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SciencesPo

Paris+10 diagnosis: Looking back to look forward

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Building on the role it played in the construction and adoption of the Paris Climate Agreement in 2015, IDDRI is publishing a working paper analyzing the impact of the Agreement over the past ten years and outlining prospects for the next decade of climate action. However, this analytical work needs to be further developed through discussions with other observers, particularly other think tanks, over the coming weeks in order to achieve its full scientific value.

This year marks the 10th anniversary of the Paris Agreement (PA) on climate. In the run-up to COP30 in Brazil in November 2025, and amid international tensions, mistrust in multilateralism and political backlash against climate action, meaningful reflection on what the PA has made possible—and what it has not—over the past 10 years is needed to document debates on climate action and the PA's impacts, and to contribute to shaping discussions on the necessary actions within and beyond the UNFCCC for the future of climate cooperation. Grounded in a detailed reading of the PA's design and its intended functions, drawing on the evidence of progress and limitations, the analysis aims at facilitating the identification of key focus areas to support the achievement of the PA's overall objective.

WORKING PAPER

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1. INTRODUCTION AND KEY MESSAGES

This year marks the 10th anniversary of the Paris Agreement (PA) on climate—a key milestone in the implementation of this international treaty, with the 3rd set of Nationally Determined Contributions (NDCs) at the centre of the attention, and a gathering of the Parties at COP30 in November 2025 that carries high expectations, halfway through the 'decisive decade' of action to keep temperature rise at 1.5ºC.[1] Amid international tensions, mistrust in multilateralism and a political backlash against climate action, meaningful reflection on what the PA has made possible -and what it has not- over the past 10 years is needed to document debates on climate action and the PA's impacts, and to contribute to shaping discussions on the necessary actions within and beyond the UNFCCC for the future of climate cooperation.

The aim of this present analysis is to contribute to understanding what has worked and what has not, based on the developments over the past 10 years, grounded in a detailed reading of the Paris Agreement's design and its intended functions. Drawing on the evidence of progress and limitations, the analysis hopes to facilitate the identification of key focus areas to support the achievement of the PA's overall objective, as stated in the PA's Article 2 (see Box 1).

BOX 1. THE PA'S OVERALL OBJECTIVE (ARTICLE 2)

"2.1. This Agreement, in enhancing the implementation of the Convention, including its objective,[2] aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:
(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
(b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and
(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development"
2.2. This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

We identify four pillars–which were in the 'zeitgeist' that enabled crafting the PA in the run-up to and at COP21, and are more or less explicitly embedded in the PA final text adopted on December 12, 2015–that underpin and were expected to enable the achievements of the PA's overall objectives. In what follows,

[1] The latest IPCC AR6 Report underscores that to keep the PA's temperature goal, steep, rapid and sustained emission cuts are needed in this decade to 2030.

[2] The objective of the UNFCCC is achieving "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (Art. 3 of the Convention).

we analyse the evidence of implementation[3] and effects of the PA over the past decade against these four pillars:

1. Ensuring universal action. Beyond the number of States adopting the treaty, universality in the PA is about ensuring collective and cooperative efforts in climate action, recognizing the global threat caused by climate change and its systemic nature. Universality is not understood as equal responsibility; it is enabled thanks to key provisions for differentiation across countries, mainly by allowing for flexibility to match 'differentiated responsibilities and respective capabilities, in the light of different national circumstances.'

2. Creating a vision for a new economy. The PA embeds a new vision for society and the economy derived from a decarbonized world, which does not only project deep changes in production and consumption patterns, but also a more equitable and prosperous future for all – emphasizing the right to sustainable development.

3. Setting a long-term direction of travel for all actors. The PA aims to provide a direction to collectively limit warming to 1.5ºC by 2100, and increase adaptation and a resilient future, enabled through aligning financial flows globally. This end goal aims to incentivise and build both anticipation and liability for short term action from a policy and 'real economy actor' standpoint, under a treaty which has no expiry date.

4. Diffusing climate goals and action across institutions, sectors and society. The PA recognizes the cross sectoral, cross-policy, and economy-wide nature of climate action. Once set, the overarching climate goals need to trickle down at country and across sector level and involve a wide array of actors. This requires enabling governance, sector specific roadmaps and alignment of action across policies, jurisdictions, finance, development partners, etc.

Our analysis and interpretation of the PA's theory of change draws from IDDRI's extensive analytical support to the French Presidency in the run-up to COP21,[4] assessment of the PA at time of adoption,[5] and engagement since 2015 on the negotiations and support to country-led long-term development and climate strategies.[6] Progress analysis is built on evidence gathered through an extensive literature review.

Our diagnosis across the 4 pillars systematically addresses:

1. Overview of the pillar: what, why, how (and how differently from previous efforts)?

2. How is the pillar anchored and codified within the PA?

3. What progress has been made on the pillar since the adoption of the PA?

4. What challenges or shortcomings remain on this pillar?

This assessment concludes with a discussion of the progress achieved and the identification of key areas across the four pillars that require attention to address shortcomings and failing mechanisms hindering the timely achievement of the Paris Agreement's goals.

[3] The analysis should not be regarded as a legal interpretation of the implementation of the Paris Agreement, as it aims at providing insight against the expected outcomes rather than implementation of individual provisions.

[4] IDDRI conducted deep analytical and diplomatic engagement in advance of COP21 in direct support to the French COP21 Presidency, and played a highly influential role in helping advance credible proposals and socialize some of what became critical elements of the Agreement, such as the universal transparency framework (Deprez et al., 2015) and the 'cycle of contributions' or ratchet-up mechanism (Spencer et al., 2015; co-written with the Chinese think tank NCSC); and deep decarbonization pathways to achieve the long term temperature goal (DDP).
See also: https://www.iddri.org/en/publications-and-events/blog-post/iddri-influential-shaping-key-elements-paris-agreement

[5] https://www.iddri.org/en/publications-and-events/decryptage/judging-paris-agreement-comparison-iddris-10-criteria-success

[6] This via IDDRI's Deep Decarbonization Pathways Programme which supports the country-led development of long-term, low emission and development strategies in over 20 States (mostly in the Global South).

KEY MESSAGES

Ten years ago, the world came together to forge an unprecedented pact—to limit global warming and build a future grounded in climate resilience and justice. Since then, the Paris Agreement (PA) has become a compass guiding governments, businesses, and citizens toward a net-zero world. The impact is visible: nearly every country has set climate targets, a green economy is emerging, and the temperature trajectory has shifted dramatically—from a dangerous 4°C path to a still-dangerous, but improved, 2.1–2.8°C.

The Paris Agreement (PA) has enabled unprecedented collective progress, but outcomes are still insufficient. Structural transformation is underway but incomplete and uneven. These transformations remain too slow, and implementation lags behind ambition. We need to assess results against pace, in addition to direction. Without a step change, it will not be possible to keep the 1.5°C goal alive.

Despite its imperfections and changes in geopolitics since 2015, the PA and its underpinning theory of change remain a viable multilateral framework to address the climate goals—yet needs strengthening within the Agreement and complementary support from the outside. Targeted governance improvements are necessary to enhance orchestration, ensure short-term political liability, and foster the integration of development and equity more centrally into climate strategies. With the map and the tools that the Agreement provides, we need now collective leadership—rooted in science, solidarity, and political courage—to chart the course.

Universal action is essential—underpins both the science and politics of climate progress—and has broadly worked under the Paris Agreement, securing broad participation and legal follow-through. However, momentum is fragile, with early signs of declining commitment and insufficient follow-through—across mitigation, adaptation or finance.

The vision of a green economy is materializing—marked by renewable energy growth, electric mobility, and carbon neutrality targets. Yet, this transformation has not addressed inequalities and resistance from vested interests; key socioeconomic and justice aspects remain underdeveloped. The vision of inclusive development and fairness through climate action is being questioned, hindering progress across the world. Unequal benefitting across countries of the opportunities emerging from this new economy and shaky progress on adaptation against mounting climate risks threatens universal engagement going forward.

The PA has created the legal and political space for coordinated global action as per design. It was never meant to deliver transformation on its own. It was built to guide, to catalyze, to create momentum and political liability, especially within national processes, but also directly across sectors, institutions and citizens. Non-state actors (NSAs) play a growing role, but fragmentation and integrity issues persist. The PA has inspired action by businesses, local governments, and civil society. Still, voluntary efforts often lack robustness, coherence, and accountability—highlighting weak orchestration and governance gaps.

Net-zero goals set a strong direction of travel for mitigation, even if further precision is required going forward. But adaptation lags behind, and climate finance—essential for developing countries—is stuck in ambiguity and mistrust. Clearly finance alignment is poorly operationalized—limiting impact on the ground.

Near-universal adoption of commitments has not translated into consistent and effective national implementation. Despite pledges, on the ground, political inertia, institutional bottlenecks, and insufficient support prevent those pledges from becoming reality. This hurdle reinforces the ambition gap.

Based on this diagnosis, four short-term priorities must be addressed to strengthen the effectiveness of the multilateral climate regime, some of which could be advanced in the context of the PA. First, signal diffusion must be reinforced to ensure that climate signals are strong, consistent, and able to drive sustained action across all actors. Second, the ambition mechanism needs to be enhanced to better translate long-term goals into short-term, accountable policies and decisions. Third, greater attention must be given to country-level enablers by improving the understanding of national constraints and providing stronger support for domestic transitions. Finally, differentiation of responsibilities should be reinforced to reflect the unique circumstances and potential of some countries to make a difference, particularly within the G20, and to promote greater fairness in accountability.

2. PILLAR 1: ENSURING UNIVERSAL ACTION

2.1. Overview of the pillar: what, why, how?

Engaging all actors in a race to the top to collectively and cooperatively address climate change, via meaningful and nuanced (self)differentiation.

WHAT: The aim was to establish the first climate agreement with universal participation, bringing all Parties on board and encouraging a race to the top, i.e. pushing everyone to perform better and to continually raise their level of ambition or quality, rather than settling for the minimum to avoid responsibility. This approach marked a shift away from the strict bifurcation between developed and developing countries (Annex I and non-Annex I) that governed the Kyoto Protocol, as well as from unsuccessful attempts to establish a club-based approach, based exemplified in Copenhagen COP.

WHY: The latest science at the time evolved from a focus on emissions cuts to stabilise GHG concentrations to one on the need for all to travel to neutrality to meet the temperature goals, while recognizing that a small -but evolving- group of countries are consuming a disproportionate share of the remaining global carbon budget (and hence need to rapidly cut emissions). It was also a recognition of the need to collectively anticipate the development processes of many countries and aim at integrating climate considerations into those processes. Politically, the old developed-developing divide made little sense given the changing geopolitical realities, but it remained useful for avoiding deflection of responsibility for climate action and a stronger basis than the club solution rejected at COP15 in Copenhagen (2009). Hence universal but differentiated approach was the politically agreed way forward for the global treaty.

HOW: A key enabling condition that allowed the PA to achieve this universality was establishing a nuanced differentiation between Parties, namely through flexibility and 'self-differentiation' (e.g., in NDCs), in addition to the common but differentiated responsibilities (CBDR) principle of the UNFCCC. This was a key innovation, noting differentiation has been the key tension point between developed and developing countries since the Convention was adopted in 1992, and was a critical point of contention in the PA negotiations. An enhanced transparency framework compared to KP and UNFCC provisions would facilitate « just in time » reporting as a basis to build trust and facilitate learning and accountability.

