Weekly Summary

Economics of Climate Change

November 29, 2024

COP29: A Bitter Sweet Symphony

COP29 reflects that multilateralism in climate action is (hardly) alive, with (small) steps like (minimal) financing agreements for developing economies or (delayed) carbon credit international exchange operations. All in all a small step forward, insufficient to bridge the gap to the Paris Agreement goals.

Table 1. **COP29: KEY ISSUES AND OUTCOMES**

Issue	Outcome
A. Art 6 of the Paris Agreement to operationalize international carbon markets.	The last part of the Paris Agreement to be operationalized. Its final impact remains to be seen.
B. New Climate Finance Goal (NCQG)	There is an agreement, but the agreed amount is far below what is needed by the developing world. The details of the financing scheme remain pending.
C. Other pending issues from COP28: Loss and Damage Fund Fossil fuels phase out and clean energy deployment Methane emissions	Towards full operational capacity but excluded from NCQG COP28 pledge is reaffirmed but “oil countries” prevent explicit mention Further progress in reducing them.
D. Towards COP30: updated NDC Going beyond climate change	Pending advances, they will signal success or failure before COP30 opening.

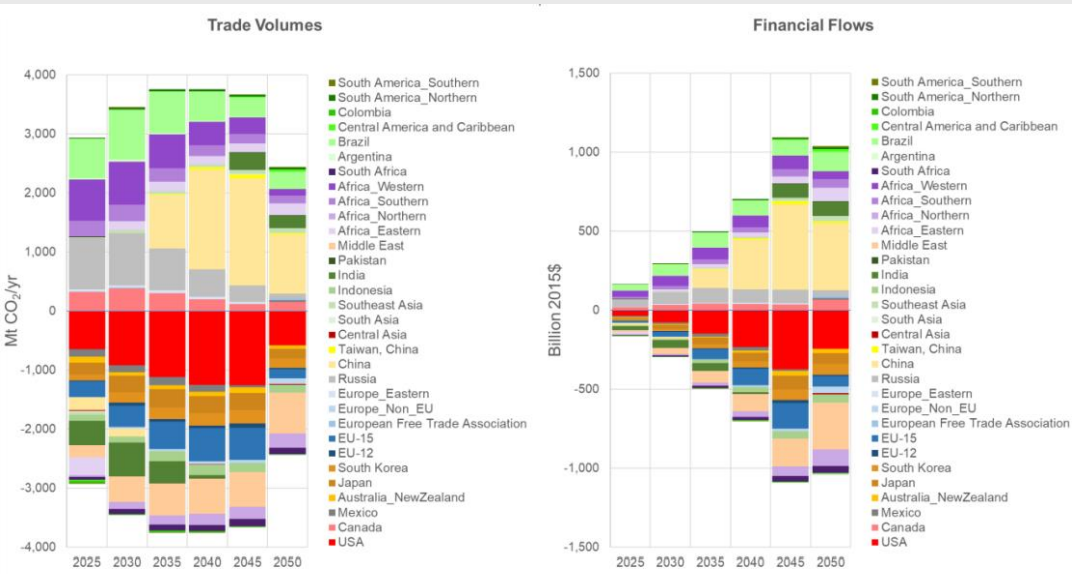
Source: BBVA Research from different references (see Reading List section).

A. Art 6 of the Paris Agreement to operationalize international carbon markets: The only missing piece of the Paris Agreement to be operationalized, Article 6 on market (and non-market) mechanisms to enhance climate ambition, **saw the light of day at the start of COP29.** It calls for parties to voluntarily cooperate in trading emission reductions (called internationally transferred mitigation outcomes, or ITMOs). A technical expert group and a subsidiary body within the UNFCCC will ensure that ITMOs meet the criteria for **additionality** (demonstrating that emission reductions would not have been achieved without the existence of the carbon market), **technical integrity** (actual emission reductions), **environmental and social safeguards** (ensuring the participation of local and indigenous communities where applicable), and **registration** on a centralized and public **platform** to avoid **double counting** and ensure **transparency**.

