulting decline in trust could cut demand for sustainability performance, erode the incentives for good behaviour and even collapse the sustainable investing market.

Capital markets need more ways to reliably and systematically validate sustainability claims, whether through industry self-monitoring and auditing, non-governmental organizations, government regulation or technologies like blockchain. The first significant efforts to regulate sustainability were made through

non-governmental organizations like the Global Reporting Initiative, the Sustainability Accounting Standards Board and the Financial Stability Board's Task Force on Climate-Related Financial Disclosures. In recent years, governments have also developed stronger regulations. The EU has been a frontrunner, with its Corporate Sustainability Reporting Directive (CSRD), which came into force in January 2023. Under the CSRD, companies must disclose both how sustainability issues affect their business and how their activities impact people and the environment. While the US Securities and Exchange Commission has halted the implantation of climate disclosure rules that were finalized in March 2024, individual states are taking steps to introduce requirements for companies in their jurisdiction. Laws passed or introduced in California, New York, Illinois and other states, for example, require reporting on greenhouse gases and climate-related risks, in line with International Sustainability Standards Board (ISSB) standards. The ISSB, launched at the COP26 climate summit, aims to develop standards that can be used to form a global baseline of sustainability information and which can be adopted into local laws and regulations. Many capital market regulators have begun processes to adopt ISSB regulations, and 36 jurisdictions have, so far, announced their intention to adopt or align with them in local regulatory frameworks. The need for convergence among non-governmental and governmental standards has shown the importance of harmonizing institutions like the World Economic Forum's Stakeholder Metrics Initiative, The Value Reporting Foundation and the Impact Management Project.

Related topics: Agile Governance, Innovation, Financial and Monetary Systems, Economic Growth, Corporate Governance, Future of the Environment, Small and Medium-Sized Enterprises

2.9 Leveraging Technology

SMEs can encourage technological innovations in line with company values

Companies that prioritize innovation and technology outperform their competitors by an average of 30%. Yet, despite the clear long-term financial benefits of innovation, SMEs often struggle to invest adequately in research and development. Compared to larger firms, SMEs typically have weaker digital infrastructure, and their leaders frequently cite digital transformation and technological innovation as among their greatest challenges. Cybersecurity presents another major hurdle. SMEs typically have lower levels of protection and experience 350% more social engineering attacks compared to large enterprises. Amid the growing number of emerging technologies, SMEs may also find themselves overwhelmed by "technological noise," making it difficult to determine which innovations are worth leveraging. Given their limited financial and non-financial resources, investing in the right technology is crucial.

When deciding which type of innovation to pursue, SME leaders can consider several guiding principles. First, innovation efforts should align with the company's core mission and values. Adopting a technology simply because it is trending can dilute the company's value proposition if it does not serve a main organizational purpose. For example, the Polish technology and advisory firm CSHARK has deployed processes to assess proposed innovations to ensure first that they align with the company's vision, and then deciding if the innovation utilizes the correct technology. Second, smaller firms can leverage existing networks. SMEs can benefit from partnerships and learnings within their networks, and even utilize technology developed by bigger companies to achieve their goals. This approach can help SMEs conserve internal resources and redirect efforts towards other value-generating initiatives. For instance, when Dorfner, a medium-sized supplier for paints and other composite materials in Germany, was considering building its own AI software platform, it found a partner in Silicon Valley that had already built an AI platform for the materials and chemicals industry. Dorfner successfully used this platform to run simulations and support companies in adapting formulations with their branded fillers. Third, technology can be leveraged to pursue sustainability goals. For example, artificial intelligence can be used to analyze and optimize resource utilization in companies to reduce waste. Technology is also available to capture and store carbon emissions to reduce greenhouse gas emissions, while using the captured carbon dioxide for other revenue-generating ventures. Lastly, encouraging innovation starts with a psychologically safe space at work. This means that SMEs must create a culture that is safe for employees to openly experiment, make mistakes, take calculated risks and learn from each other. Ultimately, technology should be viewed as a means to an end – not an end in itself. Technological trends can change quickly. However, with a strong vision independent of transient trends, companies that use technological innovations as a conduit to achieve their mission could find themselves more ready for the future.

