



S&P Global's Top 10 Sustainability Trends to Watch in 2025

Here's what you need to know about the trends that will shape strategy in a challenging year.

4 March 2025 13.30 – 15.00 hrs BKK time

Enterprise with Integrity



Agenda

13:30 – 13:40 | Introduction

13:40 – 14:40 | Deep Dive into Sustainability Trends

14:40 - 15:00 | Q&A Session



Speaker Bio

Sannya Joseph, CFA Head of APAC ESG Specialist, S&P Global Sustainable1



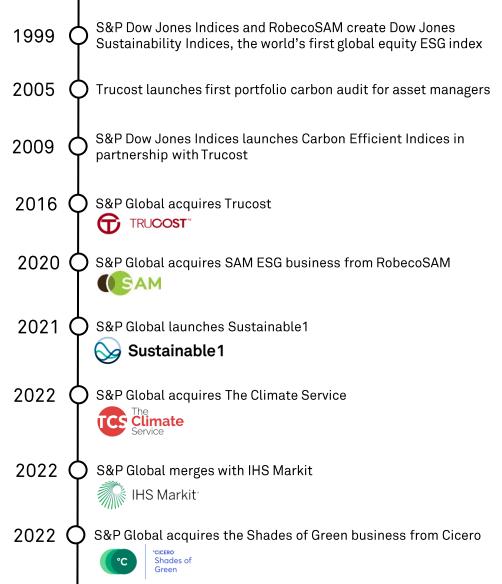
Sannya Joseph focusses on helping financial institutions integrate sustainability into their workflows and reporting requirements in APAC.

She also worked as a Lead Quantitative Specialist for 5 years, focusing on the Investment Management segment, specifically equities. In this role she worked with asset managers across the globe, helping them integrate quant investing techniques within their existing stock selection framework. She began her career with S&P Global in 2009 as part of the technology division that focuses on developing quantitative products.

In addition to her primary pursuits, she also actively collaborates with CFA Society Singapore in furthering thought leadership and supporting education initiatives. She holds a CFA, Engineering degree in Information Technology and a certification in Financial Risk and Investment Management.

S&P Global Introduction















Nature



Policy



Energy Transition



Carbon Market



Sustainability Reporting



Supply Chain



Climate Finance



Just Transition



ΑI



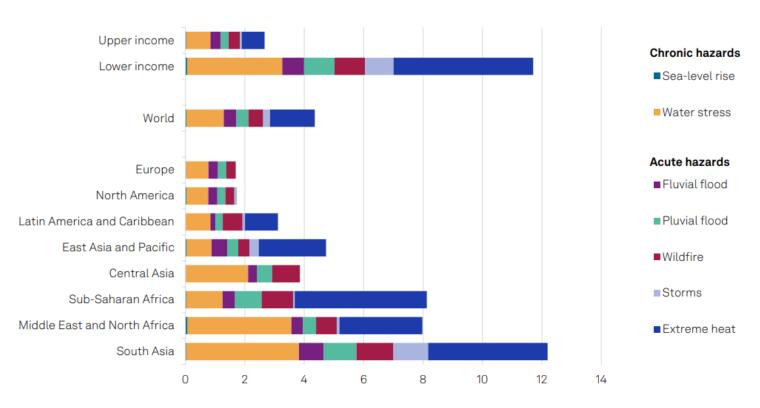
Physical Risk

Physical Climate Risks Are Not the Same for All Regions across the globe

Adapting and building resilience to the physical impacts of climate change remain highly context and location specific, influenced by countries' economic geography

Chronic risks dominate potential losses in Asia-Pacific and MENA

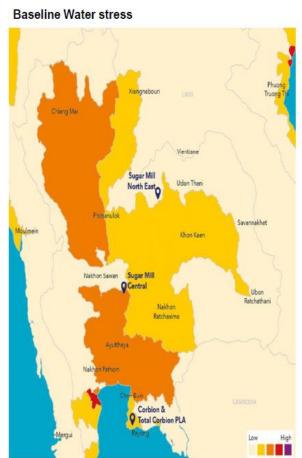
Annual GDP at risk by 2050 by climate hazard and region, under a slow transition scenario (SSP3- 7.0) absent adaptation (%)



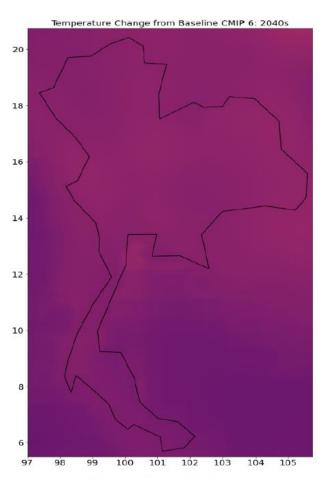
Note: Upper income = Upper middle and high income; Lower income = Low and lower middle income, based on World Bank data. GDP at risk represents the share of GDP that could be lost annually due to high exposure to physical climate risks, in the absence of adaptation to climate risk, without accounting for changes in the economic geography and structure and assuming all hazards occur every year. SSP3-7.0--Moderate-to-high emissions scenario. Sources: S&P Global Ratings, S&P Global Sustainable1 (2023).