The new rules also encourage Parties to contribute a **voluntary share of the revenue** collected to the **UN Adaptation Fund**. In addition, a **capacity building program** will be established for Least Developed Countries (LDCs) and Small Island Developing States (SIDS), both of which will also be exempted from contributing revenues to the Adaptation Fund.

According to the COP29 Presidency, this mechanism could lead to **savings of up to US$ 250 billion** per year in the implementation of NDCs. In terms of volume traded, IETA's estimations on the Article 6 suggest that this market will grow progressively to **peak at around 3.8 billion tons of CO2e per year**[1] between 2035 and 2040, followed by a declining phase that becomes more pronounced in 2050[2]. In contrast, the value of transactions is expected to grow progressively until 2045, when it will exceed US$ 1 trillion (base year 2015) **(Figure 1).**

Figure 1. **CARBON CREDIT BUYERS AND SELLERS IN A MODELLED ARTICLE 6.4.**
MILLION TONNES OF CO2 EQUIVALENT AND FINANCIAL FLOWS IN USD, BASE YEAR 2015. (SELLER > 0; BUYER <0)



Source: The Potential Role of Article 6 Compatible Carbon Markets in Reaching Net-Zero. IETA.

Once released, this mechanism is expected to generate financial flows, particularly from developed[3] to developing countries in regions such as sub-Saharan Africa and South America, both of which have important forest areas with carbon capture potential. Meanwhile, from 2035 onwards, greater deployment of carbon sequestration technologies is expected, turning China from a buyer to a seller of emission reductions.

Notwithstanding the above, it will be necessary to monitor **pricing** trends, as under the predecessor scheme, the Clean Development Mechanism, each ton of CO2e was valued at US$0.2 in 2018, significantly below the US$75 social cost of carbon estimated by Resources for the Future or the US$109 observed in the European compliance market in March 2023, according to the latest World Bank Report on State and Trends on Carbon Pricing.

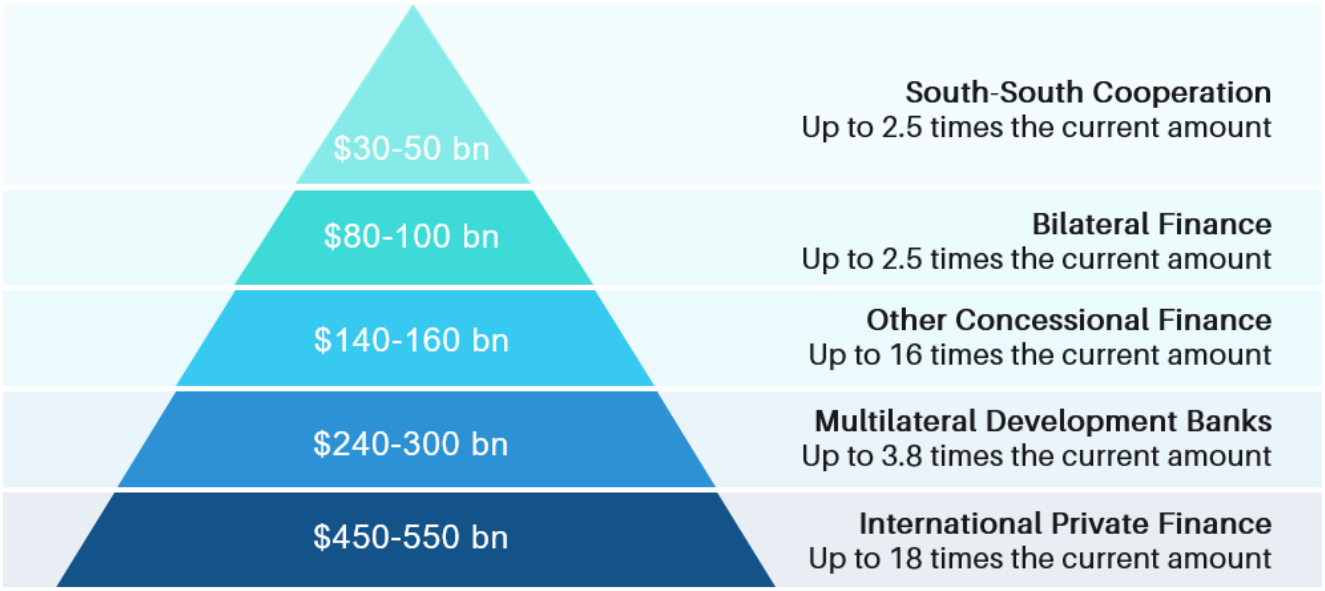
B. New Climate Finance Goal (NCQG) Not only quantity but also quality matters! The COP29 outcomes revealed an accelerated ambition to bridge the financing gap between the developed and the developing countries, by tripling the finance to developing countries to $300 bn/year by 2035 (vs. the previous goal of $100 bn/year). A