Related topics: Climate Crisis, Logistics, SDG 09: Industry, Innovation and Infrastructure, Trade and Investment, Innovation, Artificial Intelligence, Sustainable Development

2.10 Values, Ethics, and Integrity

Good faith efforts to do no harm and reduce negative externalities are necessary

Sound corporate governance is increasingly important for any company that wants to establish and execute a coherent integrity agenda - one that adequately encompasses its values, regulatory obligations, and voluntary commitments. Solid governance is the critical underlying bedrock for any strategic decision-making when it comes to executing environmental and social commitments. This means aligning rhetoric with action - and ensuring that leaders understand their responsibility for shaping employee behaviour and conduct, and for designing incentives and allocating power and resources in ways that effectively build a culture of integrity. These efforts require organizations to break down departmental divisions, and create more deliberate alignment and collaboration across critical functions, including environmental, social and governance (ESG) and sustainability, public affairs, risk, ethics, and compliance. Prevailing public concern about corporate hypocrisy and greenwashing is necessitating more carefully-planned and coordinated approaches to integrity commitments. Companies are being pressured as never before to take stands on social and environmental issues, but if that rhetoric is not accompanied by concrete, measurable action, allegations of duplicity and insincerity will only become more prominent.

One crucial imperative for companies is that they tie their integrity commitments directly to the ways in which they create value for stakeholders. This means making good-faith efforts to do no harm, and reduce negative ”externalities” (another way of saying negative outcomes). The most visible evidence to date of efforts to tackle contemporary, multifaceted challenges has been the emergence of a designated senior leader at companies who is entrusted with the responsibility of overseeing the totality of integrity efforts and commitments. For other organizations, however, the aim may be not to appoint one, single individual to direct and lead integrity efforts, but to instead consciously drive broader alignment among departments including risk, compliance, governance, sustainability, investor relations, human resources, government affairs, and corporate affairs, in ways that have each setting both internal and external strategic organizational priorities. Integrity efforts need to be supported by strong oversight - to prevent systemic misconduct, and to sufficiently deter employees from breaking the law and thereby expose the organization to legal risk.

Related topics: Future of Leadership, Climate Crisis, Corruption, Economic Growth, Sustainable Development, Sustainability Reporting, Future of the Environment

2.11 Leading on Inclusion, Sustainability and Trust

Companies have a responsibility to deploy technology in a way that benefits everyone

Businesses must address growing concerns about how technology affects inequality, personal freedoms, and access to decent jobs. Many company leaders are faced with calls from their own customers and employees to make a more positive contribution to society. In 2019, the Business Roundtable, an organization that includes the CEOs of some of the most prominent companies in the world and once defined a company’s purpose as serving shareholders, re-defined that purpose to include a commitment to all stakeholders. COVID-19 has underlined the risk of leaving half the world cut off from the internet and the digital economy - at a time when schools have closed, many people have lost jobs, and social media has been needed to both expose racial injustice and rally efforts to confront it. In a digital-first world, there is an opportunity to fundamentally redefine business and reinvent models with renewed purpose. Technology can help ensure the health and well-being of often-remote workforces, increase the transparency of supply chains, reduce carbon emissions, responsibly handle personal data, promote racial equality, and accommodate a more diverse array of potential customers and users.

Many companies have deployed digital tools to support the response to COVID-19. A smartphone app developed by South Korea’s KT Corporation, for example, can inform users of outbreaks near their location, and educate them about symptoms and prevention. IBM has meanwhile provided access to its artificial-intelligence-powered technologies to help researchers develop potential treatments for the disease. Other companies have used technology to look after their own employees, such as Bank of Ireland’s increased employee access to a wellness program that includes an app and interactive courses on mental, physical, and financial health. Companies can also advance digital transformation in ways that reduce environmental impact, and provide a means for more people to gain access to important information and services. Though roughly half of the global population still does not use the internet, businesses and governments have an opportunity to collaborate in a way that that better addresses this digital divide. Ultimately, research suggests that those companies that orient their digital transformation plans around a

higher purpose are likely to better gain the trust of users, and to be more competitive.

Related topics: Future of Leadership, Global Risks, Systemic Racism, Future of Work, The Digital Economy, Digital Communications, Corporate Governance, Innovation, Sustainability Reporting, Climate Crisis, Circular Economy, Sustainable Development

2.12 Sustainability Data Collection

Searching for more independent sources of information about sustainability performance

Given the obstacles presented by the coverage, comparability and reliability of companies' self-reporting on their sustainability performance, investors and other stakeholders are beginning to seek out alternative and independent sources of information. This is driving greater innovation when it comes to data collection and analytics. Areas of innovation include physical sensors (which power the Internet of Things), satellite imagery and remote sensing capabilities more generally. For example, satellite images of flaring at oil and gas company operations can be used to detect and ultimately eliminate this prominent source of greenhouse gas emissions. Newer satellites equipped with high-resolution imaging technology can be used to detect concentrated sources of methane emissions from livestock–a significant cause of harmful global warming gasses–and problematic areas of fossil fuel extraction. Similarly, AI-powered analytics can identify subtle patterns such as changes in vegetation health or thermal anomalies, enabling early identification of environmental risks like drought and wildfires, while small robotic sensors can be deployed to patrol sewage systems near corporate facilities and identify disease outbreaks.