Thailand Projected Temperature Increase and Coastal Flooding

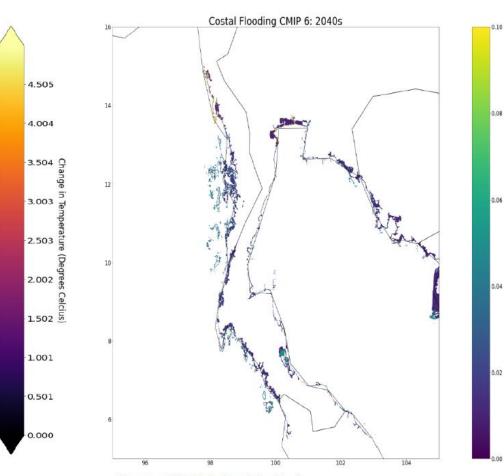




Source: - WRI Aqueduct water risk atlas



Source: S&P Global sustainable 1

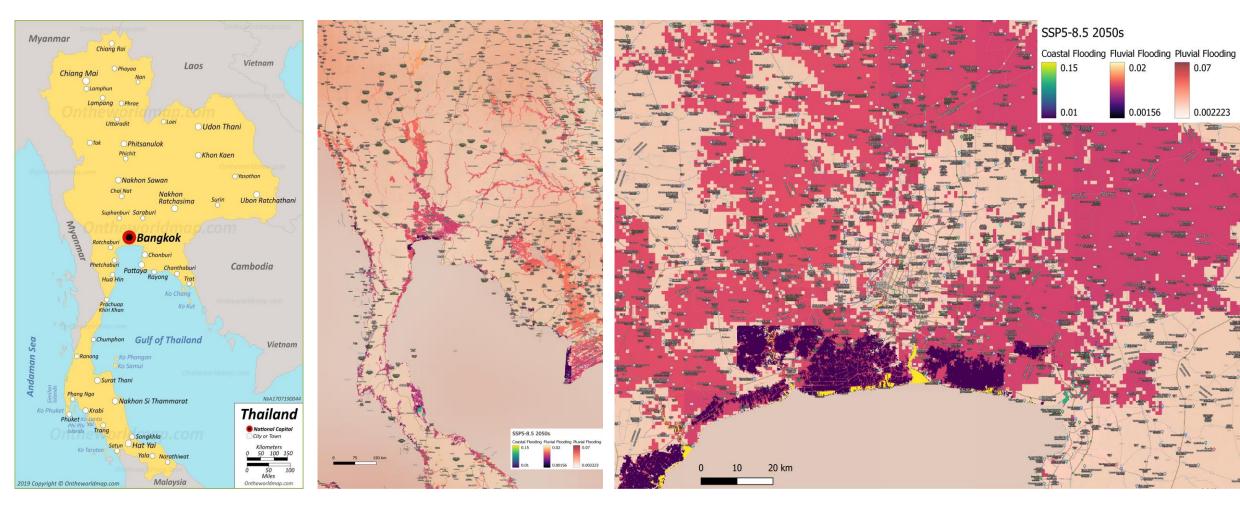


Source: S&P Global sustainable 1

Bangkok Floods (SSP5 – RCP8.5), 2050



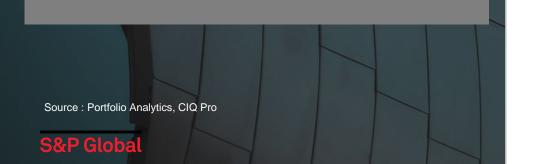
In 2050, large parts of Bangkok is highly susceptible to Pluvial Flooding and Fluvial Flooding



Thailand Bangkok

66% of major global companies have at least one asset at high risk of physical risk under the high impact climate change scenario in 2050

Only 1 in 5 companies has an adaptation plan to address physical risk

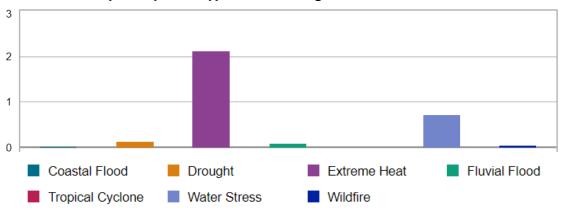




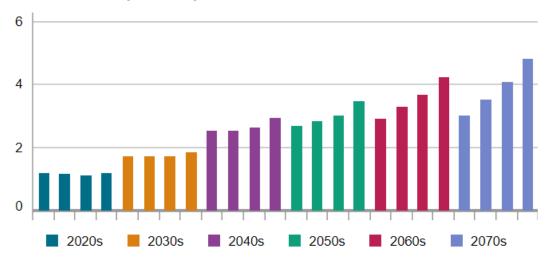
SET 100 impact on operating expenses due to Physical Risk

In the Medium High (SSP3) scenario, in 2050 Utilities sector has the highest Financial impact %

Financial Impact By Risk Type Medium-High 2050s



Financial Impact Composite Score - All Scenarios and decades



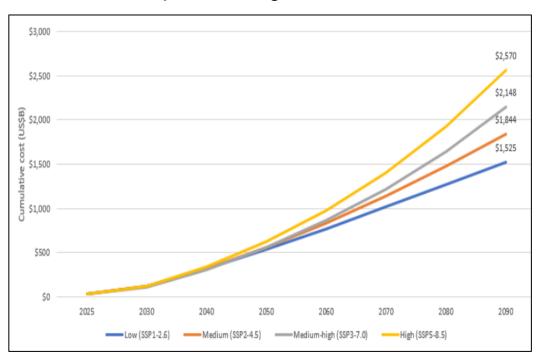
Permission to reprint or distribute any content from this presentation requires the prior written approval of S&P Global.