1: For reference, U.S. net emissions in 2022 were 5.5 billion tCO2e.
2: The scenario presented relies on a staggered net-zero approach, taking into account per capita income differences. In this case, regions with current net-zero goals will reduce their emissions to zero or slightly below zero by 2050, while emissions from other regions will also decline rapidly between 2020 and 2050. Overall, emissions traded will diminish in 2050, but a quantity will remain post-2050.
3: These projections were made in 2021 with the assumption of a U.S. policy supportive of climate action. Given the anticipated second withdrawal of the Paris Agreement under the new Trump presidency, it will be necessary to adjust the estimates to reflect a delay in the U.S. commitments.

more striking outcome, though, is the second decision: The countries have agreed to ***"secure efforts of all actors to work together to scale up 1.3 trn/year"*** financing to developing countries by 2035 through both public and private sources. The goal rings familiar from IHLEG's recent report, which had suggested that developing countries (exc. China) required $1 trn of external financing by 2030 and $1.3 trn by 2035. ***But how could this external financing be generated and how far are we to reach*** the $1 trn by 2030 (and $1.3 trn by 2035)?

According to the most recent data, the developed countries have managed to mobilize nearly $115.9 bn to the developing countries and nearly 80% of this figure is coming from public climate finance. Meanwhile, the private private finance mobilized by public finance stands at $21.9 bn. On the other hand, IHLEG's recommended composition of the external financing states that **nearly half of the required external financing should come from international private finance.** In order to achieve this outcome, the private finance should increase by 15-18 times the current amount, which underlines the importance of catalyzing the private investment sources.

Figure 2. **BREAKDOWN OF NECESSARY EXTERNAL FINANCING FOR EMERGING MARKETS AND DEVELOPING COUNTRIES** (EXCLUDING CHINA)



Source: Raising Ambition and Accelerating Delivery of Climate Finance. Third report of the Independent High-Level Expert Group on Climate Finance.

The challenge of mobilizing finance. The developed countries often use the term "mobilize" to emphasize that the climate finance should come from private finance, instead of developed nations' tax payers. But incentivizing private sector investment is hard to achieve because NCQG lacks a foundational structure according to climate experts' views:

1. **It is not clear whether NCQG should center around climate themes** (e.g., mitigation, adaptation), **funding sources** (e.g., public or private), **or policy objectives** (e.g., consistency of financial flows with the Paris Agreement goals). Furthermore, a detailed and appropriate timeframe and clearer geographic distribution for the NCQG is needed in alignment with the NDCs
2. **Linking climate finance to climate ambition is challenging:** Balancing both quantitative (e.g., specific funding amounts or ratios) and qualitative (e.g., policy objectives and considerations for vulnerable countries) goals is a complex process. In addition, developed and developing countries have different priorities and

perspectives based on their national circumstances, needs, and capacities, which makes it a challenge to reach a consensus on core elements of the NCQG.