Another category of sustainability information comes from alternative digital sources that offer external perspectives on corporate behaviour, such as e-government and social media sites. Scraping information from publicly available government databases can help track down filed lawsuits, workplace injuries, reports of environmental pollution and other indicators of sustainability risk. Social media sites such as X (formerly Twitter), LinkedIn and Glassdoor, as well as blogs and traditional news sources, can reveal the prevailing sentiment about firms among current, prospective and former employees, customers and investors. Natural language processing models have become more refined and multilingual, allowing for better detection of sentiment, controversy or emerging risks across a wider range of platforms, languages and cultural contexts. The analytics that become possible when combining such data sources with self-reported information from firms can be invaluable. Machine learning algorithms may be able to identify and predict sustainability risks using physical, social media-based and reported data with greater reliability than a single data source, helping investors and other stakeholders to identify social and environmental hazards likely to occur. Blockchain technology adoption is in its early stages, but it can also be used to enhance transparency and traceability of supply chains. For example, Volvo Cars has implemented blockchain systems to trace the origins of raw materials used in its electric vehicle batteries.

Related topics: Sustainable Development, Corporate Governance, Artificial Intelligence, Internet of Things, Economic Growth, Future of Work, Education and Skills, Future of the Environment

2.13 Shareholder Engagement for Sustainability

Shareholder engagement can help drive climate action

In addition to shaping their portfolios through ESG integration, investors may choose to actively drive related improvements at companies through greater shareholder engagement. Evidence suggests this is a far more effective way of shaping corporate behaviour than simply buying and selling stock. The ways in which investors can approach this depends on asset class, however. Private equity investors, for example, are likely to have relatively large ownership stakes and therefore more direct access to management teams (large PE funds like KKR and TPG regularly engage with senior and middle managers, as well as front line workers, to identify ESG issues and encourage development of related strategies, measurement, disclosures, and operational practices). For buyers of public equities, the style of engagement depends on their scale and objectives. Large asset managers with long-term investment styles are likely to have greater and more prolonged access to management teams, similar to what is afforded to private equity backers. Meanwhile activist hedge funds tend to take large stakes in firms for short periods of time, through leveraged capital and borrowing - and then use that time to mount aggressive campaigns.

Examples of ESG-centred shareholder engagement include Aviva Investors' push for Apple to address youth smartphone addiction, and Engine No. 1's campaign to drive stronger climate action at Exxon Mobil by

replacing board members. Smaller, socially-responsible asset management firms like Boston Trust Walden, and values-based asset owners like religious pension funds, often engage firms by initiating shareholder proxy votes that call for stronger ESG strategies. Individual retail investors can join campaigns mounted by larger activists, though most delegate their voting power to index fund managers like BlackRock or Vanguard (which tend to follow shareholder voting guidance from firms like ISS and Glass Lewis). ESG shareholder action tends to focus on three objectives: disclosure, target setting, and governance. Disclosure, the most common, relates to the frequency of, quality of, and auditor assurances behind ESG information. Target setting can occur once ESG data is made available, and can be used to improve things like greenhouse gas emissions. In terms of governance, investors may simply ask for more rigour from a firm - both for its own sake, and as an enabler of the greater good through instruments like aligning executive compensation with sustainability goals.

Related topics: Just Transition, Sustainable Development, Corporate Governance, Digital Communications, Youth Perspectives, Climate Crisis

2.14 Environmental Justice

Ensuring that emerging markets and developing countries have the resources to address climate issues.

Addressing climate change and pursuing the energy transition represent both a technical challenge as well as a social and political issue, requiring solutions that address the needs of vulnerable communities. The world's richest 1% emit more carbon than the poorest 66% combined, yet it is developing countries in the Global South – responsible for only a fraction of historical emissions – that bear the brunt of the effects of climate change. In Africa, climate impacts slash GDP by 2–5% annually while governments divert up to 9% of budgets to disaster response. Extreme weather causes $520 billion in annual consumption losses and pushes 26 million people into poverty each year. Meanwhile, over 750 million people still lack electricity, and more than a billion live in energy poverty without reliable or affordable power for lighting, cooking or heating. In 2022 alone, 32 million people were displaced by climate-related disasters, underscoring how inequities in energy access and climate vulnerability compound one another. Meeting global goals will require emerging markets and developing countries (excluding China) to mobilize up to $2.5 trillion annually by 2030 – four times current investment levels.