Physical Risk adaptation in Real Estate



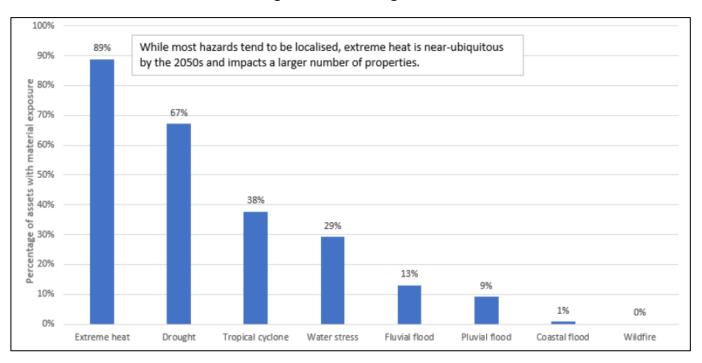
<u>Joint research</u> published by S&P Global Sustainable 1 and GIC, finds that implementing adaptation measures for assets represented in the S&P Global REIT Index could reduce the cumulative cost of climate hazard risks by \$45bn on a net basis by 2050, including the cost to deploy the adaptation solutions

Cumulative cost of climate physical hazard exposure for S&P Global REIT Index assets by climate change scenario



Source: S&P Global Sustainable 1, S&P Global Market Intelligence, 8 August 2024

Percentage of S&P Global REIT Index assets materially exposed to physical hazards in the 2050s under the medium-high climate change scenario



Source: S&P Global Sustainable 1, S&P Global Market Intelligence, 8 August 2024

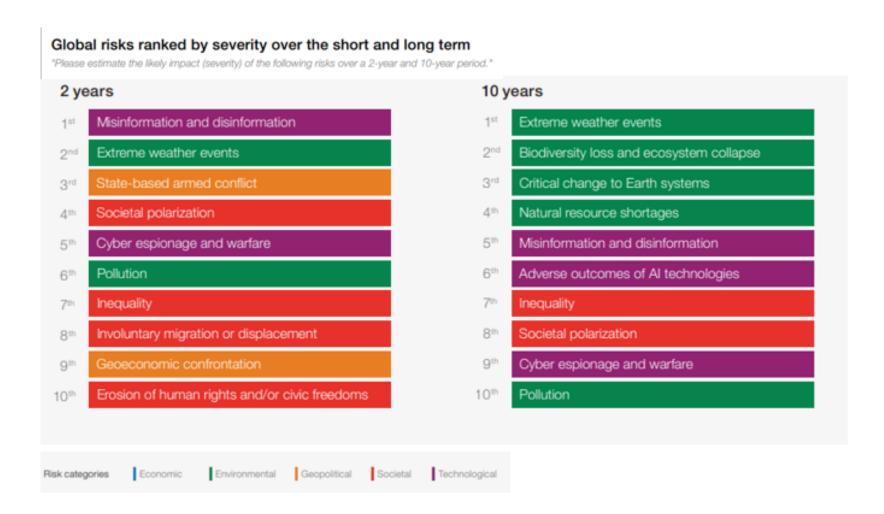


Nature

The World Economic Forum's Global Risks Report 2025 has highlighted Extreme Weather events and biodiversity loss& system collapse as the top two most severe global risk over the next 10 years.

Nature risk is a rapidly emerging issue of global concern. The degradation of ecosystems has far-reaching implications, affecting not only the health of our planet but also the stability of our economies and societies.

World Economic Forum Risk Report 2025



Source: World Economic Forum Global Risks Perception Survey 2024-2025

Nature

In 2025, companies and policymakers will increasingly incorporate nature into their sustainability strategies as they recognize the links between biodiversity loss and climate change.

We also expect to see an expansion of financial instruments supporting biodiversity, including blue bonds

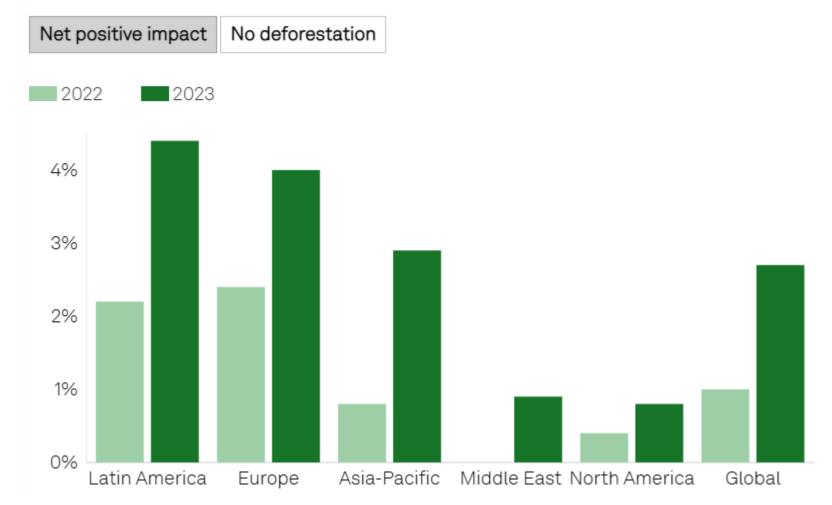
Net positive impact (NPI) means that a company's actions on biodiversity, such as habitat protection, are greater than the impact from its business activity.