2.2. How is the pillar anchored and codified within the PA?

The PA is considered a landmark in multilateral climate governance as it is the first universal legally binding climate agreement in which all Parties—whether their past, present, and future GHG emissions are small or large—commit to taking substantive and ambitious action against climate change (substantive obligations).[7][8] This stands in contrast with the KP, which proposed a sharply bifurcated approach, whereby developed country Parties ('Annex 1') were to cut emission (KP Art. 3.1), while developing country Parties (non-Annex 1) could participate by providing offsets (KP Art. 12.1) (credits under the 'Clean Development Mechanism'). From a procedural perspective, both the PA and the KP were negotiated and adopted through a consensus decision-making approach (the standard approach under the UNFCCC), and open for signature and ratification to all Parties.

Universality is embedded throughout the Paris Agreement in various ways across Parties' operational obligations, emphasizing the responsibility of all countries—both developed and developing—to address climate change. Whereas it requires all nations to contribute, it reaffirms the principles of the concept of 'Common but differentiated responsibilities and respective capacities' (CBDR-RC) of the UNFCCC Convention text[9] and calls for the implementation of the Agreement through equity and nuanced differentiation (Art. 2.2). The PA specifically complements the CBDR-RC principle with the wording "in the light of different national circumstances", which is the first-time that such language recognizes that countries' capacities will evolve over time.[10]

To operationalise this, the PA embeds several mandatory provisions (for a more detailed overview, see Table in Annex I):

1. Mitigation: all Parties to communicate an NDC, progressively increase ambition and pursue domestic policies to aim to achieve its NDC.

2. Adaptation and Loss & Damage: all Parties to engage in adaptation planning, and to avert, minimize and address loss and damage

3. Support: all developed Parties to continue with their commitments under the Convention of providing financial support for developing countries, as well as an invite to other (non-developed countries) to voluntary contribute

4. Accountability: (i) individual accountability (Enhanced Transparency Framework): all Parties to participate in the universal transparency framework, by: submitting regular reports with GHG emission inventories and information to track progress and achievement of NDCs; and participate in review process; (ii) collective accountability (Global Stocktake): all Parties to participate in Global Stocktake every 5 years, to assess collective progress toward long-term goals, and inform upward ambition in NDCs and enhanced international cooperation

[7] Note that the PA still allows for sub-group of countries to collaborate on specific implementation issues, complementing the universal framework of obligations of the PA.

[8] Hege, E. (2025). Are the key innovations of Paris Climate Agreement and the 2030 Agenda weathering the multilateral crisi ? IDDRI, *Study* 01/25 : https://www.iddri.org/en/publications-and-events/study/are-key-innovations-paris-climate-agreement-and-2030-agenda

[9] (introduced in Art. 3.1 of the Convention)

[10] Voigt, C., & Ferreira, F. (2016). Differentiation in the Paris Agreement. *Climate Law*, *6*(1-2), 58-74. https://doi.org/10.1163/18786561-00601004

The 'universality of obligations' was made possible through the introduction of differentiation and flexibility provisions within the Agreement, which is enabled explicitly, implicitly or through other terms. Flexibility is granted to all Parties with the concept of self-differentiation, for instance rooted in the 'bottom-up' nature of the NDCs which are nationally determined. To ensure this flexibility does not undermine the PA goals, it is complemented with common metrics that can enable the assessment of adequacy and effectiveness (see pillar 3). These shared metrics are meant to facilitate third-party and collective reviews and enable political pressure and legal liability at the national level. For NDCs, this combination is often referred to as an enhanced version of the traditional "pledge and review" approach. In other instances, flexibility is specifically granted to developing country Parties, particularly with respect to key provisions such as transparency. Across the text, and follow-up CMA decisions, specific language is used to further guide the application of nuanced differentiation (i.e. developed countries to take the lead in mitigation, with earlier peaking of emissions, etc). Critically, the universality of climate action and ambition by all Parties, is complemented by the recognition of the importance of support to be provided to developing country Parties: "[...] The efforts of all Parties will represent a progression over time, while recognizing the need to support developing country Parties for the effective implementation of this Agreement".

2.3. What progress has been made on this pillar since the adoption of the PA?

Universality can be assessed both through formal participation and compliance with procedural provisions, as well as through tangible evidence of countries' engagement and alignment with the Agreement's expectations. Ultimately, this present analysis seeks to deepen understanding of whether we are truly "all on board"—despite instances of temporary or selective disengagement—and whether individual efforts are sufficiently contributing to the collective responsibility.

Ratification

In terms of ratification, the PA has almost universal participation—195 Parties signed the Paris Agreement, and 194 Parties have ratified it (with the US pulling out). Only four countries are not Party to the PA: Iran, Yemen and Syria (adding up to 2% of emissions) and now the USA. Most notably and as a sign of the political consensus at the time, this universal ratification came quickly. The Paris Agreement was adopted on 12 December 2015; opened for signature on 22 April 2016; and by the end of 2016, 125 Parties had ratified the agreement. The agreement officially entered into force on 4 November 2016, after crossing the threshold of at least 55 Parties accounting for at least 55% of global emissions—initially it was thought the PA would come into force later, e.g., in 2020 (the KP came into force many years after adoption).

Submission of mandatory and voluntary elements

The PA has seen an almost universal level of participation in terms of Parties submitting their mandated documents:

NDCs:[11] All 195 Parties submitted their 1st NDC by 2016; 75 Parties submitted their 2nd round NDC by end 2020 (due date), a number then rising to 180 Parties by September 2024. The third and current round of NDCs is still on-going and a test of countries' continued commitment. By 10 February 2025 (official initial due date), 15 Parties had submitted their NDC, and 22 as of June 16th, 2025, amounting to 21% of global GHG emissions. A number of other countries are announcing that it would be done before COP30.

Biennial Transparency Reports (BTRs): A total of 90 Parties to the PA have submitted their first BTRs: 57 of which from developing countries, including 13 LDCs and SIDS.[12] This is being considered by experts as a very good level, especially when looking at previous levels of submission pre-Paris Agreement,[13] and also considering that in the present case countries have to prepare their BTRs at the same time as their NDCs.

Participation is also non-negligible in terms of submitting voluntary but recommended elements:

Adaptation communications: As of April 2025, 66 countries have submitted their AC.[14] This includes some developed countries: EU (as a group), a number of EU countries, Norway, Switzerland, UK, New Zealand, Canada, Australia. Although all Parties are invited to submit and update their adaptation communications (Art. 7.10), the non-binding nature of this formulation leads to an overall lower level of reporting. From the 60 submissions by 2025, 36 adaptation communication were stand-alone documents, 2 as a component of or in conjunction with a NAP, 19 as component of or in conjunction with an NDC and 3 as a component of or in conjunction with a national communications).[15] In comparison with Parties' previous NDCs, more NDCs submitted in 2022 contained adaptation information, and all developing countries included adaptation in these NDCs. Most Parties (80%) included an adaptation component in their NDCs, and 13% of these were designated adaptation communications.

LT-LEDS: LT-LEDS do not have a specified submission frequency, although there have been calls for periodic updates.[16]

11 UNFCCC NDC Registry: https://unfccc.int/fr/NDCREG

12 UNFCCC 1st Biennial Transparency Reports: https://unfccc.int/first-biennial-transparency-reports

13 Deprez et al. (2015) Transparency and the Paris Agreement: driving ambitious action in the new climate regime, IDDRI Study, https://www.iddri.org/en/publications-and-events/working-paper/transparency-and-paris-agreement-driving-ambitious-action-new

14 UNFCCC Adaptation Communication Registry: https://unfccc.int/ACR

15 UNFCCC Secretariat (2023). Technical dialogue of the first global stocktake. Synthesis report by the co-facilitators on the technical dialogue. https://unfccc.int/documents/631600

16 For instance, the Glasgow Pact urged countries that had not yet submitted an LT-LEDS to communicate one "towards just transitions to net-zero emissions by or around mid-century" by COP27. COP28 also invited countries to communicate or revise LT-LEDS by COP29.

As of January 2025, 76 Parties to the PA have submitted a LT-LEDS to the UNFCCC, covering 74% of global emissions. [17] The regional breakdown being:

- Europe and Central Asia: 35 countries including the EU
- East Asia and Pacific: 15 countries
- Latin America and the Caribbean: 9 countries
- Africa and Middle East: 12 countries
- South Asia: 3 countries
- North America: 2 countries, Canada (2016 and 2022), and US (2016 and 2021)

Adequacy of NDC ambition

A major substantive obligation applicable to all is that countries' NDC need to reflect the highest possible level of ambition. It is not straightforward to assess whether individual NDCs meet the standard of "highest ambition". Countries' NDC must provide an explanation on how they meet this criterion as part of the ICTU (Information for Clarity Transparency and Understanding) but it is often unsubstantiated. The self-determined nature of "highest possible ambition" in NDCs complicates assessment, with academics pointing to conceptual ambiguities—such as the interpretation of "possible"—and the inherent reliance on value-based cost–benefit judgments.[18] Academic literature[19] has discussed the interpretation of this norm, including some suggestions on frameworks for practical application such as Rogelj, J., & Schönfeld, J. K. (2024),[20] but systematic assessments against this criterion have not been found.

Collectively, today's ambition gap is unquestionable, even if it has been significantly reduced over the 10-year period. Considering full implementation of 2030 NDCs and communicated net-zero commitments, it is estimated we would be in a 2.6°C track.[21] This is in contrast to the estimated 4°C likely increase of temperature of the business-as-usual scenarios by the time of adopting the Agreement.[22] This collective gap of ambition in absolute emissions for 2030 corresponds to about 11 $GtCO_2e$ annually for the 'below 2°C' pathways, and 19 $GtCO_2e$ for reaching the 1.5°C global least cost pathways.[23] For all G20 members except India and the UK, per capita emissions in 2030 under NDC scenarios are projected to remain higher than the global average for below 2°C-aligned levels (EGR2024).

Individually, examples of country-level assessments can be found where projected emissions with existing policies are considerably below their unconditional NDC target levels ever since these targets were submitted.[24] These examples establish evidence that not all countries are following the substantive rule of highest possible ambition.

Translation into domestic policies

A second key substantive obligation for all countries is the need to pursue domestic mitigation policies to aim at achieving its NDC commitment. As consequence, Parties in the PA need to report on action, not just emissions. The literature provides clear evidence (see below) that countries around the world have made significant efforts to implement their commitments in their respective jurisdiction. However, collectively, and individually for many countries -including eleven countries amongst G20 members-, there is a gap between NDC ambition and expected outcome of the policies and plans in place to meet them.

A growing body of literature has assessed the adequacy and depth of country-level domestic mitigation policies, though systematic cross-country comparisons remain limited. A 2018 report by the London School of Economics found that less than two years after the PA entered into force, already 106 new climate laws and policies had been created (for a total at the time of 1500), and that every country that had ratified the PA had at least one climate policy or law in place.[25] Based on the LSE database,[26] forty-five new climate change framework laws have been created since the adoption of the PA (19 framework laws existed before 2015). These framework laws are being adopted across geographies, including global north (e.g., France, EU, Canada, Switzerland, Australia, Sweden, UK, etc.), emerging economies (e.g., Brazil, South Africa, Chile, etc.), other Global South countries (e.g., Peru), and LDCs and SIDS (e.g., Nauru, Kiribati, Maldives).

While the commitments are being translated in national legislation and targets, the current 'implementation gap'—gap between NDC targets and actual climate mitigation implementation, estimated to be 20.3-23.9 Gt CO_2eq by the Global Stocktake of 2023—[27] indicates that globally, domestic mitigation policies being put in place are insufficiently or inadequately implemented to achieve commitments. There is no evidence

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17 Long-term strategies Tracker: https://www.climatewatchdata.org

18 Mayer B. The 'Highest Possible Ambition' On Climate Change Mitigation As A Legal Standard. *International and Comparative Law Quarterly*. 2024;73(2):285-317. DOI:10.1017/S0020589324000010

19 Rogelj, J., & Schönfeld, J. K. (2024). Operationalising Highest Possible Ambition in Nationally Determined Contributions under Article 4 of the Paris Agreement. SSRN. https://doi.org/10.2139/ssrn.5027491 cites Rajamani, 2016; Voigt and Ferreira, 2016; Rehbinder, 2022; Mayer, 2024

20 Rogelj, J., & Schönfeld, J. K. (2024). Operationalising Highest Possible Ambition in Nationally Determined Contributions under Article 4 of the Paris Agreement. SSRN. https://doi.org/10.2139/ssrn.5027491

21 Climate Action Tracker (2024). The CAT Thermometer. November 2024. Available at: https://climateactiontracker.org/global/cat-thermometer/ Copyright © 2024 by Climate Analytics and NewClimate Institute.