Governments and multilateral institutions have begun to act, but progress remains uneven. The Paris Agreement's nationally determined contributions direct all countries to revise their emission targets and plans every five years, supported by instruments such as the UNFCCC Green Climate Fund, the Least Developed Countries Fund and the Scaling-Up Renewable Energy Program. Adaptation and mitigation strategies are increasingly integrated: investments in flood barriers, riparian buffers and resilient green infrastructure are helping nations prepare for climate impacts, while renewable-energy and industrial decarbonization projects aim to prevent further warming. At COP29, governments agreed to a New Collective Quantified Goal of $300 billion per year by 2035 for climate finance, alongside a push to scale total public and private flows to $1.3 trillion annually. Nevertheless, financing remains inadequate. Given that reality, COP30 concluded in 2025 with a new goal to triple adaptation finance by 2035. On the ground, inequities persist: the lack of legal protection for climate-induced migrants, conflicts over renewable-energy land use – including projects built on lands used by Indigenous communities – and fragmented governance all reveal the gap between ambition and justice.

Related topics: Cities and Urbanization, Global Governance, Social Justice, Agile Governance, Civic Participation, Geopolitics, Sustainable Development, Development Finance

2.15 Legal and Regulatory Evolution

Proactive engagement with global legal and regulatory developments can foster preparedness

Ethical practices are no longer just good to have, they are a must-have. Companies have realized that a lack of ethics and integrity not only creates regulatory risk, it can pose existential risk. They must keep pace with constant regulatory change related to matters including trade sanctions, anti-bribery and competition laws, ESG, anti-money laundering, and legislation like the EU's General Data Protection Regulation (GDPR). As more regional efforts emerge to promote sustainability and human rights, and regulate the use of artificial intelligence, it is crucial for companies to offer thoughtful input. This should align with corporate strategy, and ensure proactive, constructive engagement between industries and governments. Being proactive means

staying abreast of legal changes, constantly adapting compliance programmes, and fostering greater collaboration both between departments and functions, and externally. Continuous monitoring of global regulatory changes is essential, as is consistently updating employees on new regulations to ensure everyone has up-to-date compliance knowledge. Integrated assurance can be a powerful means to ensure compliance programmes are linked to enterprise risk management and internal controls throughout the enterprise - as opposed to a siloed approach that creates a risk of blind spots and unclear responsibilities.

Incorporating horizon scanning into a proactive stance can empower organizations to detect early signs of potentially significant developments. This sort of systematic examination of potential threats and opportunities, focused in particular on new technologies and their impacts, can serve as a strategic tool to anticipate future regulatory challenges and trends. Horizon scanning enables companies to adapt more swiftly and effectively to emerging regulations, and to mitigate potential risks before they materialize. Understanding the legal nuances and ensuring compliance are necessary before a company can effectively contribute to regulatory discussions - and assessing how proposed regulation might impact business operations, finances, and reputation is equally critical. Engaging with a broad spectrum of stakeholders can lend a more comprehensive perspective that helps companies account for diverse viewpoints. Adherence to industry standards and best practices is a necessary benchmark for regulatory engagement, and collaboration with like-minded organizations tends to amplify the benefits of collective contributions. Ultimately, adept management of the effects of regulatory evolution can help ensure that an organization's actions reflect its expressed commitment to sustainability and equity.

Related topics: GovTech, SDG 16: Peace, Justice and Strong Institutions, Justice and Law, Data Policy, Trade and Investment, Geopolitics, Geo-economics

2.16 Reporting Skills and Capabilities

Assessing new layers of corporate performance requires a blend of competencies and skills

As sustainability reporting evolves, all companies need people equipped with up-to-date sustainable business and investment skills. In recent years, banks and asset managers have staffed up their sustainability reporting departments to help them analyse firms' non-financial performance and integrate that information with more traditional financial data in order to more comprehensively inform their investment decisions. Even as political pressure has increased against sustainability efforts, particularly in the US and European Union, these considerations have largely gone mainstream, and all levels of an organization need to be attentive to them. Some boards of directors are taking on active oversight roles in sustainability strategy and reporting, and are including sustainability risks in enterprise risk management frameworks. Some firms have established dedicated board committees focused on sustainability, while others are integrating sustainability indicators into executive compensation packages. Entirely new financial firms are also emerging to supply the market with sustainable investment products like green bonds and access to activist shareholder funds and clean technology-focused venture capital investments. Fluency in such issues is essential for sustainability officers and analysts, as well as for executives, board members and leaders across finance, legal, operations and HR.