No net deforestation means a company commits to offsetting losses with future reforestation.



Percentage of companies by region making commitments to having a net positive impact on biodiversity and to no deforestation

To switch between charts, please click the buttons below



Data as of August 2024

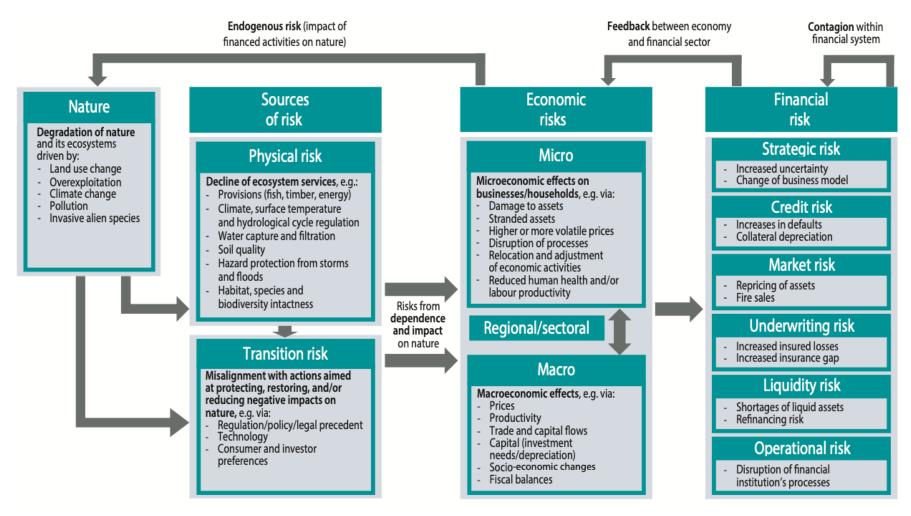
Results based on responses from 8,629 companies assessed in both the 2023 CSA and 2022 CSA on the topic of NPI and 8,591 companies assessed in both the 2023 CSA and 2022 CSA on the topic of no-deforestation commitments.

Source: S&P Global Sustainable1..

NGFS Framework for Understanding Nature Risks



The Network for Greening the Financial System (NGFS) provides a similar framework for understanding nature risks to the financial system



Source: Adapted from Svartzman, R. et al. (2021) A "Silent Spring" for the Financial System? Exploring Biodiversity-Related Financial Risks in France.

Policy

Companies and countries will navigate a challenging new policy landscape and continued geopolitical uncertainty as they implement sustainability, climate and energy transition strategies.

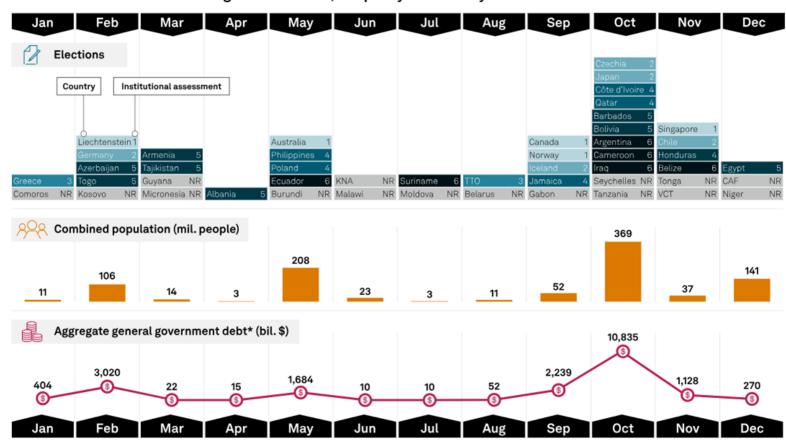
Energy security and industrial policy will continue to play a heightened role in discussions about climate policy as countries seek to ensure access to reliable and affordable energy even in the face of conflict.

We broadly expect corporate sustainability practices to continue as companies that have invested in climate and sustainability in recent years take a "keep calm and carry on" approach



In 2025, these election outcomes will reshape the global landscape for sustainability, climate and the energy transition

The 2025 election calendar is lighter than 2024, but policy uncertainty will increase



Note: The institutional assessment is one of the five factors for the sovereign rating. It comprises our analysis of how a government's institutions and policymaking affect its credit fundamentals by delivering sustainable public finances, promoting balanced economic growth, and responding to economic or political shocks. *As of year-end 2024. CAF--Central African Republic. KNA--Saint Kitts and Nevis. NR--S&P Global Ratings does not assign an issuer credit rating to the entity. TTO--Trinidad and Tobago. VCT--Saint Vincent and the Grenadines. Source: S&P Global Ratings.