3. **Developing countries are under significant debt burden**, especially after the COVID19 period. Hence, the design of the NCQG should be in a way to prioritize financial solutions addressing both climate finance needs and debt relief in developing countries. But, this is a complex and politically sensitive area that involves multiple stakeholders, including private creditors, international institutions, and debtor nations.

Nowhere near a consensus when it comes to money. Even though developed countries agreed on tripling their contribution to climate finance, it seems that developing nations leave COP29 unsatisfied with the final figure. This could be rightly so, as a recent analysis points out that $200 billion per year by 2035 could be equivalent to "no ambition" since these countries could provide this figure through economic growth and inflation alone. Furthermore, the majority of existing financing by the developed countries is in the form of loans, instead of grants. Hence, the mobilized climate finance is repaid by the developing nations and returned back to the developed countries, which imposes further financial stress on especially heavily-debted countries.

In this scenario of minimal agreements in financial matters, a positive note has been that multilateral development banks reinforce commitment to climate change. The major multilateral development banks (MDBs) issued a joint statement at COP29, announcing a significant increase in their climate finance, marking a decisive step towards achieving the goals of the Paris Agreement, in a context where countries are facing increasing climate change challenges. By 2030, they project annual climate financing of $120 billion for low and middle income countries, including $42 billion for adaptation, with an additional $65 billion expected from private sector mobilization.[4] MDBs have already surpassed their 2025 climate finance targets set in 2019, achieving a 25% increase in direct climate funding and doubling mobilization efforts over the past year. In parallel, the MDBs released the document Country Platforms for Climate Action – MDB Statement of Common Understanding and Way Forward, reaffirming their joint support to foster collaboration between countries, MDBs, donors and private sector. All in all, the role of multilaterals could become increasingly relevant against a background where key players, such as the United States, may limit their involvement in global climate policies.

Progress on some pending issues from COP28. In addition to the mentioned COP29 outcomes, other issues agreed upon in previous summits were also addressed at COP29, such as finalizing the framework and increasing commitments for the Loss and Damage Mechanism, strengthening efforts to phase out fossil fuels and reducing methane emissions.

A decision was reached to fully operationalize the Loss and Damage Fund. The establishment of the Fund was agreed at COP27, aimed at providing financial support to the countries most vulnerable to climate change impacts, and at COP28, a decision was made to initiate the Fund's operations. During COP29, several crucial agreements regarding the Fund were signed, including the "Trustee Agreement" and the "Secretariat Hosting Agreement" between the Fund's Board and the World Bank, as well as the "Host Country Agreement" with the Republic of the Philippines. **Over $730 million were pledged in support of the Fund**. However, while operationalization of the Fund progressed, its exclusion from the New Collective Quantified Goal on Climate Finance (NCQG) highlighted ongoing divisions between developed and developing nations over funding responsibilities.

On fossil fuels, countries reaffirmed their commitments to phase out coal use, but no significant new partnerships or transitions were announced. COP28 included the landmark deal to "transition away from fossil fuels" but the latest draft on the "mitigation work programme" excised all links back to this. Carrying things forward has been left to the "UAE dialogue", which, in its latest draft, "reaffirms" last year's language on fossil fuels,

4: High income countries are slated to receive $50 billion annually, including $7 billion for adaptation, alongside $65 billion in private sector contributions.

renewables and energy efficiency. It also has optional text adding further goals on energy storage and grids, as well as requesting an annual progress report for debate at subsequent COPs.

New steps to reduce methane emissions and $500 million in funding pledged. More than 30 countries, collectively responsible for nearly 50% of global methane emissions from organic waste, endorsed the COP29 Declaration on Reducing Methane from Organic Waste. Signatories will set specific targets to reduce waste sector methane in their future nationally determined contributions and develop new policies and programs to achieve those targets. Over $500 million in new funding was globally announced at Cop29 for methane abatement across the energy, waste and agricultural sectors.