22 IPCC. (2014). *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Core Writing Team, R.K. Pachauri & L.A. Meyer, Eds.). Geneva, Switzerland: IPCC.

23 United Nations Environment Programme (2024). Emissions Gap Report 2024: No more hot air … please! With a massive gap between rhetoric and reality, countries draft new climate commitments. Nairobi. https://doi.org/10.59117/20.500.11822/46404

24 EGR 2024 indicates that Mexico, Russia and Turkey among G20 members fall in this category.

25 https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-legislation-and-litigation-2018-snapshot/

26 Law and Policy Search - Climate Change Laws of the World: https://climate-laws.org/

27 https://unfccc.int/sites/default/files/resource/sb2023_09_adv.pdf

on where the balance stands. Nor are there clear trends identifying how this varies across countries. The Climate Action Tracker analysis of climate policy implementation across 40 diverse countries, measured against an ambitious and fair share benchmark, found that: 11 countries are rated as "critically" or "highly insufficient"—including 7 G20 members from across income levels; 16 countries are rated as "insufficient" and 5 as "almost sufficient," spanning both Global North and South; 8 countries are found to be "sufficient," including both small and large developing countries, from LDCs to middle-income economies.[28] Other country-level assessments, such as the 2021 DDP Ambition Report, show that in most countries—including many G20 members—narratives, institutions, governance mechanisms, and concrete planning have yet to align with the short-term actions required for a credible pathway to carbon neutrality (DDP, 2021[29]). The Climate Change Performance Index (CCPI)[30] offers insights into national climate efforts. In recent rankings, Denmark and Sweden have performed well, but so have Chile and Morocco, indicating that leadership in climate action is not confined to wealthier nations. At the same time, country-level Biennial Transparency Reports (BTRs)—which are required to assess individual progress toward NDCs—have not yet been universally submitted, and no comprehensive review of submitted BTRs is currently available.

Regarding adaptation, the technical report of the Global Stocktake recognizes that "a total of 140 developing countries have embarked on the process of formulating NAPs",[31] even if only 46 developing Parties had officially submitted NAPs ahead of the Global Stocktake. UNEP Adaptation Gap Report (2024) concludes that countries report progress in implementing their NAPs, but all countries that assessed their adequacy and effectiveness found that the scale and speed at which adaptation is happening is inadequate in light of mounting climatic risks. It also recalls that 26 countries have no national planning instrument yet, and 10 of them had shown no indication in 2024 of developing one despite ranking (at least 7 of them) highly on the Fragile States Index.[32]

Finance obligations

Under the Paris Agreement, a common long-term goal on finance is established for which finance flows—public and private—should be supportive of sustainable climate compatible economy, and short-term obligations (similar to NDCs) where support from developed to developing countries is recognized as critical, and mandatory consistently with the provisions of the UNFCCC framework. To successfully venture into the long -term mitigation and adaptation goals, work on national and transnational regulations to generate incentives to private finance flows within and between countries is also needed in the short term. Most prominent assessments of climate finance—including those conducted under the Global Stocktake—focus on collective progress, making it difficult to evaluate the strength and consistency of participation by individual developed countries over the past decade.

To assess the extent of universal participation by developed countries in meeting the support obligations, it is necessary to examine their contributions toward the collective goal of mobilizing $100 billion annually by 2020—a target established prior to the Paris Agreement but restated (Art 9.3) as a floor pending the negotiation of a new collective quantified goal. This new goal (NCQG) was agreed in Baku in 2024, so assessments of realized contributions under this new framework are not yet possible. However, recent political developments, including those following the re-election of Donald Trump, underscore the fragility of consensus around the universal action of finance obligations.

According to OECD,[33] developed countries mobilized a total of $115.9 billion in climate finance for developing countries in 2022—reaching the collective $100 billion goal two years later than the original 2020 deadline. Public climate finance (from bilateral and multilateral sources attributable to developed countries) accounted for nearly 80% of the total in 2022, rising from $38 billion in 2013 to $91.6 billion in 2022, primarily in the form of loans. While Biennial Reports from Parties provide details on individual contributions and financial instruments, comprehensive comparative assessments remain limited.

An assessment by the Climate Action Tracker on the fair share of climate finance provided by developed countries reveals significant shortfalls across the board. Of the 11 developed countries analyzed, none were rated as providing climate finance at a level consistent with their fair share. Four countries—the EU, Germany, Norway, and Switzerland—were rated as providing insufficient climate finance. Another four—Canada, Japan, New Zealand, and the United Kingdom—were rated as highly insufficient. The United States, Russia, and Australia received the lowest rating of critically insufficient, indicating a major gap between their financial contributions and their fair share responsibilities under the global climate finance framework.

[28] Climate Action Tracker – Assessment of Policies and Actions at country-level, downloaded on May 4th 2025 (https://climateactiontracker.org/cat-data-explorer/country-ratings/?sort=rating_policies_and_action)

[29] Waisman H., Torres Gunfaus M., Pérez Català A., Svensson J. *et al.* (2021). *Climate ambition beyond emission numbers: taking stock of progress by looking inside countries and sectors.* Deep Decarbonization Pathways (DDP) Initiative-IDDRI. Paris. Available at: https://www.iddri.org/en/publications-and-events/report/climate-ambition-beyond-emission-numbers-taking-stock-progress

[30] https://ccpi.org/

[31] UNFCCC Secretariat (2023). Technical dialogue of the first global stocktake. Synthesis report by the co-facilitators on the technical dialogue. https://unfccc.int/documents/631600

[32] https://fragilestatesindex.org/

[33] OECD (2024), *Climate Finance Provided and Mobilised by Developed Countries in 2013-2022*, Climate Finance and the $100 Billion Goal, OECD Publishing, Paris, https://doi.org/10.1787/19150727-en

Concerning aligning of climate flows, OECD[34] indicates that financial sector policies integrating climate change-related considerations have more than quadrupled since the PA, mainly in the form of transparency and information policies. Specifically, it indicates that by 2023, 77 countries had adopted climate-related transparency and information policies, 41 had climate-related prudential policies, and 16 had climate-related credit allocation policies. However, like mitigation, the collective action still results in a significant gap: finance flows and stocks point to a continued overall low degree of alignment of finance with climate change mitigation goals.[35] There is growing evidence of financial contributions from non-developed countries to the global climate finance landscape, a trend which became evident in discussions on the 'contribution base' during the development of the NCQG.

2.4. What challenges or shortcomings remain on this pillar?

This section highlights several limitations to the achievements of the PA in prompting universal climate action. It is organized around several questions to stimulate debate on these still open-ended issues.

2.4.1. Is the PA's formal universality at risk?

So far, the PA has proven to be resilient in terms of formal participation: the United States is the only Party that has left the Agreement (twice). After the first exit in 2016, no other Party left. The second exit in January 2025 is raising greater fears that this may weaken the PA at a moment of unstable global geopolitics and attacks on multilateralism. However, despite Argentina claiming it would leave the PA, and Indonesia declaring that the Paris Agreement 'was no longer relevant' to them, no exits took place, showing, if this trend holds, the resilience of the PA.

Participation to procedural obligations have been excellent despite PA being a sanctions-free agreement. Nevertheless, there has been a slight deterioration, as reflected in the decreasing number of timely submissions over time—whether NDCs, LT-LEDS, NAPs, BTRs, or voluntary adaptation communications. While this worsening has not been significant enough to undermine the overall outcomes of the first 10 years of treaty implementation, it remains a relevant concern that should be addressed in efforts to strengthen the framework going forward —particularly because the risk of losing universality can disincentivize individual ambition and action by countries for whom collective action is a condition for participation.

2.4.2. Is the ambition gap a compliance gap?

With no clear evidence on compliance against the "highest possible ambition" provision in individual NDCs, several possible interpretations exist in the context of the collective ambition gap:

1. Countries are delivering their highest possible ambition, but these efforts are inadequate to meet the Paris goals—implying that collective learning, innovative approaches and more political, human and financial resources are required to address climate change.

2. Countries are not delivering their highest possible ambition, either because they see NDCs as formal instruments for international accountability rather than as political demonstration and signal of genuine intent, or because they favour delivering on their NDC (at the potential risk of being criticized for their lack of ambition) rather than the opposite.

Scenarios (1) and (2) lead to very different needs in addressing adequacy of ambition. It should be feasible to address scenario (1) through the interplay of repeated NDCs and GST exercises, whereby the GST manages to identify the gaps that need to be addressed in future NDCs. GST-2 starting in 2026 becomes critical and lessons learnt from GST-1 must be considered. Scenario (2) may reveal that the "commitment exercise" is not truthful and the dynamic of commitments requires attention at the global level, considering the domestic-international two-level game, for both mitigation and adaptation. The reality is likely to be a mix of the two scenarios, which draws attention to the effectiveness of the ratchet-up mechanism, compliance behaviours and calls for means to investigate individual countries' liabilities.

2.4.3. Do weak collective results mask non-compliance or backsliding by individual Parties, and what is the role of transparency?

Given the difficulty in systematically assessing country-level performance, be it in terms of adequacy of ambition, translation into policies, adaptation or contribution to alignment of climate flows and support to developing countries, strengthening monitoring mechanisms and promoting consistent cross-country comparisons—beyond the formal UNFCCC process—could help answer these fundamental questions and offer a clearer view of how universality may evolve in the years ahead. The enhanced transparency framework, if properly supported and enforced, holds potential as a basis for building this new evidence.

For mitigation, upcoming 'biennial transparency report' (BTR) could shed light onto the drivers, enablers and obstacles explaining emissions outcomes following the submission of the initial NDCs. This ex-post policy analysis could inform the actual implementation gap by integrating lessons from past experiences in today's policy work, as well as by refining 'current policies' projections. This way, assessments will be better equipped to distinguish between narrow translation from targets to actions and poorly designed or supported policy action at the country-level.

[34] OECD (2024), *OECD Review on Aligning Finance with Climate Goals: Assessing Progress to Net Zero and Preventing Greenwashing*, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/b9b7ce49-en.

[35] *Ibid.*

Regarding adaptation, and stemming from above analysis on weaker universal action, key questions remain regarding the political framing of adaptation under the PA. Will the fully-fledge development of the global adaptation goal help address the lack of progress through pressure related to the monitoring process? Or is adaptation still predominantly seen as a domestic issue, rather than a matter for global cooperation? Within the PA, is adaptation treated mainly as a North–South finance issue, limiting broader engagement and ambition? Does this limited dynamic reflect the fact that countries were not originally expected to pledge adaptation actions in their NDCs? And critically, does this poor dynamic undermine the Paris Agreement's overall resilience and our collective capacity to adapt to escalating climate impacts?

Concerning collective participation towards alignment of finance flows, literature highlights that available evidence on finance flows and stocks remains very partial, hence the importance of developing coherent frameworks and improving data collection to effectively monitor progress, as well as a shared understanding of individual action and responsibility.[36] On that basis, finance reporting in BTRs can contribute to understanding of country-specific efforts to finance provision and mobilization, as well as policy efforts to foster alignment.