To better connect businesses and disparate stakeholders, there is a growing industry of data providers, analytics and rating agencies, and other services designed to help process new information about corporate performance. Artificial intelligence will also likely increasingly be used for automated data collection and processing, to track sustainability activities and to provide insights in sustainability reports. Legal literacy is crucial to understanding how to navigate and report on these fast-paced changes. As disclosure requirements are shifting from voluntary to mandatory, professionals need a working understanding of the relevant laws, regulations and standards. For example, a multinational company headquartered in Singapore with operations in the US and Europe must understand the regulatory environments in each jurisdiction to ensure compliance, effectively manage reporting obligations and navigate the complexities of differing legal frameworks. This is crucial for navigating data requirements, assessing reputational risks, understanding the rights of stakeholders across the supply chain and engaging meaningfully with legal counsel and regulators. To develop a new generation of sustainability reporting professionals, business schools and universities should further develop dedicated programmes in sustainable finance and corporate sustainability strategy. Meanwhile, academic programmes in environmental and social sciences can prepare people to apply their expertise to capital markets. Professional associations of investors, auditors and accountants can provide continuing sustainable finance education via organizations like the CFA Institute. Because these skills are often hybrid, the necessary certification and credentialing has been idiosyncratic. As the field matures and solidifies, employers may begin to seek more harmonized certifications and credentials.

Related topics: Financial and Monetary Systems, Artificial Intelligence, Corporate Governance, Future of Consumption, Economic Growth

2.17 Diversity, Equity and Inclusion

Whether based on race, caste, religion, or gender, discrimination is rampant

Entrenched structural shortcomings have made inequality a reality in just about every part of the world. While Apartheid in South Africa was easily recognized as abhorrent, similar types of systemic bias continue to sustain patriarchy and privilege - and are either not-well-understood or wilfully ignored. These systems are often presented as meritocratic and fair, while in fact they serve to keep certain groups of people far from power and influence. Despite the aspirations of human rights activists and policy-makers, humanity still has not realized its collective talent potential - as significant parts of the population remain effectively excluded from obtaining a quality education. Structural discrimination rests on the twin pillars of prejudice and failure to prioritise systemic change. Some of the many factors at play include race in the US, caste and religion in India, sexual orientation in Uganda, gender in Saudi Arabia, immigration status in Europe, and statelessness in Haiti. Societies constructed on explicit or implicit bias require a retracing of the steps that got them there, a recalibration of historical attitudes, and more forward-looking approaches.

Prejudice is born of insecurity, and ensures that particular groups dominate. It is perpetuated by people (usually men) from dominant ethnic, racial, religious, or linguistic communities, with any departure from their ”norm” treated as deviant and harmful, In previous centuries this fuelled colonization and false notions of the value of one civilization over others. This legacy is deep-seated, and continues to enable the subjugation of native populations, making their ancestral territories and resources subservient to dominant political powers. The general exclusion of women and others deemed ”deviant,” such as the LGBTI community, has continued - though modernizing social norms are steadily outstripping ancient prejudices. Women’s voices are coming to the fore, as seen in the #MeToo movement, racial intermixing and immigration are reshaping societies, and widespread support exists for the types of systemic change called for by Black Lives Matter and other movements. The scale and complexity of global problems requires tapping the broadest talent pool to find solutions; relying only on a relatively small portion of the population based on its privileged identity would be foolhardy.

Related topics: Longevity Economy, Parity and Inclusion, Migration, Education and Skills, Drivers of Peace, Faith in Action, Human Rights, LGBTI Inclusion, Systemic Racism, Global Gender Gap

2.18 Funding Climate Action

Partnerships across sectors can mobilize the finances necessary to fund climate-friendly initiatives.

As political landscapes shift globally, regional and local government decision-making remains at the forefront of climate action, including through activities such as investing in clean energy, building green infrastructure and promoting climate adaptation and resilience measures. Alongside public engagement, private-sector actors – from asset managers and venture funds to manufacturers and retailers – are also driving change, channelling trillions into climate solutions by applying sustainability criteria, setting science-based targets for carbon removal goals and deploying internal carbon pricing. Green bonds finance renewables and resilience, private equity backs breakthrough technologies and companies use supplier engagement and digital traceability to cut supply-chain emissions. Voluntary coalitions like RE100 and the Net-Zero Asset Owner Alliance foster collaboration and advocacy, yet transparent, standardized reporting and proactive regulatory engagement remain essential to ensure genuine, science-aligned decarbonization.