D. Towards COP30: What's Next After COP29 in Baku? COP30, scheduled for November 2025 in Belém, Brazil, marks a pivotal moment for global climate action. Building on the achievements and addressing the shortcomings of COP29 in Baku, this summit will play a critical role in aligning global efforts with the 1.5°C target, as time to avert the worst impacts of climate change runs out.

Despite progress, COP29 left key issues unresolved. The **failure to agree on binding commitments to phase out fossil fuel subsidies**, reinforcing COP28 watershed mention, remains a major obstacle to an effective decarbonization, as these subsidies distort energy markets and delay the adoption of cleaner technologies. Establishing clear timelines and mechanisms for their elimination will be critical for aligning energy markets with climate goals.

Another area requiring attention is the **integration of biodiversity into climate strategies**. Nature-based solutions, a highlight of COP28, were less prominent in COP29 discussions. COP30 must reignite this focus and establish stronger links between biodiversity preservation and climate action. Additionally, **translating energy targets into actionable national and sectoral plans** remains a challenge. Governments must provide clarity on how they will achieve renewable energy and efficiency goals, enabling businesses to align their transition strategies and drive market-based solutions.

The choice of Belém as the host city adds unique urgency and significance to COP30. As the gateway to the Amazon, Belém represents the intersection of climate challenges and solutions. The Amazon, home to unparalleled biodiversity, is nearing a tipping point that could lead to ecosystem collapse. Hosting the summit in this region underscores the need for immediate action to protect the rainforest while empowering the Indigenous and local communities that depend on it. Belém itself highlights the vulnerabilities of urban areas to climate change, with over half of its households lacking basic infrastructure and facing heightened flood risks.[5]

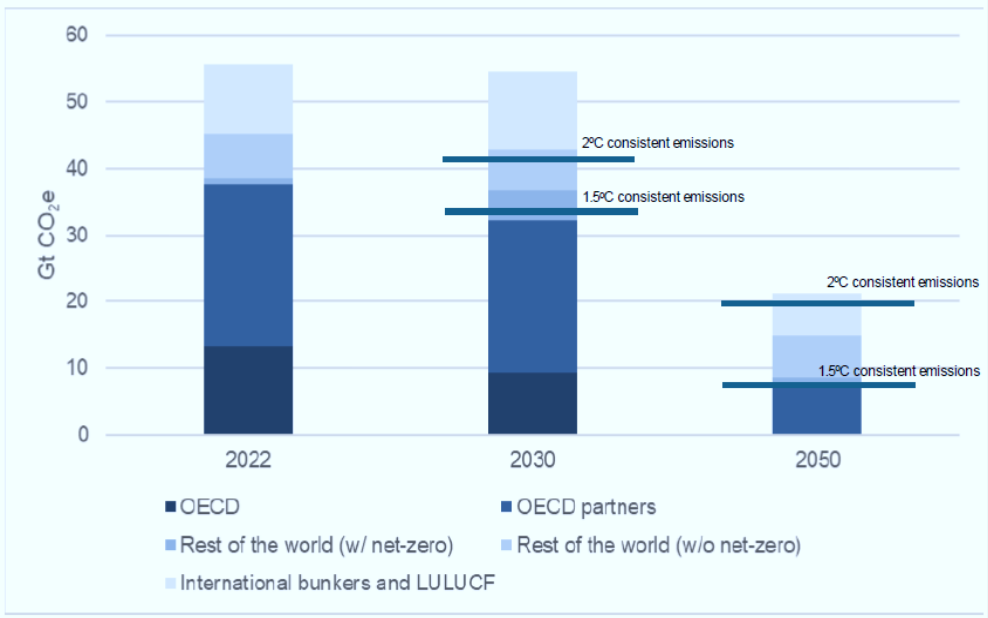
COP30 must deliver ambitious outcomes, starting with updated Nationally Determined Contributions (NDCs) that reflect enhanced climate ambition -COP30 marks the deadline for countries to submit new NDCs-. Beyond technical targets, the summit must be key in ensuring policies prioritize vulnerable populations, Indigenous communities, and environmental defenders. Collaborative efforts between governments, businesses, and civil society will be essential to accelerate a just and inclusive energy transition. **As Brazil[6] also hosts the G20 in 2025, it has a unique platform to lead on climate justice and ambition. With only five years remaining to achieve the 2030 emissions milestone, COP30 must catalyze concrete commitments to secure a sustainable and equitable future for all.**