2.4.4. Do the limitations of the 'universal' decision-making approach (i.e. by consensus) seen at recent COPs justify pushing for a different approach?

The KP, PA and PA Rulebook were successfully adopted via the UNFCCC's decision-making by consensus. However, at more recent COPs some actors have been voicing a frustration that this consensus decision-making is impeding adoption of more ambitious decisions,[37] due to blockage from some States.[38] In light of this, some are putting in question this decision-making by consensus.

In a different vein, other Parties have argued that their trust in the process under the UNFCCC has been eroded due precisely to the consensus decision-making approach not being respected. This was famously the case at COP28, where the GST final decision was gavelled down by the Presidency in the absence of the AOSIS coalition, representing 39 Small Island Developing States (SIDS) which are disproportionately affected by climate change.[39] AOSIS considered that the version of the text adopted in their absence was insufficiently ambitious.

Overall, consensus-based decision-making has been central to the spirit of universality underpinning the Paris Agreement—so foundational, in fact, that moving away from it would risk undermining the very premise of collective and universal action.

3. PILLAR 2: CREATING A VISION FOR A NEW ECONOMY

3.1. Overview of the pillar: what, why, how?

Triggering structural transformations, with sustainable development at the centre.

WHAT The PA is built on a shared vision of enabling a new resilient socio-economic pathway, refraining from fossil fuels and preparing for a carbon free economy, with deep reconfigurations of supply chains and new emerging markets. This vision provides for a climate solution, as well as for both economic and on social promises to ultimately deliver a more equitable and prosperous future for all. Framed in more direct terms, individual action is considered also for local benefits, not just for global common good. This is a tremendous difference from KP framed around emissions cuts.

WHY Ahead of the establishment of the PA's, the inter-government negotiations received the support from both science (IPCC) and the private sector in saying that a carbon free world is feasible, though technology development and different socio-economic rules. The aspirational vision of the PA was meant to facilitate alignment of actors' expectations around the emerging climate economy, and this alignment to be reinforced by the real economy changes that validate the vision, creating a mutually reinforcing dynamic.

HOW To build such a new socio-economic path, the countries with the capacity to develop technology and be rule makers would need to take the lead and others would need to be offered the capacity to access this new prosperity model—ensuring development contributes (and does not hinder) the meeting of the PA goals. This forced a depart from a "burden sharing" approach to favour a "responsibility approach" where the main question was to be proactively inclusive, thus the emphasis on sustainable development and poverty eradication throughout the Agreement.

[36] Jachnik, R., Mirabile, M., & Dobrinevski, A. (2019). *Tracking Finance Flows Towards Assessing Their Consistency with Climate Objectives*. OECD Environment Working Papers No. 146. OECD Publishing, Paris; and Watson, C. (2022) 'Options for embedding Article 2.1c in the New Collective Quantified Goal on climate finance'. Working paper. ODI: London.

[37] E.g., failure to get language on 'phasing-out' fossil fuels in the GST COP28 decision, despite support by a broad set of countries; failure to get reiteration at COP29 of GST transitioning away from FF

[38] E.g., from Saudi Arabia: https://www.theguardian.com/environment/live/2024/nov/21/cop29-live-draft-texts-negotiations-climate-crisis?-filterKeyEvents=false&page=with%3Ablock-673f34868f083ae557dd226b#block-673f34868f083ae557dd226b

[39] https://www.aosis.org/cop28-closing-plenary-aosis-statement-on-gst-decision/

3.2. How is the pillar anchored and codified within the PA?

The PA reflects a vision of transformational change and is thus often described as having a systemic ambition. By the time it was negotiated, science had already shown—with high confidence—that limiting warming to below 2°C would require large-scale changes in energy systems and possibly land use and food systems. IPCC AR5 also highlighted the importance of behaviour, lifestyle, and cultural shifts alongside technological and structural changes.

Having said that, the Agreement itself does not explicitly reference the transformative scale required to achieve the temperature goal and universal resilience. It only acknowledges, in the Preamble, the role of sustainable lifestyles and consumption and production patterns in addressing climate change. It also indirectly signals the need for economic transformation, for example in Article 4.15, which notes concerns of countries whose economies are most affected by response measures. In 2023, after the first global stocktake, a more explicit recognition of the specific transformational shifts needed to align with 1.5°C pathways was anchored to the Agreement—including commitments to transition away from fossil fuels and halting and reversing deforestation and forest degradation by 2030.

Placed at the very beginning of the text with core objectives (Art. 2), the PA grounds its implementation in the context of sustainable development and poverty eradication and equity, as well as on the principle of common but differentiated responsibilities and respective capabilities, considering national circumstances. It is worth noting that COP21 took place after the negotiations of the Addis Ababa Action Agenda on financing for sustainable development and the adoption of the SDGs themselves. The PA thus unfolded within a context that highlighted key consistencies—particularly the similar bottom-up approach shared by both the SDGs and the PA where every country will have to design its own specific, idiosyncratic transformation pathway.

More broadly, in the preamble, the Agreement states that human rights, gender equality, and intergenerational equity must be upheld and recognizes the right to development, and in turn the need for a just transition, ensuring social protections and new green jobs. Support to sustainable development is stressed in the context of development of NDCs and implementation of Article 6 cooperation instruments (4.1, 14.1). By encouraging a nationally-driven discussion on climate commitments, it recognises the role and importance of national development priorities. Furthermore, the GST outcome in 2023 recalls that mitigation efforts embedded within the wider development context can increase the pace, depth and breadth of emissions reductions, as well as that policies that shift development pathways towards sustainability can broaden the portfolio of available mitigation responses and enable the pursuit of synergies with development objectives (Art 16a of the GST Decision).[40]

Bringing together transformation with development and equity, the PA signals that radical change in production, changes in supply chains, in governance model, etc. have the potential of addressing core development challenges and contributing to reduction of poverty and inequalities. These are very structural changes that go beyond the 'mainstreaming' of PA climate objectives across actors, incorporate a strong focus on equity, access, responsibility and capacity, and require solidarity.

3.3. What progress has been made on this pillar since the adoption of the PA?

Progress under this pillar should be understood twofold. First, has the aspiration for this new economic order become a sustained—and even growing—driver of action both for Parties and non-state actors over the past 10 years? Secondly, are we closer to such aspiration on the ground?

3.3.1. Progress on ownership and confidence for this new economic order

Since the adoption of the PA, the climate policy landscape has increasingly embraced a transformational and development-centred approach. This reflects a growing recognition that deep decarbonization cannot be achieved through technical measures alone but requires rethinking economic systems, governance models, and embed development priorities. Scientific bodies, finance institutions, and policy actors have progressively adopted language that connects better climate action with broader development goals, equity considerations, and systemic change. At the same time, political negotiations under the UNFCCC have begun to explicitly confront the need to address specific enablers and barriers for such a systemic change, including the role of fossil fuels, and its implications. This has led to broadening the scope of just transition from a labour shifts perspective in a mitigation paradigm to broad socio-economic implications of whole-economy approach to transformation, reflecting both domestic and international dimensions. The following four sub-sections examine how this shift has materialized across science, finance, UNFCCC negotiations on fossil fuels, and the evolution of the Just Transition agenda. Together, they highlight the interplay between evidence, political signalling, and institutional arrangements in driving a new development logic for climate policy.

Transformational and development-centred language: Science perspective

Science as represented by IPCC has shown an increase of literature discussing alignment between climate and development goals across scales. IPCC AR6 represents a step change compared to previous AR5 in this regard, by establishing a chapter *Mitigation and Development Pathways in the Near to Mid-term*. A major conclusion is that in the absence of shifts in development pathways,[41] conventional mitigation policy instruments (e.g., carbon tax, emission quotas, technological norms,

[40] Decision 1/CMA.5. Outcome of the first global stocktake. Available at: https://unfccc.int/documents/637073

[41] Development pathways refer to patterns of development resulting from multiple decisions and choices made by many actors in the national and global contexts (AR6, Ch.4, Cross-chapter Box5).

etc.) may not be able to limit emissions to a degree sufficient for deep decarbonization or only at very high economic and social costs (AR6, Cross-Chapter Box 5). This not only reflects that development and mitigation can be two sides of the same coin, but it points out to development as the most important entry point to achieve change. This does not have to be a gateway for short-term carbon-intensive development, if the new climate economy delivers. AR6 also introduces references to sufficiency as a framing to discuss lifestyles which has been taken up by some developed countries.

Science has also responded to the necessity for ensuring alignment between the PA and the SDGs of the Agenda 2030. A common thread is the need for a transformational logic. Since 2015, there have been contributions from expert groups such as Rockström ***et al.*** and the Global Sustainable Development Report (GSDR) on the SDGs, which have highlighted the systemic line of reasoning—pointing to food systems, energy systems, urban systems, social systems, and governance, all of which must undergo transformation if we are to achieve the SDGs collectively. The emphasis of the growing expert and scientific knowledge, in particular in economics and businesses, is first on the expected profitability of this new economy, and second, on the social and distributive effects.

National-level empirical or modelled evidence shows that deep decarbonization is not only feasible but can also go hand-in-hand with economic development. Analyzing diverse national pathways, research shows that the transition to net zero presents socio-economic challenges that require careful management to avoid hindering development in the short term.[42]

Transformational and development-centred language: Finance providers perspective

The language of transformational change has also been increasingly applied by public development finance providers, from GCF (and other dedicated climate funds) to Public Development Banks (MDBs, FICS). However, concerns have been raised over the potential tension between mitigation-focused transformation and nationally driven sustainable development (Winkler, H. & Dubash, N.K, 2015)[43].

To enable integration, new tools have been required. LT-LEDS have been promoted by multilateral development banks and key development partners as a practical tool for integrating climate action and development. They can guide short- and medium-term political and economic actions, providing certainty for bold measures by economic actors while maintaining flexibility to support sustainable development and poverty eradication goals[44]. According to the UNFCCC Secretariat's "LT-LEDS Synthesis Report 2023,"[45] all LT-LEDS submitted by that time clearly provide a development perspective and integrate climate change-related aspects and objectives with development visions, priorities, and economic, social, and environmental goals.

Stemming from the UNFCCC negotiations, some developed countries established country-specific partnerships as framework to contribute financial support: the Just Energy Transition Partnerships (JETP). Distinct from previous deals, the 'Just' element features prominently. Also at G20 level, in 2024, the G20 agreed on voluntary ***Principles for Just and Inclusive Energy Transitions***. Developed within the Energy Transitions Working Group (ETWG), these principles focus on transforming energy systems rather than broader development models.

Fossil fuels language under UNFCCC negotiations since the PA

The PA does not explicitly refer to or call to address the main cause of climate change – the burning of fossil fuels, nor any substantial statement on energy system transformation. This follows from previous negotiations under the UNFCCC, which had never brought this topic up explicitly. After six years of the PA's adoption (COP26 in 2021) there is an agreement to include in the COP decision a reference to transitioning away from fossil fuels. In the context of a call to transition to 'low-emission energy systems' in order to keep the 1.5ºC limit, the COP decisions "calls upon Parties to [...] accelerat[e] efforts towards the phase-down of unabated coal power and phase-out of inefficient fossil fuel subsidies, while providing targeted support to the poorest and most vulnerable in line with national circumstances and recognizing the need for support towards a just transition".[46] Whereas these calls are probably not technically needed for the implementation of the PA, they play a critical role as political signal to the world—and proof Parties' confidence on the kind of economy that is under construction.