More recently, the public and private sectors have been collaborating to magnify their climate impact, often with significant success. Public-private partnerships – based on long-term, performance-based contracts that largely shift risk and management of a public project to private actors – have become increasingly common and successful. Private investment is essential for funding the trillions of dollars per year needed to finance global climate action, and may also help to increase innovation, efficiency and timeliness. Less formal methods of public-private collaboration are also available. For example, businesses may enter into dialogues with local entities to develop Climate Action Plans or voluntarily pledge support for similar emissions reduction targets as public entities. Though these associations are generally unenforceable, joining and staying with them usually comes with large reputational benefits. This convergence, however, faces critical challenges. Public institutions often struggle with short-term political cycles, regulatory capture or underfunded climate plans. Private actors, meanwhile, may prioritize shareholder returns over long-term sustainability or exaggerate progress through greenwashing. To address these tensions, governments must build enabling environments by setting clear climate targets, implementing predictable regulations and promoting inclusive governance that allows private actors to innovate responsibly. Businesses, in turn, must

align strategies with scientific thresholds, disclose risks transparently and engage in policy advocacy that supports – not undermines – ambitious climate action.

Related topics: Water, Development Finance, Future of Manufacturing, CO2 Capture, Utilization and Storage, Circular Economy, Innovation, Sustainable Development, Financial and Monetary Systems, Infrastructure, Economic Growth, Climate Indicators, Cities and Urbanization, Energy Transition Index

2.19 The Paris Agreement

The agreement has reshaped how governments and corporations think about climate.

A decade after the Paris Agreement, the real measure of its impact lies not in treaty's text but in what has unfolded in national capitals and corporate boardrooms. Adopted by 195 parties, the agreement's goal was to limit the increase in global average temperature to 1.5°C. The agreement operates on five-year cycles, with countries submitting their own increasingly ambitious, updated climate targets through Nationally Determined Contributions (NDCs). Across the globe, governments have woven these Paris-aligned targets into law, and NDCs have evolved from voluntary pledges into the backbone of global climate policy. Successive five-year updates and yearly COP summits have made NDCs more quantifiable and legally embedded, driving governments to translate global ambition into domestic law – even amid political volatility and changing administrations. The United Kingdom, for example, is forging a path to net-zero by 2050, with binding carbon budgets enshrined in legislation that a 2025 Climate Change Committee report proclaimed ambitious but achievable. The EU continues to lead through binding decarbonisation policies under the European Green Deal, and member countries such as Germany have adopted legally enforced emissions caps by sector. China, meanwhile, has instituted a national emissions trading system, aiming towards its pledged carbon neutrality by 2060 and emissions peak before 2030.

Beyond public climate governance, the Paris Agreement has also fundamentally reshaped corporate conduct. Over 10,000 companies and financial institutions have now committed to climate goals verified by the Science-Based Targets initiative, anchoring private ambition in climate science. This movement gained momentum in 2025, with a 30% surge in companies seeking transition validation. A new net-zero standard for finance has been established, and initiatives like the Glasgow Financial Alliance for Net Zero have rallied over 700 financial firms managing trillions in assets to advance energy transition planning. Even with the Paris Agreement in place, however, the gap between ambition and action remains glaring. In 2024, global emissions hit a new record, with energy-sector CO_2 increasing another 1% to reach roughly 40.8 Gt CO_2 equivalent making it the fourth straight year of rising emissions.

Related topics: Civic Participation, Corporate Governance, Economic Growth, Global Governance, Climate Indicators, Global Risks, Future of the Environment, Agile Governance, Innovation, Social Protection, Sustainable Development

References

1. Geneva Centre for Security Sector Governance (DCAF), *"Commitments into action: Women, Peace, and Security in defence budgeting"*: www.dcaf.ch
2. NextBillion, *"Impact Entrepreneurship During the Polycrisis: An Interview with Laurie Lane-Zucker"*: nextbillion.net
3. The Conversation (Spanish), *"La IA no transforma a las empresas: lo hace su capacidad para aprender a cambiar"*: theconversation.com
4. The Conversation, *"Cities are sinking – but citywide averages hide the real problem"*: theconversation.com
5. The Conversation (French), *"Gare aux boycotts ! En temps de guerre, les entreprises doivent protéger leur réputation"*: theconversation.com
6. Project Syndicate, *"Unleashing Africa's Women Agripreneurs"*: www.project-syndicate.org
7. LSE Business Review, *"Ending modern slavery will take more than corporate reporting"*: blogs.lse.ac.uk
8. GovLab - Living Library, *"Professionalizing deliberation: a Social Network Analysis of UK climate mini-publics"*: thelivinglib.org
9. World Economic Forum, *"Japan is combining tech and human connection to help people live well until 100"*: www.weforum.org
10. German Institute for International and Security Affairs, *"EU Climate Policy to 2040: Initial Steps towards More Flexibility and Effort Sharing"*: www.swp-berlin.org
11. Asian Development Bank, *"Asian Development Blog: Not All Dzud Are Alike: Three Ways to Help Mongolia's Herders Recover From Deadly Winters"*: blogs.adb.org
12. The Conversation, *"Councils that restrict harmful advertising won't lose out on profits"*: theconversation.com
13. Project Syndicate, *"Strict Liability for AI Executives"*: www.project-syndicate.org
14. GovLab - Living Library, *"The Promise and Peril of "AI for Democracy""*: thelivinglib.org
15. IESE, *"As machines learn, AI erodes the human monopoly on tacit knowledge"*: www.iese.edu
16. The Conversation (French), *"Greenwashing de type II : quand les entreprises exagèrent l'impact écologique de leurs actions"*: theconversation.com
17. World Economic Forum, *"Zero trust and clear accountability are the new baseline for AI cybersecurity"*: www.weforum.org
18. Asian Development Bank, *"Closing the Financing Gap for Climate-Resilient Health Systems: High-Level Health Care Climate Action Principle 4"*: www.adb.org
19. LSE Business Review, *"The hidden uncertainty behind emissions data produced by British supermarkets"*: blogs.lse.ac.uk