5: Plagued by pollution and violence, is the COP30 host city ready to take over from Baku?
6: COP29: Five key takeaways from Brazil's 2035 climate pledge - Carbon Brief.

Box 1. Climate pledges at start of COP29: slow improvement, no match for Paris' ambition[7]

Global GHG emission reduction targets and net-zero pledges are insufficient to meet the Paris Agreement's 1.5°C goal, requiring stronger ambition, legally binding commitments, and significant reductions by 2030. Current global commitments to reduce greenhouse gas (GHG) emissions fall short of achieving the Paris Agreement's temperature goals, necessitating increased ambition and implementation efforts. While 195 parties have submitted Nationally Determined Contributions (NDCs), their current targets are insufficient, projecting emissions of 55 Gt CO2e by 2030—22 Gt CO2e above the level needed to limit warming to 1.5°C. Similarly, net-zero pledges by 110 parties covering 88% of emissions would still result in 2050 emissions of 21 Gt CO2e, far exceeding the necessary 8 Gt CO2e (**Figure 3**). The lack of legally binding targets exacerbates this risk, as only 27 countries and the EU have formalized their commitments. With global emissions rising by 1.3% from 2022 to 2023, achieving the 1.5°C goal requires a 43% reduction by 2030. As countries prepare to update NDCs for 2035, aligning them with stringent, legally binding targets is essential to closing the ambition and implementation gaps.

Figure 3. **GHG EMISSIONS REDUCTION TARGETS**

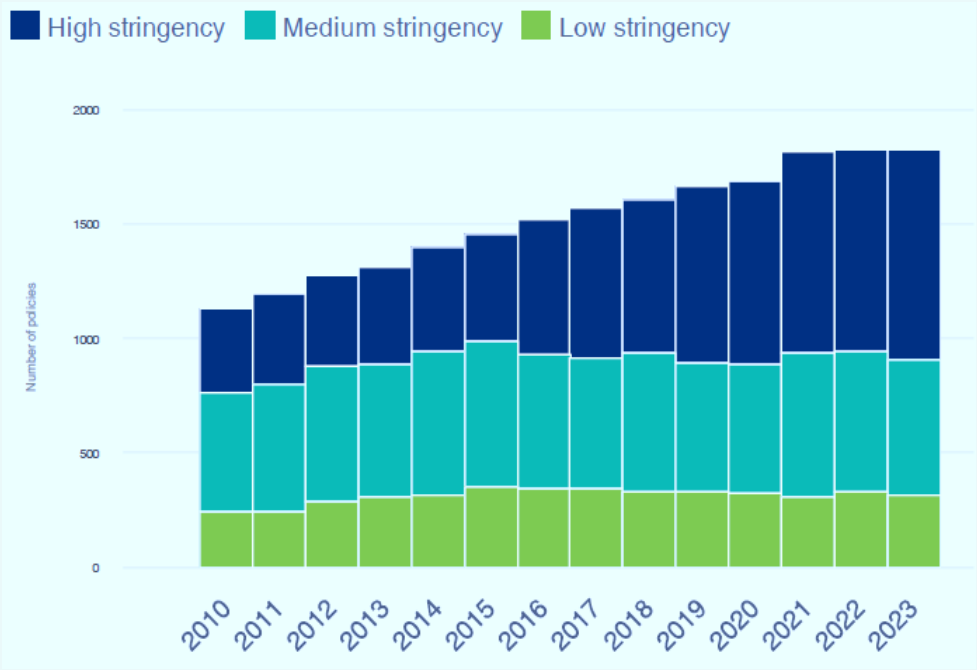


Source: Global Update - November 2024 - As the climate crisis worsens, the warming outlook stagnates
The Climate Action Monitor 2024 | OECD