The GST Technical Dialogue has been highlighted by its the importance for ratcheting up climate ambition across all topics, including on the energy system transformation. The process itself facilitated scientific input into the UNFCCC negotiating process and informed the political outcome at COP28. For energy particularly, scenario-based evidence provided by the IEA Roadmap to Net Zero by 2050[47] on the feasibility and importance of the milestones associated to tripling of REs, doubling of EE and duplicating finance support to reach carbon neutrality played a critical role in the political negotiation. Scientific evidence in turn supports actors' confidence in the feasibility

42 DDP (2024). DDP Annual Report 2024. Making it happen: national pathways to net zero. IDDRI. Available at: https://ddpinitiative.org/event/ddp-annual-report-2024/

43 Winkler, H., & Dubash, N. K. (2015). Who determines transformational change in development and climate finance? Climate Policy, 16(6), 783–791. https://doi.org/10.1080/14693062.2015.1033674

44 AGNES (2024). Technical guide for the development of Long-Term Low Emission Development Strategies in Africa, Amegnaglo, C., Chevallier, R., Djabare, K and Khaemba, W. (Editors). African Group of Negotiators Experts Support, 2024

45 https://unfccc.int/documents/632339

46 https://unfccc.int/documents/310475

47 https://www.iea.org/reports/net-zero-by-2050

of the transformations, as it is the case for the evidence that renewable and new energy (RNE) technologies—such as solar, wind, and batteries—will continue to become cheaper and more efficient as they are more widely deployed included in the same IEA Roadmap. With these key ingredients, the GST COP28 decision could include a hard-fought reference to "transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science" (1/CMA.5, para 28(d)). This was less than the language on 'phasing out fossil fuels' over 100 Parties (and civil society) were supporting.[48] Other global signals shaping the energy system transformations were agreed, including for instance the reference to tripling renewables.

The language in the GST Decision has a greater directive role given the requirement Parties have to consider the GST outcome in their NDCs. While some hailed as historic the political signal given by the GST on fossil fuels, signalling the 'beginning of the end' of the era of fossil fuels,[49] the follow-up of this is proving to be challenging, as illustrated in the discussions under the Mitigation Work Programme (MWP). The MWP was established in 2022 to urgently scale up mitigation ambition and implementation in this critical decade in a manner that complements the global stocktake. Despite several attempts by specific countries, it was not possible to integrate fossil fuel transition into the programme's agenda.

Importantly, language on transitioning away from fossil fuel would be most important in the national strategies and commitments. Whereas this granularity is not an obligation that Parties have in the context of the NDCs, disclosing the nationally-driven visions to transition away from fossil fuel would prominently proof commitment to this new economic order.[50] To date, 40% of new NDCs contain indicators or qualitative references in relation to the global energy signals agreed under paragraph 28 of the GST Decision, but those references do not necessarily represent a national economy-wide strategy and timeline to transition away from fossil fuels.[51]

Evolution of Just Transition in the UNFCCC since the PA

From the outset, there has been the expectation that the green economy would generate new sources of jobs and employment. However, the primary focus since 2015 has been on preventing job losses, particularly in carbon-intensive industries. Much of the just transition discourse has concentrated on safeguarding workers in sectors most affected by the shift to low-carbon pathways. Yet, events such as the Yellow Vest movement in France have underscored that the social and distributive impacts on consumers are equally important. These issues—affordability, equity, and access—are now increasingly part of the just transition conversation.

Just transition was acknowledged in the Paris Agreement's preamble, followed by a declaration made at COP24 and principles adopted at COP26. The concept of a "just transition" was originally developed by North American unions in the 1970s and it had evolved to a more comprehensive concept that underlines the importance of implementing climate measures in a way that engages and protects affected and vulnerable people and communities.[52] It frames the transition with a human rights lens with the aim of addressing inequalities, enabling social inclusion and promoting different forms of equity. It also symbolises the significant challenges of the transition, including socio-economic impacts, potential harm to biodiversity, disproportionate burdens on vulnerable social groups. This makes just transition a critical condition to implementing the net zero transition.[53] Under the PA, it is also important to recognize that the concept of just transition carries a North–South dimension, reflecting global equity considerations, which is not always made explicit in many current discussions.

Discussions around the need for green transitions to be *just* gained increasing prominence within multilateral forums and a notable milestone was achieved at COP27 in 2022, when the Just Transition Work Programme (JTWP) was launched. Since then, JTWP negotiations have revealed a significant divide between developed and developing countries. While developed nations primarily emphasize domestic issues, including workforce transition, social rights, and inclusive participation, developing countries—represented by the Group of 77 and China—advocate for a broader approach to just transitions which embraces an international dimension. This argument is made because multilateral engagement is key to aligning domestic policies with international commitments, enabling countries to design strategies that mitigate socio-economic impacts, manage cross-border spillover effects, and share opportunities equitably.[54] On adaptation side, there has been an increased body of knowledge on the so-called transboundary risks. It comes from the appreciation that adaptation action can also lead to unequal outcomes, and an equitable approach requires recognizing interconnected systems and ensuring that climate actions protect vulnerable communities, without exacerbating risks elsewhere. Integrating adaptation in "just transition" frameworks is pending.

48 https://www.reuters.com/business/environment/countries-push-cop28-deal-fossil-fuels-talks-spill-into-overtime-2023-12-12/

49 https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era

50 Pérez Català, A., Torres Gunfaus, M., Waisman, H. (IDDRI). Ambition for action: a framework for assessing NDCs. IDDRI, *Policy Brief* N°02/25.

51 Lo Re, L. *et al.* (2025), "Early insights from biennial transparency reports (BTRs) to enhance the next nationally determined contributions (NDCs): Focus on energy outcomes from the first global stocktake and finance", *OECD/IEA Climate Change Expert Group Papers*, No. 2025/02, OECD Publishing, Paris, https://doi.org/10.1787/d1f0986a-en

52 Vilja Johansson, Just Transition as an Evolving Concept in International Climate Law, *Journal of Environmental Law*, Volume 35, Issue 2, July 2023, Pages 229–249, https://doi.org/10.1093/jel/eqad017

53 https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-just-transition-and-what-does-it-mean-for-climate-action/

54 Forthcoming, CIPO Plataforma, Southern Transitions & IDDRI T20 brief.

3.3.2. Progress on the transition in the real economy to the projected new economic order

It is outside the scope of this diagnosis to systematically assess progress on structural transformations across geographies and sectors, and to investigate how they align with sustainable development. However, progress in the real economy on the transition away from fossil fuel and deployment of renewables provide relevant evidence, even if it does not cover all structural transformations required to meet the climate goals.

Recent IEA projections suggest that fossil fuel demand will peak by 2030, which is a trajectory that falls short of PA targets. Since 2015, the demand has persisted -but it represents a reduction from the business-as-usual. Instead, there has been a remarkable acceleration of renewable energy, well beyond projections at the time (namely from IEA). A key contributor to this has been the rapid reduction in cost well beyond what was projected. Early renewable energy price forecasts failed to account for the substantial infrastructure cost improvements of technologies like solar photovoltaic installations and wind turbines. For example, annual solar energy prices were forecast to fall 2.6% on average in the decade following 2010, for example, with all forecasts predicting a less than 6% price reduction. But solar prices fell 15%—more than five times the predicted annual rate—during this period (University of Oxford, 2021).

National commitments under the PA's via NDCs and LT-LEDS have largely been related to ability of the country to reduce fossil energy demand, with a focus on demand-side measures.[55] Some changes have already been observed with NDCs submitted until May,[56] and a step change is expected as we complete this round of NDCs by COP30, given the need for those to reflect the outcome of the Global Stocktake, and in particular for energy, those signals in paragraph 28 ranging from energy system-wide direction to specific contributions to renewables capacity, energy efficiency improvements and phase down of unabated coal.

Theoretically, reducing demand for fossil fuels should lower oil prices, making the industry less profitable. But this has yet to materialize. Several factors help explain this: demand-side transformations are inherently long-term, external shocks have kept prices and industry profits high, and OPEC continues to influence prices through supply controls. Moreover, the fossil fuel industry remains resistant to change, as evidenced by its retreat from commitments to scale back oil and gas expansion and shift investments toward renewables. Instead, it is increasing investments and exploration budgets in anticipation of continued future demand.[57] Analysis in developing countries context show a clear structural decreasing trend in the use of fossil fuels for final energy consumption, although trends vary significantly across countries depending on the specificities of each country's socio-economic context and energy landscape, as well as their target dates for national carbon neutrality. Across eight G20 emerging economies countries, analysis show there will be a notable decrease in the total volume of fossil fuels used in 2050 compared to 2020 – by around 30% despite a consistent increase in total energy needs to meet development needs.[58]

On the supply-side, the UNEP's Production Gap report series has quantified the misalignment between planned fossil fuel production and the carbon budgets consistent with 1.5–2°C pathways. The current market organization along with the development of new technologies result in an increasing diversification of geographies for oil and gas production. Science tells us that "currently discovered/ explored fields" already represent excessive capacity in the perspective of the PA goals, and this is often translated into a call for "no additional exploration". But at the same time, most newcomers in this market are developing countries, who see the opportunity to boost their development with additional revenues: call for refraining is considered unfair, when the bulk of the future expansion in production is planned by just 5 developed countries, with the United States recent boom in shale oil & gas leading the pack.

Electricity demand grew more rapidly than both overall energy demand and GDP, increasing by 4.3% in 2024. The absolute increase in demand was the largest ever recorded (excluding the jumps in years when the global economy recovered from recession). This reflects structural trends such as growing access to electricity-intensive appliances like air conditioning and a shift towards electricity-intensive manufacturing, as well as increasing power demand from digitalization, data centres and AI, and the increasing electrification of end-uses.[59] Furthermore, we are now entering feedback loop territory as we register more record-high temperatures, which in turn lead to higher energy demand. National pathways to net zero emphasize broad electrification across buildings, transport, and industry, with electricity becoming the dominant end-use energy over time. However, the pace and extent of this shift vary across countries, depending on factors such as energy demand growth profile in meeting development priorities, and the availability of alternative energy sources like biomass.[60]

Electrification and Key Technologies are progressing rapidly.[61] There has been a stark uptake of electric vehicles (EVs), with electric car sales in 2023 were six times higher than in

55 Green, F., Denniss, R. (2018). Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies. *Climatic Change* 150, 73–87 (2018). https://doi.org/10.1007/s10584-018-2162-x

56 Lo Re, L. *et al.* (2025). "Early insights from biennial transparency reports (BTRs) to enhance the next nationally determined contributions (NDCs): Focus on energy outcomes from the first global stocktake and finance", *OECD/IEA Climate Change Expert Group Papers*, No. 2025/02, OECD Publishing, Paris, https://doi.org/10.1787/d1f0986a-en

57 https://legrandcontinent.eu/fr/2025/03/05/resister-a-lempire-des-puissances-fossiles/

58 https://ddpinitiative.org/wp-content/uploads/pdf/ddp_makeithappen-1.1-fossil-fuels.pdf

59 IEA (2025). Global Energy Review 2025, IEA, Paris https://www.iea.org/reports/global-energy-review-2025, Licence: CC BY 4.0

60 https://ddpinitiative.org/ddp-annual-report-2024/

61 IEA (2025). The State of Energy Innovation 2025

2018 (Global EV outlook 2024, IEA); heat pumps now represent the most deployed home heating solution globally;[62] whereas battery storage in the power sector is the fastest growing energy technology in 2023, 42 GW were added globally, compared to 3.3 GW in 2018.[63] Furthermore, renewable energy adoption has increased, as seen in changes in energy mix, installed capacity of renewables, and grid decarbonization. In 2024, renewables accounted for the largest share of the growth in total energy supply (38%).[64]

In turn, energy efficiency is progressing much slower. Global energy efficiency progress—measured by the rate of change in primary energy intensity—is set to see only a weak improvement of about 1% in 2024. This is the same rate as in 2023, and around half of the average rate over the 2010-19 period. This recent slowdown continues a trend observed in the second part of the last decade with annual progress slowing from 2.2% per year from 2010-2015 to 1.6% per year from 2015-2019. The impact of Covid-19 in 2020 and 2021 saw two very weak years of energy intensity progress of less than 1% each year. The energy crisis of 2022 saw progress accelerate to 2% which is also the level of progress seen on average this decade in the IEA's Stated Policies Scenario (IEA).