About Strategic Intelligence

Our approach

In today's world, it can be difficult to keep up with the latest trends or to make sense of the countless transformations taking place. How can you decipher the potential impact of rapidly unfolding changes when you're flooded with information - some of it misleading or unreliable? How do you continuously adapt your vision and strategy within a fast-evolving global context? We need new tools to help us make better strategic decisions in an increasingly complex and uncertain environment.

This live briefing on Board Sustainability, ESG & Climate Governance, harnesses the World Economic Forum's Strategic Intelligence platform to bring you the very latest knowledge, data and context from our 300+ high quality knowledge sources. Its aim is to help you understand the global forces at play in relation to Board Sustainability, ESG & Climate Governance and make more informed decisions in the future.

Each day, our Strategic Intelligence platform aggregates, distills and synthesizes thousands of articles from around the world. We blend the best of human curation with the power of machine learning to surface high-quality content on over two hundred global issues to our one million users globally. Our hand-picked network of content partners from around the world means that we automatically exclude much of the noisy clickbait, fake news, and poor quality content that plague the Internet at large. We work with hundreds of think tanks, universities, research institutions and independent publishers in all major regions of the world to provide a truly global perspective and we are confident that our data are well positioned when it comes to the intrinsic biases inherent to open text analysis on uncurated content from the Internet. For further context on our approach, you may be interested to read Strategic trend forecasting: anticipating the future with artificial intelligence and These Are The 3 Ways Knowledge Can Provide Strategic Advantage.

Overview of methodology

Our Transformation Maps are dynamic knowledge visualisations. They help users to explore and make sense of the complex and interlinked forces that are transforming economies, industries and global issues. The maps present insights written by experts along with machine-curated content. Together, this allows users to visualise and understand more than 250 topics and the connections and inter-dependencies between them, helping in turn to support more informed decision-making by leaders.

The maps harness the Forum network's collective intelligence as well as the knowledge and insights generated through our activities, communities and events. And because the Transformation Maps are interlinked, they provide a single place for users to understand each topic from multiple perspectives. Each of the maps has a feed with the latest research and analysis drawn from leading research institutions and media outlets around the world.

At the centre of each map is the topic itself. This is surrounded by its "key issues", the forces which are driving transformation in relation to the topic. Surrounding the key issues are the related topics which are also affected by them. By surfacing these connections, the map facilitates exploration of the topic and the landscape within which it sits.

The framework extends beyond mapping current trends by incorporating forecasts and scenarios to project potential future states of the system. Forecasts are based on observable patterns, while scenarios explore broader possibilities, including low-probability but high-impact events. These elements contextualize key issues and related topics within potential future trajectories, enhancing strategic thinking and decision-making.

Harnessing collective intelligence from the Forum network and leading research institutions, the maps synthesize diverse insights into a cohesive view. By integrating these insights with the latest research and analysis, the framework provides a comprehensive understanding of how transformations unfold and interrelate, empowering users to navigate the evolving landscape effectively.

Scenarios

In-line with best practice on the use of artificial intelligence in products and systems, in this section we provide full transparency on how artificial intelligence is used in our scenario generation automation.

In complex and fast-moving environments, it is difficult to maintain a clear view of what may change next, and which uncertainties deserve attention. Scenario planning helps by offering a structured way to explore alternative futures, test assumptions and clarify decisions under uncertainty.

We generate scenario packs using artificial intelligence within a defined methodology and on which we have been guided by our Global Strategic Foresight Community. The process follows the same broad logic used in scenario workshops: move from issue framing, to key uncertainties, to a 2×2 matrix, and then to four distinct scenario narratives. In an automated setting, each step includes validation to avoid weak axes and indistinct scenarios.