Copyright @ 2024 by Standard & Poor's Financial Services LLC. All rights reserved.

Energy Transition

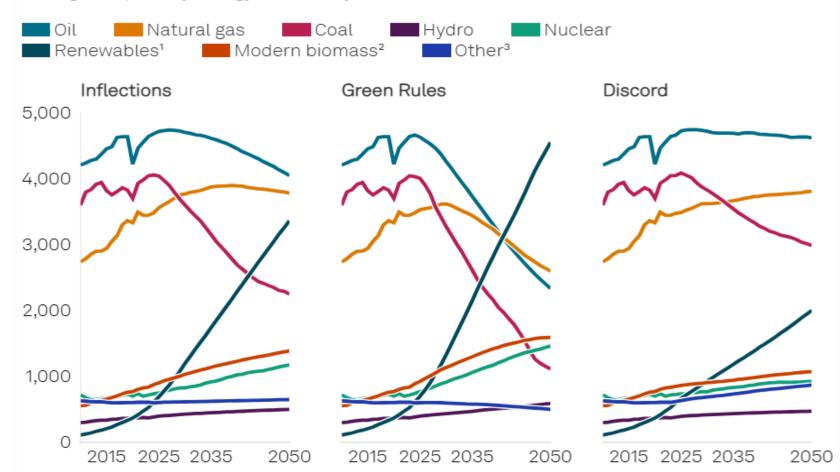
The Inflections scenario is the most probable view of the energy future that S&P Global Commodity Insights projects. It describes a world where the energy transition accelerates from the late 2020s, delivering a net reduction in global greenhouse gas emissions of approximately 25% by 2050, compared to 2023 levels. Fossil fuels remain a significant component of the energy system by 2050 but renewables and other cleantech energy sources are in the ascendancy.

Political agendas are increasingly hinting at an easing of clean energy targets in the face of continued economic pressure and geopolitical risks.



Global energy markets are on the cusp of change, with significant structural reordering expected over the coming decades

Total global primary energy demand by fuel (MMtoe)



Data compiled June 2024.

© 2024 S&P Global.

MMtoe = million metric tons of oil equivalent.

Source: S&P Global Commodity Insights.

¹ Includes solar, wind, geothermal and ocean energy.

² Includes biofuels and biomass (industry, electricity, district heat and refining).

³ Includes solid waste, traditional biomass, ambient heat, net trade of electricity or heat.

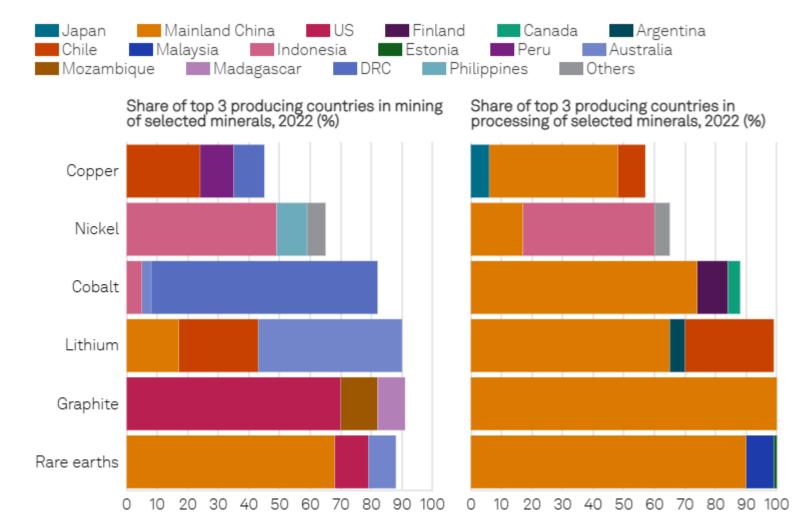
Energy Transition

Copper demand — key for electrification — is projected to double from 25 million metric tons (MMt) today to about 50 MMt by 2035. In the case of lithium, a 2021 European Parliament report stated that for Europe to meet its energy transition targets, demand would need to increase 18 times by 2030 and 60 times by 2050.

To take advantage of foreign investment opportunities, some emerging markets are already creating new incentives through policy changes and infrastructure improvements. The Indonesian government banned nickel exports to foster domestic higher-value processing and introduced lower value-added tax on EVs



The energy transition will position emerging markets that produce critical minerals in the spotlight



As of March 2022.

DRC = Democratic Republic of Congo.

Source: International Energy Agency, Paris, 2022.

© 2024 S&P Global.

Carbon Markets

Article 6.2 provides clarity on how countries authorize the trade of carbon credits and how registries tracking this will operate.

Article 6.4 establishes a framework for a UN-led global carbon market, clarifying guidance on methodologies, rules and processing that would allow for registering projects and issuing and trading carbon credits.



Global carbon markets will gain momentum in 2025 thanks to Article 6 of the Paris Agreement reached at COP29

Compliance carbon market schemes and recent development



As of December 2024. ETS = emissions trading system. Source: S&P Global Commodity Insights. © 2024 S&P Global.