3.3.3. Progress in integrating climate and socio-economic development

Evidence shows that the emergence of a fast-growing clean energy market has driven innovation, employment and investment. China's energy workforce undergoing an unprecedented reorientation toward clean energy and, in virtually all parts of the world between 2020-22, clean energy jobs being the major driver of energy job growth though several regions also saw fossil fuel employment rise above 2019 levels, notably India, Indonesia, and the Middle East. [65] Case studies on the deployment of Concentrated Solar Power (CSP) in Spain and South Africa show varied results in terms of local value creation; denoting positive development outcomes depend on policies that nurture local industry growth, foster innovation and engage communities.[66] Similar conclusion is reached when studying socio-economic impacts of the development of wind energy in Brazil and South Africa, and the role of Local Content Requirements (LCR).[67]

These observed results corroborate IPCC and national-level studies' conclusion that policy design and dedicated actions are required to address macroeconomic tensions and potential negative socio-economic effects of climate action.

The nascent but growing body of knowledge on *ex-post* analysis of the socio-economic impacts of climate policy is expected to complement socio-economic assessments of projected mitigation outcomes. Analysis of JETPs—as a novel innovation to integrate 'just' aspects in energy transition initiatives—are emerging as these unfold into investment plans and project pipelines. The absence of clarity and specific objectives for the social and justice dimensions, and slow real progress, have become a shared concern.[68] Similarly, an improvement of these assessments is necessary be in terms of methodology or granularity. For instance, a systematic review[69] of 156 papers on Africa's energy transitions reveals that although modeling is growing, only about 10% of studies explicitly link outcomes to socio-economic development. On adaptation, the concept of maladaptation embraces potential socio-economic negative effects of adaptation policy, but case studies are limited in number. For instance, much less attention in the literature is given to whether social protection measures might have transformational effects for recipients, beyond helping households to cope against shocks over short time horizons.[70]

3.4. What challenges or shortcomings remain on this pillar?

Ten years later, the new economy is taking shape, but rather than fully replacing the fossil fuel economy, it is largely being added on top of it. Where substitution does occur, there are signs—and fears—that it may be socially unfair. The perceived inclusiveness and the confidence in individual countries' economic self-interest underpinning this transition are increasingly being called into question. While the concept of a just transition has appealed to many as a useful guiding principle in local contexts, it remains insufficient to address the deeper conflicts arising from the need to reconcile national efforts with international relations.

PA limitations in defining the features of a new socio-economic path for the world

The PA implies a deep transformation, not merely a reduction in fossil fuel use and unsustainable reactive adaptation measures. It serves as a source of pressure—requiring or incentivizing appropriate national and international responses—rather than the forum in which the features of the new economy can or

62 WEF (2024).

63 IEA (2024).

64 IEA (2025).

65 IEA (2023). World Energy Employment 2023, https://www.iea.org/reports/world-energy-employment-2023 .

66 IRENA (2025). Renewable energy benefits: Leveraging local capacity for concentrated solar power, International Renewable Energy Agency, Abu Dhabi.

67 Zachmann, Georg & Roth, Alexander & Way, Rupert & Lafond, François & Doyne, J & Teng, Fei & Tu, & Tommasino, Maria Cristina & Virdis, Maria & Zini, Alessandro & Trollip, Hilton & Keen, Samantha & Moyo, Alfred & Rennkamp, Britta (2018). COP21 RIPPLES: Results and Implications for Pathways and Policies for Low Emissions European Societies. 10.13140/RG.2.2.29904.72968

68 UNCTAD (2024). https://unctad.org/system/files/non-official-document/Just_Transition_Anabella_Rosemberg.pdf

69 Moussa P. Blimpo, Prudence Dato, Brian Mukhaya, Lily Odarno (2024). Climate change and economic development in Africa: A systematic review of energy transition modeling research, *Energy Policy*, Volume 187, 2024, 114044, ISSN 0301-4215, https://doi.org/10.1016/j.enpol.2024.114044

70 Tenzing, J. D. (2020). Integrating social protection and climate change adaptation: A review. *WIREs Climate Change*, 11(2), e626.DOI: 10.1002/wcc.626 cambridge.org+5

should be fully defined. A priori, the PA is not designed, nor does it need to be, to dictate the structure of this emerging economy. Instead, the responsibility lies with states and non-state actors to shape it domestically and through traditional international channels.

The PA can focus on two key roles: (a) evolving its thinking, implementation methodologies, and tools in line with the broader transformation agenda, and (b) monitoring that this transformation respects the promise of inclusiveness while supporting it through targeted climate actions such as technology transfer, capacity building, and finance. These efforts are vital to uphold the original commitment that the pressure for change embedded in the PA would contribute to—rather than hinder—development.

Yet, this is a difficult and sensitive point. The PA should not be prescriptive but should acknowledge that a shift in vision has occurred—reflected in contributions from science, the private sector, civil society, and parts of the UN system. While there is broad convergence around the idea of a "new economy," views differ widely on its defining features. This exacerbates the difficulties in proving that there is a credible business model for this new economy.

PA limitations in prompting systemic approaches

In theory, effective multilateral engagements allow countries to collectively design strategies that ensure equitable sharing of opportunities and mitigate negative socio-economic consequences of the global transitions. Nevertheless, as of today, the PA has struggled to operationalise the mandates for enhancing international strategic collaboration and cooperation, beyond discussion on climate finance.

Furthermore, transformational change requires synergies with Rio Conventions (with some progress to date, but slow) and work within sub-systems, prominently, with value-chain approaches and smaller coalitions of the willing or mutually beneficial alliances. Transformational changes may require changes in decision-making power along value chains, some with major geopolitical consequences, for instance for oil producers. For all of these, the PA cannot impose, and its governance mechanism are weak in the absence of strong political will and favourable geopolitical context.

The combination of the Global Stocktake and the transparency provisions of the PA could contribute to the assessment of the transformative nature of collective action. To this, an evolution of reporting is needed to focus on the drivers of the transformational change and development outcomes and indicators in the context of Paris-aligned action, with valuable knowhow gained in GST-1 experience in integrating equity.[71]

Difficulties in transitioning to this new economy The insufficient amounts of climate finance provided for adaptation is a clear example of the difficulties encountered to transition to the new economy—which is one that is resilient, beyond carbon free. GST decision notes 'with concern that the adaptation finance gap is widening, and that current levels of climate finance, technology development and transfer, and capacity-building for adaptation remain insufficient to respond to worsening climate change impacts in developing country Parties'.[72] With that assessment, it recalls the doubling of adaptation finance, and pushes developed countries to go beyond such doubling of adaptation finance. However, no official baseline to assess progress or a roadmap towards such doubling exists to date, probably due to lack of political priority among donor countries.[73]Vested interests and their influence in climate policy design and implementation is another key challenge for the new economy. Structural changes aimed at reducing fossil fuel extraction often entail a reconfiguration of power dynamics, economic systems, and societal values, leading to resistance from entrenched interests, significantly shaping the feasibility and impact of these supply-side climate policies.[74] These vested interests—such as fossil fuel companies and allied political actors—frequently oppose reforms that threaten their influence and profitability, challenging the flourishing of this new economy.

Financing costs of a just transition away from fossil fuels remains a major challenge, particularly for developing countries. Despite growing recognition of the need for long-term investment in low-carbon infrastructure, job creation, and social protection measures, financial planning around transition costs is often insufficient, and support from developed to developing countries remains limited and poorly coordinated. Moreover, access to existing climate finance is frequently hindered by complex procedures and institutional barriers. To bridge this gap, greater emphasis must be placed on enabling conditions that help countries unlock and effectively utilize climate finance, including capacity-building, and institutional reform.

[71] Winkler, H., Akhtar, F. (2025). Navigating the technical dialogue of the first global stocktake from process to findings. *Nat. Clim. Chang.* 15, 37–43 (2025). https://doi.org/10.1038/s41558-024-02220-x

[72] https://unfccc.int/sites/default/files/resource/cma2023_16a01_adv_.pdf

[73] Winkler, H., Watson, C., and Bhandari, P. (2024). "Connecting Global Stocktake outcomes and COP28 workstreams." Finance Working Group. Available at: https://odi.org/en/publications/connecting-GST-outcomes-and-COP28-workstreams

[74] Lazarus, M., van Asselt, H. (2018). Fossil fuel supply and climate policy: exploring the road less taken. *Climatic Change* 150, 1–13 (2018). https://doi.org/10.1007/s10584-018-2266-3

4. PILLAR 3: LONG-TERM DIRECTION

4.1. Overview of the pillar: what, why, how?

Setting a clear, enduring direction for climate action and economic transition, and establishing a mechanism to get Parties and NSA engaged on this path

WHAT: The long-term direction in the PA is enshrined in three goals (Art. 2.1): well below 2ºC temperature goal, pursuing efforts to 1.5°C -with codified milestones for the global emissions trajectory; resilience; and aligning financial flows to low-GHG and climate resilient development; and mechanisms like the GST that connect short-term collective action and long-term direction, or the LT-LEDS that facilitate this at country-level.

WHY: The PA cannot govern everything but should influence all processes at all scales, hence the need for a governance benchmark that guides everyone. Focusing on setting up a long-term direction allows everyone's engagement—Parties and NSA- despite very distinct starting points and different transition profiles and speeds across countries and sectors while maintaining a sense of common goal. It also guarantees alignment with the achievement of the UNFCCC Convention's objective.

HOW: The PA does not have an expiry date (in contrast to e.g., the Kunming-Montreal Global Biodiversity Framework), contributing to its solidity and resilience over time. The quantified temperature goal is combined with a description of key attributes of the global path (rapid cuts, peaking emissions, net zero by mid-century) and regular ambition cycles to make it possible to enhance ambition of NDCs towards the common goal over time, also known as the ratchet-up or ambition mechanism. This governance structure is at the core of the PA and represents an innovation compared to KP. By contrast, adaptation and finance do not have an equivalent structure in place.

4.2. How is the pillar anchored and codified within the PA?

Overarching long-term direction and mechanisms

The PA's purpose is to enhance the implementation of the Convention, including its long-term objective to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" while supporting sustainable development and poverty eradication (Art. 2.1). The Agreement defines the long-term vision across the three main pillars of action: mitigation, adaptation and finance as key enabler. There are also elements for a long-term vision for technology development and transfer to support resilience and emissions reduction (Art. 10.1), emphasizing innovation's role in global climate response and sustainable growth (Art. 10.5), supported by a Technology Framework (Art. 10.4). Capacity building is addressed but without a specific long-term objective. Furthermore, it establishes a process to support collective progress' assessment towards achieving the long-term goals: the Global Stocktake (Art. 14.1).

Mitigation long-term direction

The PA establishes the goal of "holding the increase in the global average temperature warming to well below 2°C and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change" (Art. 2.1(a)). The 2ºC mention was based on previous science, while 1.5ºC had been championed for multiple years by the alliance of small island states (AOSIS) as essential for their islands' survival amidst projected global-warming induced sea-level rise.[75] To operationalize the long-term temperature goal, the PA calls for global peaking of emissions as soon as possible (recognizing later timelines for developing country Parties); establishes a collective 'net zero GHG by mid-century' goal, in the context of sustainable development and equity (Art. 4.1). It also invites the IPCC to produce a Special Report on 1.5ºC by 2018 (1/CP.21, Para. 21).