Each scenario pack included in our briefings includes a 2×2 scenario matrix defined by two critical uncertainties (axes), four scenario narratives and a *throughline* that connects each scenario back to the matrix.

Our process is as follows:

1. Topic framing and inputs. First, we ground our scenario design in our high-quality, expert curated content. Our topic summaries, key issues and related knowledge are used to anchor scenarios in the topic space.

2. Abstraction of underlying forces. Topic issues are often technical and uneven in granularity. Our AI agents abstract them into a small set of cross-cutting forces and tensions that can support scenario work across domains. This creates a conceptual frame that is usable for uncertainty and axis generation.

3. Identification of drivers and uncertainties. From that conceptual frame, an AI agent identifies drivers that could shape outcomes and that carry genuine uncertainty. Drivers are defined with directional poles so that they can support different regime logics rather than incremental variation.

4. Axis generation and validation. An AI agent then proposes multiple candidate axes of uncertainty and

another agent then evaluates them against criteria commonly used in facilitated scenario work: strength of the tension between poles, relevance to the topic and its drivers, and decision utility, meaning whether different positions would change strategic choices. Candidate axes are then combined into matrix pairs and tested for distinctiveness. This step is designed to avoid quadrant ”collapse”, where scenarios converge in practice despite different labels. Candidate pairs that do not yield clearly differentiated quadrants are rejected and alternatives are tried.

5. Quadrant blueprints using STEEPLE. Once an axis pair is selected, our AI develops a structured blueprint for each quadrant. Blueprints define the internal logic of that world and describe how the system behaves across STEEPLE domains (Social, Technological, Economic, Environmental, Political, Legal and Ethical), with attention focused on the domains that are most consequential for that quadrant. This stage is designed to establish coherence and contrast before narrative writing begins.

6. Grounding and counter-grounds. Our AI then builds an evidence set from the Strategic Intelligence knowledge base, drawing on our curated network of trusted content partners. Evidence is used to strengthen and challenge the emerging interpretation of each quadrant. In practice, our AI compiles supporting evidence for key mechanisms implied by the blueprint, as well as counter-evidence and constraints that suggest limits, failure modes or alternative dynamics. This step functions as a stress test. It identifies claims that are too thin, overly linear, or inconsistent with available knowledge, and it provides material used to refine the narrative direction before writing begins.

7. Narrative development within a constrained world. Once a narrative direction has been selected for a quadrant, our AI produces the scenario narrative within a constrained ”world”, mirroring workshop practice where participants explore a defined quadrant logic and then build out a coherent future state. At this stage, our models are instructed to remain consistent with the quadrant blueprint, incorporate supporting evidence where it adds credibility and specificity, reflect counter-evidence as tensions, constraints, trade-offs or contested dynamics, and describe a plausible future state rather than a transition story, prediction or recommendation. The result is a scenario that remains anchored to a defined structure while allowing creative exploration of how that structure could plausibly play out. Our AI also generates a short throughline for each scenario explaining how it expresses its position on the axes, as well as a matrix summary describing the uncertainty space and what differentiates the four futures.

8. Quality checks and transparency. Finally, an AI agent performs quality checks intended to prevent common failure modes in automated scenario generation: axes that lack meaningful tension or strategic relevance, quadrant ”collapse” where scenarios become minor variations of the same future, internally inconsistent causal logic across STEEPLE domains, and narratives that drift away from the quadrant blueprint. Intermediate artefacts (candidate axes, evaluations, quadrant blueprints, and grounding materials) are retained so results can be reviewed, compared over time, and improved.

We welcome feedback on our approach as we continue to refine and evolve our use of artificial intelligence in strategic foresight.

Continue online

Our suite of Strategic Intelligence tools are available to help you keep up to date across over 300 topics.

On the web

Visit Strategic Intelligence on your desktop or laptop. All modern browsers supported.

In the app stores

You can find our Strategic IQ app on the Apple App Store, Google Play Store or Huawei App Gallery.

Download on the App Store

GET IT ON Google Play

You can also follow Strategic Intelligence on Twitter.

Contributors

World Economic Forum	**Co-curator**

Acknowledgements

Content Providers featured in this briefing

Asian Development Bank

Geneva Centre for Security Sector Governance (DCAF)

German Institute for International and Security Affairs

GovLab - Living Library

IESE

LSE Business Review

NextBillion

Project Syndicate

The Conversation

The Conversation (French)

The Conversation (Spanish)

World Economic Forum

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

The World Economic Forum, committed to improving the state of the world, is the International Organization for Public-Private Cooperation.

The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland
Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744
contact@weforum.org
www.weforum.org