Carbon Markets

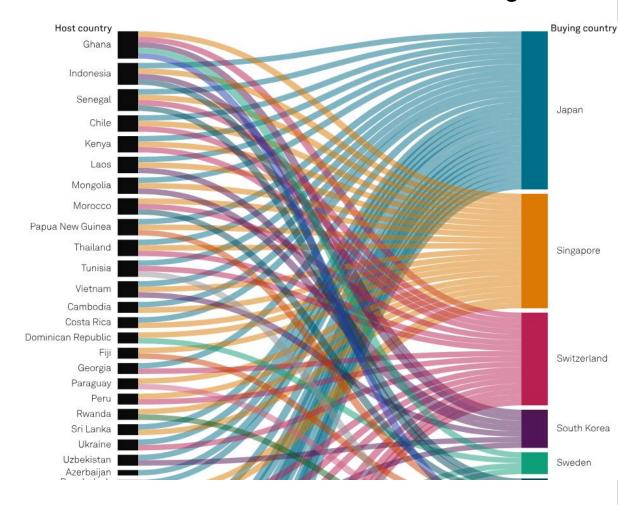
Indonesia kicked off a cap-and-trade system in 2023, starting from its coal-fired power sector. Under this system, companies that emit beyond their given caps need to either purchase emission allowances, called PTBAE-PU, or pay a carbon tax.

In 2025, Vietnam will assign emission quotas to power, iron and steel, and cement industries, preparing for a cap-and-trade system. Malaysia is likely to announce a carbon tax in emission-intensive sectors. Thailand will launch its Climate Change Act, setting national carbon pricing strategies.

Carbon industry associations in Malaysia and Thailand, together with Singapore and Indonesia, have established the ASEAN Common Carbon Framework, which will work on building common rules for ASEAN's carbon crediting methodologies



International deals under Article 6.2 of the Paris Agreement



Note: Data as of August 21, 2024; includes bilateral agreements, MoUs, letters of intent Source: UN Environment Programme, S&P Global Commodity Insights
Credit: Eklavya Gupte, CI Content Design. Copyright © 2024 by S&P Global Inc. All rights reserved.

Sustainability Reporting

Sustainability regulations will pressure companies and investors to respond and adapt

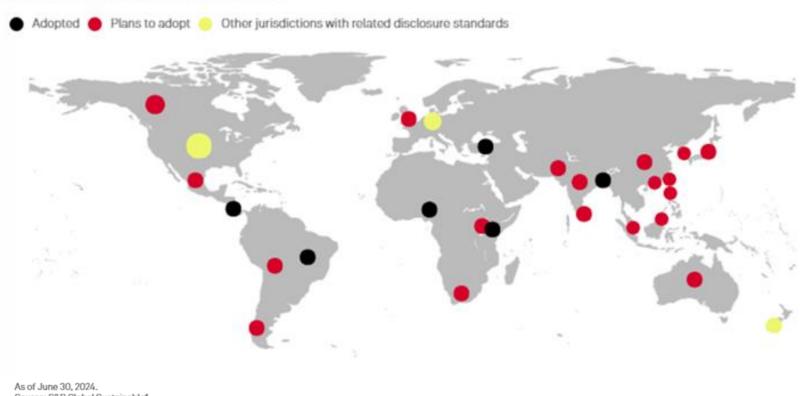
- EU Deforestation Regulation (EUDR). The legislation set to become effective on December 31 across all EU Member States will require companies selling cattle, cocoa, coffee, palm oil, rubber, soya and wood and their derived products into the EU, to prove their supply chains do not contribute to the destruction of forests anywhere else in the world
- The EU's Carbon Border Adjustment
 Mechanism (CBAM) is the EU's tool to put
 a fair price on the carbon emitted during
 the production of carbon intensive goods
 that are entering the EU, and to
 encourage cleaner industrial production
 in non-EU countries.



Companies and investors will navigate the increasing ask for sustainability focused growth but concerns about heavier reporting burdens for companies may slow adoption

Which jurisdictions have adopted or plan to adopt ISSB-based standards?

Hover over each jurisdiction for more information



© 2024 S&P Global Sustainable

Supply Chain

Potential Disruptors

- Protectionist trade practices
- Policy
- Decarbonization
- Physical Risk
- Biodiversity impacts