Furthermore, the PA invites Parties to submit long-term low-emission development strategies (LT-LEDS) (Art. 4.19). The carbon neutrality objective forces countries (and Non-State Actors, NSAs) to confront the scale of the challenge imposed by the long-term temperature goal and to seek to identify the consistent sequence of necessary systemic physical and socio-economic transformations. This codified vision is therefore a key instrument to help translate long-term ambition into short-term action, and to embed the multilateral conversation in domestic politics

To ensure progress towards its long-term goals, the Agreement includes a ratchet-up mechanism based on a five-year cycle. Nationally Determined Contributions (NDCs) must be submitted every five years, each showing increased ambition (Art. 4.3), informed by the Global Stocktake outcomes (Art. 4.9). The PA's enhanced transparency framework (ETF) supports this process by promoting trust, understanding of climate actions, and clarity on support provided and received (Art. 13.1 & 13.5), with Parties' Biennial Transparency Reports (BTRs)—submitted every two years under the ETF, in which they assess their own individual progress toward their NDC—serving as key inputs into the Global Stocktake (Art. 13.5 & 13.6).

Adaptation and Loss & Damage long-term direction

The Paris Agreement sets a broad, non-quantified resilience goal focused on increasing adaptive capacity, fostering climate resilience, and supporting low-emissions development without

[75] https://climatica.coop/15-2-history-temperature-paris-agreement/

threatening food production (Art. 2.1(b)). It establishes a Global Goal on Adaptation to enhance adaptive capacity, strengthen resilience, and reduce vulnerability in line with sustainable development and temperature goals (Art. 7.1). Adaptation is recognized as a global challenge and a vital part of the long-term climate response, particularly for vulnerable developing countries (Art. 7.2). While loss and damage is acknowledged as important (Art. 8.1), the Agreement does not provide a basis for liability or compensation and lacks a defined long-term vision in this area.

Finance long-term direction

The Agreement includes a long-term finance goal to align financial flows with climate-resilient, low-emissions development (Art. 2.1(c)). This alignment is interpreted as the fact that all 196 States "effectively agreed to completely overhaul their financial systems to support net zero and resilience".[76] which requires specific attention in developing countries of other goals such as sustainable development and poverty eradication (as noted in the chapeau of the PA's Art. 2.1). Finance provisions by developed countries (Art. 9) do not fully operationalize this alignment goal, but contribute a key stepping stone.

4.3. What progress has been made on this pillar since the adoption of the PA?

Long-term mitigation

Five years after the adoption of the PA, a rapid proliferation of carbon neutrality pledges across a range of both public and private stakeholders and sectors was observed.[77] The concept of carbon neutrality, barely discussed beyond experts before 2015, fast became mainstreamed and widely understood by leaders and society.

As of today, 107 Parties, representing 108 countries and 82.3% of global GHG emissions, have communicated a net-zero target.[78] Beyond this role of political attractor at the international level, many of the country carbon neutrality commitments emerged after extensive domestic processes - notably framed around the "long-term low GHG emission development strategies" codified in Art 4.19 of the PA.[79] As of April 2025, 76 LT-LEDS have been submitted to the UNFCCC.[80] According to the UNFCCC Secretariat's "LT-LEDS Synthesis Report 2023",[81] all LT-LEDS submitted by that time clearly provide a development perspective and integrate climate change-related aspects and objectives with development visions, priorities, and economic, social, and environmental goals. Key development partners platforms, such as the NDC-Partnership have organized support requests in a manner that sets the LT-LEDS as starting point.

While a long-term mitigation direction has widely been given through net zero targets, the LT-LEDS submitted by 2023 showed a collective misalignment with short-term requirements of Paris-aligned global paths. The latest analysis of G20 LT-LEDS by EGR(2024) shows that most rapid emissions reductions, for most countries who have already peaked, are delayed beyond 2030 resulting in higher cumulative emissions in the near term combined with exacting rates of decarbonization in later decades; and for countries who have not reached the emissions peak, the anticipated period between peaking and net zero is quite short. The reports indicate that adhering to this time frame requires striving in the near term for earlier and lower peaking, while laying the groundwork for rapid decline thereafter.

Long-term adaptation

Since its establishment in the PA, the Global Goal on Adaptation (GGA) has seen incremental progress toward greater clarity, particularly in addressing major gaps in definition, metrics, and accountability.[82] Its initial design—without a clear definition or binding obligations—has limited the establishment of a coherent long-term global direction on adaptation. The absence of a global methodology still hampers the ability to assess collective progress towards a clear direction of travel. Having said that, adaptation action has expanded globally over the past decade and the lack of international guidance suggests much of this progress has likely been driven by national and local responses to increasingly evident climate impacts.

The UAE–Belém work programme (established at COP28) aims to develop measurable indicators to support a common long-term direction on adaptation among Parties while remaining flexible to specificities. However, as the framework was agreed on concomitantly with the first Global Stocktake, the first review of progress towards the global goal on adaptation did not benefit from this framework.[83]

The UNEP Adaptation Gap Report, published every year, assesses progress on different dimensions, including adaptation planning, implementation, finance, and (depending on the reports) other topics such as capacity building and technology transfers in 2024[84] or effectiveness in 2022.[85] However, this is

76 https://www.lse.ac.uk/granthaminstitute/news/what-does-article-2-1-c-of-the-paris-agreement-mean-for-central-banks/

77 https://www.iddri.org/en/publications-and-events/blog-post/carbon-neutrality-key-political-attractor-reach-paris-agreement

78 https://www.climatewatchdata.org/net-zero-tracker , consulted on May 5th 2025

79 https://www.iddri.org/en/publications-and-events/blog-post/carbon-neutrality-key-political-attractor-reach-paris-agreement

80 https://unfccc.int/process/the-paris-agreement/long-term-strategies

81 https://unfccc.int/documents/632339

82 Hall and Persson, 2018

83 Leiter, T. (2022). Too Little, Too Slow? Climate Adaptation at the United Nations Climate Change Negotiations Since the Adoption of the Paris Agreement. Carbon & Climate Law Review, 16(4), 243–258. https://doi.org/10.21552/cclr/2022/4/5

84 United Nations Environment Programme (2024). Adaptation Gap Report 2024: Come hell and high water — *As fires and floods hit the poor hardest, it is time for the world to step up adaptation actions.* Nairobi. https://doi.org/10.59117/20.500.11822/46497. Available at: https://www.unep.org/resources/adaptation-gap-report-2024

85 United Nations Environment Programme (2022). *Adaptation Gap Report 2022: Too Little, Too Slow – Climate adaptation failure puts world at risk.* Nairobi. https://www.unep.org/adaptation-gap-report-2022

mainly focused on adaptation in developing countries as adaptation planning is assessed through the number of NAPs submitted by Parties to the UNFCCC; adaptation finance through the data on ODA for adaptation tracked by the OECD; and implementation is assessed through adaptation projects implemented by the Adaptation Fund, GCF and GEF as well as implementation of NAPs.

The 2024 version of the Adaptation Gap report shows progress on adaptation planning globally as it states that 87% of countries have at least one national adaptation planning instrument in place. Among these countries, 51% have updated this plan, policy or strategy once and 20% at least twice which shows an uptake of the periodical improvement process[86] and suggests incorporation of new information and learnings through time. However, the long-term dimension of such planning can be nuanced by the fact that in 22 of these countries, the implementation period of the plan has passed.[87] Focusing solely on NAPs submitted to the UNFCCC, the report also recognizes that data on the implementation of the NAPs and their effectiveness is very limited.[88] Beyond this, even though NAPs are aimed at identifying medium and long-term adaptation needs within countries, there does not seem to be any systematic analysis of the adoption of a long-term approach to adaptation planning in the documents submitted to the UNFCCC.

Long-term finance

Alignment of climate finance flows is poorly assessed in literature. The lack of agreement on the scope of Article 2.1(c), hinders the implementation of actions in the short-term that may underpin such a shift in finance flows, including in the context of the GST. Despite encouraging progress on alignment initiatives, particularly by NSAs, existing evidence points to a continued overall low degree of alignment of finance with climate change mitigation goals.[89]

As main instrument to assess progress towards long-term goals, the GST political decision took an integrated look at finance obligations and broader flows on finance to expresses deep regret that the $100 billion climate finance goal was not met in 2021, highlighted the adaptation finance gap and called for significantly scaled-up finance aligned with scale of the needs—estimated at $5.8-5.9 trillion before 2030.[90] The GST Synthesis report underscored the key role of increased private sector engagement to ensure financial flows are consistent with climate goals, stating that "while public finance may be deployed to incentivize high-impact investments and to crowd-in private sector finance, global and domestic capital markets are likely to be the primary source of capital for scaling up mitigation and adaptation [hence,] increased private sector engagement is needed to make financial flows consistent with climate-resilient development. It also pointed to the importance of shifting finance including subsidies away from high-emission investments.[91]

In turn, the GST COP28 final decision noted that 2.1(c) "is complementary to, and no substitute for, Article 9 of the Paris Agreement, which remains essential for achieving mitigation and adaptation goals in developing countries".[92] Since 2015, there have been some efforts within the UNFCCC to operationalize 2.1(c). The UNFCCC's Standing Committee on Finance has worked on mapping what contributes to 2.1(c), and how to operationalize it. Key findings from its 2023 report (synthesizing Parties' views), include: there is an absence of common understanding of scope and implementation of Art. 2.1(c) (more or less narrow); while all Parties agreed both domestic and international private and public finance are part of 2.1(c), views differ in terms of who has the responsibility to make these flows consistent (namely, connecting back to Art. 2.2 of the PA on equity, sustainable development, CBDR-RC, and connections between Art. 2.1(c) and Art. 9 (finance), under which developed countries have a responsibility to provide finance to developing countries for their mitigation and adaptation action. The report also notes vast agreement among Parties on a 'guiding role' of governments in implementing Art. 2.1(c), but less agreement on the role of the private sector. A Sharm-el-Sheik dialogue on 2.1(c) was established at COP27, for deliberation on understanding the scope and its link to Art. 9 (finance) of the PA, and two additional workshops in 2024 and 2025 (COP30) to further operationalise and implement 2.1(c).[93]

All in all, this points to the crux of the tension on Art. 2.1(c): many developing countries tend to be cautious about developed countries insisting on 2.1(c), seeing in it a risk of developed countries diluting their responsibility to provide climate finance to developing countries (under Art. 9).[94] These tensions continue to persist after the 'new collective quantified goal' (NCQG) negotiations that resulted in adoption of a package at COP29 (a core outcome of $300 billion climate finance for developing

[86] United Nations Environment Programme (2024). *Adaptation Gap Report 2024: Come hell and high water — As fires and floods hit the poor hardest, it is time for the world to step up adaptation actions*. Nairobi. https://doi.org/10.59117/20.500.11822/46497

[87] Ibid.

[88] Ibid.

[89] OECD (2024). "Aligning finance with climate goals", *OECD Net Zero+ Policy Papers*, No. 4, OECD Publishing, Paris, https://doi.org/10.1787/aa7c23b2-en.

[90] Winkler, H., Watson, C., and Bhandari, P. (2024). "Connecting Global Stocktake outcomes and COP28 workstreams." Finance Working Group.

[91] https://unfccc.int/documents/631600

[92] https://unfccc.int/documents/637073

[93] https://unfccc.int/topics/climate-finance/workstreams/sharm-el-sheikh-dialogue/sharm-el-sheikh-dialogue

[94] One Indian news outlet remarks that « in the absence of a proper interpretation of what 'finance flows', 'consistency' and 'pathway' means in the text, developed countries, for the past few years, have been using their skewed interpretations in various parallel climate finance discussions, including at the GCF, to arbitrarily push 'net-zero' pathways on developing countries" and that "experts and negotiators warn that developed countries are trying to use Article 2.1(c) to dilute and renegotiate their financial obligations as delineated in the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. Instead, the burden of financing climate action is being shifted to private sources, along with pushing steeper mitigation targets on poorer nations" https://carboncopy.info/are-rich-nations-using-article-2-1c-to-undermine-equity/

countries mobilized by 2035, and a 'Baku-to-Belem' roadmap of efforts to scale up to $1.3 trillion finance from public and private sources for developing countries) where developing countries expressed widespread frustration at core outcome, deemed insufficient.