National climate policy progress is too slow, with a 2% growth in 2023, insufficient to meet NDC targets, and sectoral misalignments in policy action and disparities between OECD and partner countries highlight the need for stronger implementation and international cooperation. Progress in national climate policy efforts remains insufficient, with a mere 2% expansion in government climate mitigation policy action in 2023, far below the annual 10% average increase seen in the previous decade (Figure 4). This slow growth, tracked by the Climate Actions and Policies Measurement Framework (CAPMF), reflects a widening implementation gap that risks countries failing to meet their (NDC). While some progress has been made in

strengthening existing policies, especially in non-market-based instruments like energy performance standards, there has been a decline in market-based instruments such as renewable energy subsidies. Sectoral misalignments in climate policy action persist, with emissions-intensive sectors like transport and electricity receiving less attention relative to their contribution to emissions. Additionally, disparities between OECD and partner countries in policy density and stringency highlight the need for more international cooperation and targeted policy design.

Figure 4. **CLIMATE POLICY ACTION. NUMBER AND STRINGENCY OF CLIMATE POLICIES**



Source: Based on data from OECD, IEA, ITF, World Bank and others using the methodology of Nachtigall, D. et al. (2022): "The climate actions and policies measurement framework: A structured and harmonised climate policy database to monitor countries' mitigation action", OECD Environment Working Papers, No. 203, OECD Publishing, Paris, https://doi.org/10.1787/2caa60ce-en

While sectoral and adaptation efforts are improving, gaps in policy effectiveness, alignment with emissions profiles, and robust monitoring frameworks hinder progress; achieving net-zero requires ambitious, inclusive, and socially aware climate policies. Sector-specific efforts and adaptation planning show signs of improvement, but challenges remain. Increased policy actions in transport, building, and industry sectors were offset by declining efforts in the electricity sector, where emissions have risen. National adaptation strategies and plans are gaining traction, yet their effectiveness and implementation remain uncertain due to gaps in monitoring frameworks. To achieve net-zero goals, countries must adopt ambitious, inclusive policies that align with emissions profiles while addressing social and economic impacts. Enhancing climate policy density, stringency, and sectoral alignment, alongside robust monitoring and international cooperation, is critical for a just and effective transition to a sustainable future.

7: Reference: The Climate Action Monitor 2024 | OECD.

COP29. Reading List

- COP29: Key outcomes agreed at the UN climate talks in Baku - Carbon Brief
- COP29 concluded: new finance goal reached, but falls short to keep 1.5°C. IRENA
- Making sense of the COP29 outcome. Financial Times
- Climate change is a global problem — it requires a global solution. Martin Wolf at FT
- Paris Agreement Article 6 annotated. Carbon Brief
- In-depth Q&A: How 'Article 6' carbon markets could 'make or break' the Paris Agreement - Carbon Brief
- COP29: Key outcomes for food, forests, land and nature at the UN climate talks in Baku - Carbon Brief

Highlights of the Week

- **Global | As the climate crisis worsens, the warming outlook stagnates.** The aggregate effect of current policies set the world on a path toward 2.7°C of warming.
- **Global | How will artificial intelligence transform energy innovation? – Analysis - IEA.** Though key uncertainties remain, AI stands to have major impacts. High on the list is its potential role in accelerating innovation.
- **Global | The Economics of Net Zero Banking | NBER.** Banks play a crucial role in financing the global transition to a low-carbon economy by leveraging opportunities in reduced default risk and increased returns from low-carbon investments; further research is needed to understand their comparative advantages and impact on this transition.

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