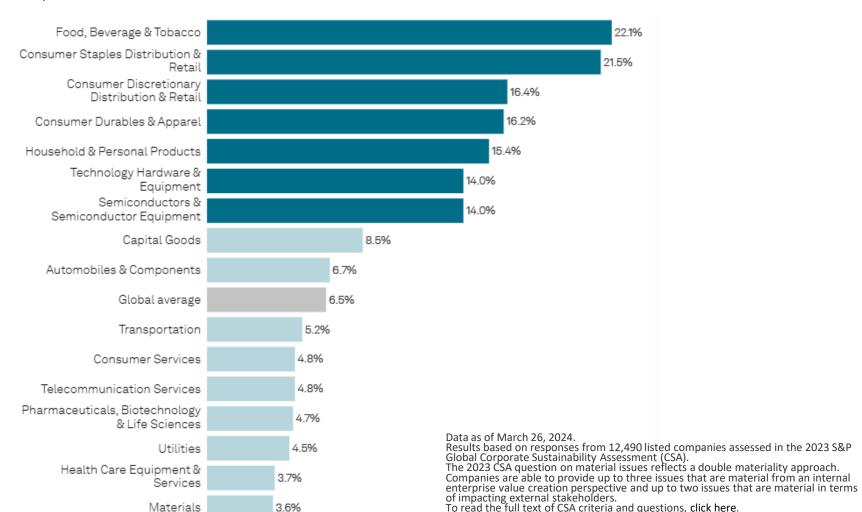
Food, Beverage & Tobacco industry group rely on suppliers for palm oil, soy, cocoa, sugar, coffee, aquaculture, cattle, dairy, and fish which face GHG emissions and biodiversity impact risks.

The Consumer Discretionary,
Retail, Consumer Durables &
Apparel industry groups also
manage extensive supply chains
that face significant supply chain
labor risks



Amid growing geopolitical, regulatory and climate challenges, companies will face increased pressure on sustainable supply chain management practices.

Percentage of companies by industry group that chose the supply chain management topic as one of their top material issues



Source: S&P Global Sustainable1.

© 2024 S&P Global.

Strategies for reducing supplier risks

- Establish a supplier code of conduct
- screen new suppliers for potential ESG risks
- Create a plan to take corrective action to resolve problems
- Development programs such as technical support and training

A code of conduct usually covers at least three components: human rights and labor, the environment and business ethics.

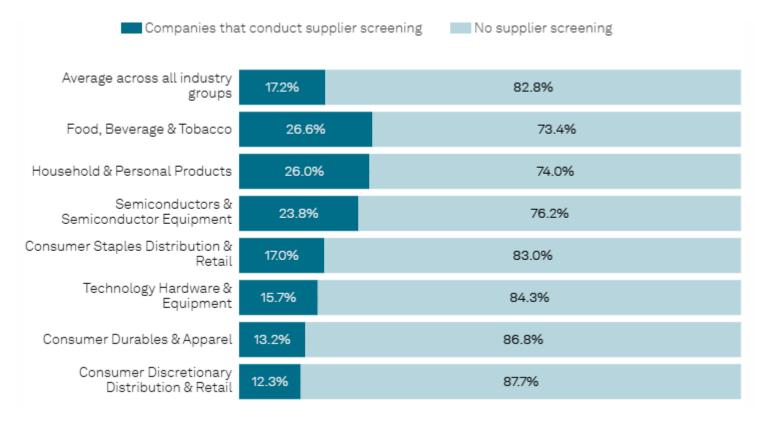
ESG programs and technical support focused on preventing supplier sustainability risks from arising. For e.g. programs for farmers at the base of its supply chain to adopt sustainable agricultural practices

S&P Global



Supplier screening is uncommon even for industry groups that view supply chain management as material

Percentage of companies that conduct supplier screening and publicly disclose their screening approach



Data as of March 26, 2024.

Results based on responses from 9,679 listed companies assessed in the 2023 S&P Global Corporate Sustainability Assessment (CSA).

The CSA defines supplier screening as systematic desk research of suppliers' risk for negative ESG impacts and their business relevance. Screening can be considered the initial step to identify potential sustainability risks in the supply chain and is then followed by assessing suppliers.

To read the full text of CSA criteria and questions, click here. Source: S&P Global Sustainable1.

© 2024 S&P Global.



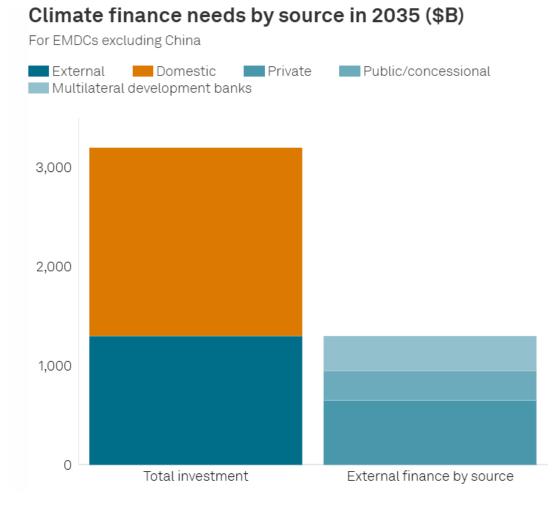
Climate Finance

The High-Level Expert Group on Climate Finance estimates that by 2035, developing countries will needs investments ~ \$3.2 trillion a year; off which \$1.3T needs to be generated externally.

COP29's climate finance goal of \$300 billion a year by 2035 covers public money from developed countries, financing from MDBs, still leaving a gap of ~\$1T

2025 focus - private capital mobilization through **blended finance**, particularly for climate projects in developing economies private sector

Unlocking institutional investors deep pools of capital coupled with increasing ambition levels could unlock meaningful private capital mobilization.



Data compiled Nov. 26, 2024.
Split of external (non-domestic) finance based on splits quoted for 2030 in High Level Expert Group on Climate Finance (HLEG) report.
EMDCs = emerging markets and developing countries.
Sources: HLEG; S&P Global Ratings.

Just Transition

Social factors such as accessing a qualified workforce, maintaining strong community relationships, and safeguarding supply chain labor rights amid new regulations are material issues in many sectors and will influence whether the ambitions of the transition can be met

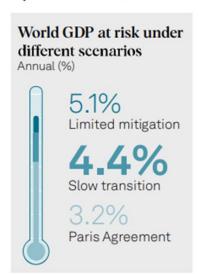
The majority of developed countries are paying less than 50% of their "fair share" towards biodiversity finance, according to new analysis by London based think tank ODI

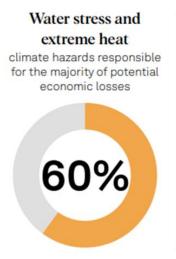


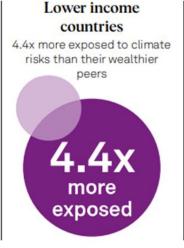
Tension over what constitutes a just and equitable energy transition — and who pays for it — will continue to play out on the global stage in 2025.

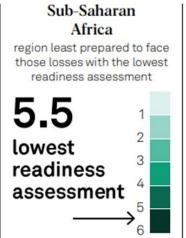
As developed countries press to decarbonize the global energy system, emerging markets and developing economies face the significant challenge of developing domestic resources to meet increasing needs for affordable and accessible energy.

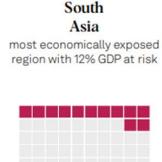
By the numbers: Economic impact of a slow transition scenario











12% GDP at risk

Note: Lower income = Low and lower middle income, based on World Bank data.



<u>Artificial</u> <u>Intelligence</u>

Most emerging economies, research and development investment has been historically low, resulting in a lag in technological progress and adoption.

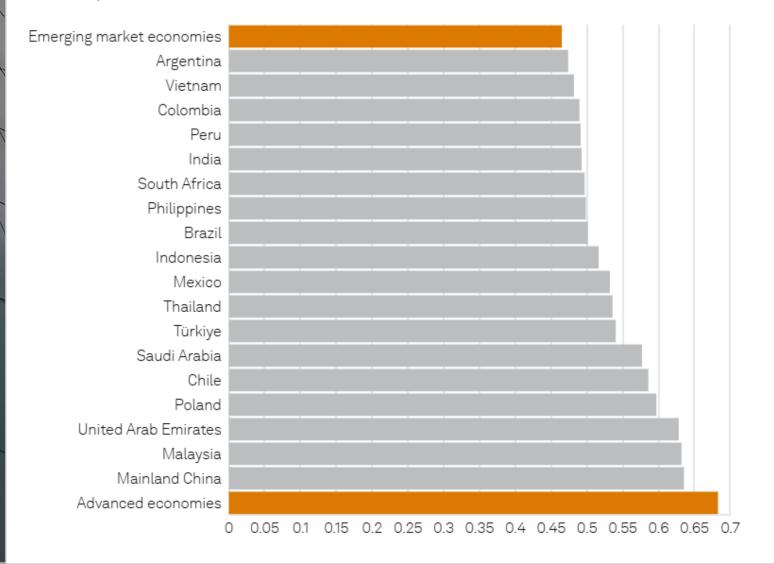
Developments in AI, automation and advanced robotics will likely disrupt labor dynamics specially in emerging markets due to the lower percentage of highly skilled workers

Data collected Sept. 1, 2024. Source: International Monetary Fund Al Preparedness Index, annual index as of 2023.

Technology investment and adoption will be critical for emerging markets' development

Emerging markets not as prepared for Al adoption

IMF AI Preparedness Index





Emissions from purchased electricity (scope2) rose 48% from 2021 to 2023 at major tech firms active in data processing and hosting.

Off the 272 companies' asses, only 22% have Net Zero commitments. Some companies like Microsoft and Amazon Web Services are looking to nuclear as the solution to time-matched challenge of power demand and supply.



The need to balance Al's energy use, though the use of data centers and deep learning computations, against its utility as a climate tool will grow more urgent

Data centers and carbon emissions - by the numbers



19%

CAGR in power demand from major U.S. data center operators since 2019



Carbon removals could be an expensive solution to meet targets



150-250 TWh

Potential power demand growth between now and 2030 **1.5 PUE**

Cited as an efficiency target by international regulators



No.1



Hyperscalers lead the way in securing low-carbon energy contracts, but future demand could outpace additions Typical reduction by 2030 in power-related emissions targeted by major data center companies



40 mil.-



Additional tonnes of carbon dioxide in 2030, nearly double current data center emissions

CAGR--compound annual growth rate. PUE--Power usage effectiveness. TWh--Terawatt hour. Source: S&P Global Ratings. Copyright © 2024 by Standard & Poor's Financial Services LLC. All rights reserved.

S&P Global





Contact Us

Nicha Lorlertwit
Director, ESG/Sustainability Business Development

12 Marina Boulevard, #23-01, Marina Bay Financial Centre Tower 3, Singapore

Email: nicha.lorlertwit@spglobal.com .

Mobile: +65 8498 2861 | LINE: NICHA_L