While tensions remain with UNFCCC, countries around the world are taking this up as an avenue to further explore climate-proof investment. Multiple analysis and fora explore solutions to address barriers faced by financial actors and governments for investing in climate resilience. Even though broad assessment of progress on 2.1(c) in the real economy is lacking, as comprehensive assessments for climate mitigation are not yet possible for all layers of finance and remain exploratory for climate resilience,[95] some progress is being seen by investors, companies and financial institutions on aligning financial flows (see section 3.3 – diffusion to financial sector).

4.4. What challenges or shortcomings remain on this pillar?

Is GST an effective mechanism to assess progress against long-term goals?

The first GST (GST-1) took place from the end of 2021 to COP28 in 2023, including the three phases of information collection, technical dialogues and consideration of outputs. COP28 concluded with the "UAE Consensus" and highlighted several high-level 'signals' for action needed to course-correct to a PA-aligned collective pathway. Lessons learned indicate that to be effective, the GST requires three key elements: (1) clearly defined long-term goal, (2) robust country-level data to support cross-country analysis, and (3) strong engagement from non-state actors (NSAs), including scientific and expert communities, to foster more open discussion than typically seen in UNFCCC formal processes. On point (1), gaps remain in the long-term framing of adaptation and finance, and even mitigation as clarity around 1.5°C continues to evolve (see section below). For point (2), submissions from Parties—particularly smaller and least developed countries—have been limited; for example, a very limited number of submissions and engagement from African countries were observed.[96] On point (3), the key concern is forward-looking: the misalignment between the GST-2 timeline and the 7th Assessment Report of IPCC (AR7) which may limit science's role in shaping outcomes of the 2nd Global Stocktake.

Is the long-term direction translating into timely action?

The Paris Agreement (PA) established a bottom-up system of NDCs in response to the failure of the Kyoto Protocol's top-down, negotiated burden-sharing approach—highlighted by the U.S. refusal to ratify and Canada's withdrawal when it fell behind on its targets. However, the PA also acknowledges potential shortcomings of a bottom-up model by embedding mechanisms to encourage upward revision of ambition, notably the "ratcheting mechanism" and top-down accountability processes: the Enhanced Transparency Framework (ETF) and the Global Stocktake (GST). Poor action on the ground can be explained by actual difficulties in domestic implementation of climate action, but also frail implementation of the Agreement's mechanisms. A mechanism to facilitate implementation of and promote compliance with the provisions of this Agreement is also established in Article 15, with little real effect to date.

PA contains a clear commitment to domestic implementation of NDCs that deserve monitoring, evaluation, and political action at COP level at the end of each cycle—every 5 years. The participation and quality of reporting -particularly Biennial Transparency Reports (BTRs)- is a critical enabler, and it remains to be seen how this unfolds at the end of this first cycle in 2025.

Updated NDCs reveal intended short-term action, and hence, low NDC ambition is an indication of inadequate short-term action. NDCs however, cannot be meaningfully assessed against Paris-compatibility in isolation from a long-term objective. Under the Agreement—largely Article 4-, short-term action can be directly assessed against NDCs, NDCs can be assessed against LT-LEDS, and aggregated LT-LEDS can be assessed against the long-term mitigation goal. Hence, at country-level, NDCs and LT-LEDS instruments are intended to be regularly revised and mutually reinforcing. However, nearly half (47%) of long-term low-emission development strategies (LT-LEDS) submitted to the UNFCCC do not indicate how they relate to current NDCs. Only 10% claim current NDCs are already aligned with long-term goals; 43% say LT-LEDS will guide future NDCs; and 18% acknowledge that deeper emission cuts than those in existing NDCs are needed. Practitioners ask themselves, how to best align the vision developed by a country in its long-term strategy (most with a time horizon of 2050-2070) with its medium-term commitment (10-year time horizon), and translate the latter into concrete policies and investments.[97] While significant work throughout civil society and research has been developing on this, to support countries, and while countries' themselves have made explicit efforts to connect this, often the disconnect remains. The question of the lack of ambition in LT-LEDS should also be discussed when assessing alignment, bringing the experience of the GST-1 for the collective evaluation and what could have added to place a discussion on how Parties approach LT-LEDS and explain the deceptive result at the global level. The importance of LTS is less in the exact level of emissions in

[95] OECD (2024). "Aligning finance with climate goals", *OECD Net Zero+ Policy Papers*, No. 4, OECD Publishing, Paris, https://doi.org/10.1787/aa7c23b2-en.

[96] Status quo analysis on african engagement and perspectives on the UN framework convention on climate change global stocktake, Xolisa Ngwadla. IDDRI (2023). Available at: https://ddpinitiative.org/wp-content/uploads/pdf/africa_gst_paper.pdf

[97] See overview of tools and expert views at https://unfccc.int/ndc-3.0

2050 than in its implication for appropriate short-term action, if LT-LEDS are truthful. All in one, the current NDC-LT-LEDS misalignment denotes challenges in the implementation of the PA and underscores the need for the COP process to explicitly address this, collectively and individually.

Is the PA's mitigation long-term direction specific enough and coherent with other goals from Rio Conventions?

The long-term direction of travel for mitigation has been helpful given the role of carbon neutrality as political anchoring. As priority concern is now on the lack of short-term action and accountability, as well as responsibilities for climate impacts and loss and damages, various interpretations of the way the PA's mitigation long-term goal is codified in the Agreements Art. 2.1(a) and Art. 4.1[98] and underpinning visions point out to potential shortcoming.

Since 2015, the 1.5ºC target has gained prominence, though ambiguity remains in its formulation—whether it is a strict ceiling or allows for temporary overshoot.[99] The publication in 2018 of the IPCC Special Report on 1.5ºC further solidified the scientific basis for the 1.5ºC limit. However, there was tension as several Parties—the United States, Saudi Arabia, Kuwait, and Russia—refused to 'welcome' the report at COP24.[100] Subsequent COP decisions nevertheless reinforced the political commitment to 1.5ºC: COP26 Glasgow Pact, COP28 GST, and advanced proposals to take forth accelerated action. Implementation gaps and lack of rapid cuts in the short-term have increased the likelihood of overshooting 1.5ºC, yet science warns this path is both risky and difficult to reverse, due to limited biophysical, ecological, and societal feasibility of large-scale carbon dioxide removal (CDR).[101] Critically, many net-zero pathways rely heavily on unsustainable CDR strategies, which may undermine other environmental goals and equity considerations.[102] Meanwhile, the PA's mitigation goal, while meaningful to achieve them, remains poorly integrated with related global targets such as halting biodiversity loss under the CBD and the Kunming-Montreal Global Biodiversity Framework, in particular when it comes to the impacts of proposed solutions / paths forward.

As we get closer to the 1.5ºC limit, a whole new set of issues arise. In particular, issues of responsibility and equity in the event of overshoot remain unresolved. Lead IPCC scientists have recently set out to calculate and apportion to each region (which could also then be translated to a country) a 'net-zero carbon debt' that combines a country's historical CO_2 emissions, projected future emissions and 'fair share' remaining carbon budget for 1.5ºC.[103]

5. PILLAR 4: DIFFUSION TO SOCIETY

5.1. Overview of the pillar: what, why, how?

Embedding climate targets into institutions, sectors, and societies.

WHAT: While States remain the only Parties to the Agreement, and hence bound by its obligations, the PA recognizes the need of engaging all actors in climate action—not just States but also 'non-Party stakeholders' (non-state actors or NSA) such as civil society, the private sector, financial institutions, cities and other subnational authorities.

WHY: As an intergovernmental legal instrument, the PA cannot directly mandate non-Parties—NSA and other international organizations (IOs). Once the PA sets the overarching climate goals, these need to trickle down at country level, notably through national policies, across sectors and policies, and internationally across a wide range of international cooperation fora, and involve a wide array of actors to generate changes. These changes in individual actor's strategies also make it possible in return for government to support national arbitrages in favour of ambitious climate policies. This bidirectional influence dynamic is part of theory of change.

HOW: This requires enabling governance (including regarding transparency and monitoring), sector specific mainstreaming mechanisms and alignment of action across policies, finance, and non-state actors at international and national levels. For diffusion to succeed and contribute the overall PA goals, some kind of orchestration is needed that could only be partly foreseen and organized *ex ante*, and needs to be revisited ex post.

98 The PA codifies the mitigation long-term goal as: holding temperature rise to "well below 2ºC above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C" (Art 2.1 (a)), operationalized in Art. 4.1, "Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty". At the time of the adoption of the PA, multiple options had been considered, and the final option adopted is viewed as having codified usefully the goal (Waisman, H, Torres Gunfaus, M, Spencer, T, Marquard, A. [2016]. Emerging from Paris: Post-2015 process, action and research agenda. IDDRI/MAPS 2016)

99 https://climatica.coop/15-2-history-temperature-paris-agreement/

100 https://www.bbc.com/news/science-environment-46496967

101 (CDR corresponds to 'net' net zero, that are meant to counterbalance any residual remaining emissions)

102 Deprez et al. (2024); Braun et al. (2025) Multiple planetary boundaries preclude biomass crops for carbon capture and storage outside of agricultural areas, Nature, https://www.nature.com/articles/s43247-025-02033-6

103 Pelz et al. (2025). Using net-zero carbon debt to track climate overshoot responsibility, https://www.pnas.org/doi/10.1073/pnas.2409316122

5.2. How is the pillar anchored and codified within the PA (and subsequent rulebook)?

The overarching goal of engaging all actors in climate action is recognized in the Preamble of the Paris Agreement, notably through language: "Recognizing the importance of the engagements of all levels of government and various actors [...] in addressing climate change."

In turn, the preamble of the Rulebook (1/CP21) provides for "agreeing to uphold and promote regional and international cooperation in order to mobilize stronger and more ambitious climate action by all Parties and non-Party stakeholders, including civil society, the private sector, financial institutions, cities and other subnational authorities, local communities and indigenous peoples". Further sections reflect the aim to anchor diffusion to society through language that:

- Welcomes efforts of non-Party stakeholders including civil society, the private sector, financial institutions, cities and other subnational authorities; to scale up action, share best practices, and contribute via the Non-State Actor Zone for Climate Action
- Recognizes the need to strengthen knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change, and for incentives like carbon pricing.

The PA mitigation provisions do not explicitly call on diffusion to and engagement with non-Party stakeholders. However, the successive 5-yearly NDC development cycle (Art. 4.9) de facto opens up the possibility for a process that could engage these actors. As Parties must 'intend to achieve' (Art. 4.2) their NDC, it would be in their interest that it has broad engagement from various stakeholders across society.

By contrast, the PA adaptation provisions have a more explicit link to diffusion to society. In particular:

- Art. 7.2: Recognizes adaptation as a global challenge across all governance levels.
- Art. 7.5: Calls for adaptation action to take a participatory, science-based approach, integrating local and Indigenous knowledge, taking into consideration vulnerable groups, communities, "with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate."
- Art. 7.8: Calls other UN organizations and agencies to assist in implementation of climate adaptation of Parties
- 1/CP.21 (Para. 43): Requests UN bodies, international, regional and national financial institutions, to inform Parties "how their development assistance and climate finance programmes incorporate climate-proofing and climate resilience measures"

The Finance provisions put an emphasis on 'aligning financial flows with climate change' entailing private finance flows and public flows beyond direct climate finance.

5.3. What progress has been made on this pillar since the adoption of the PA?

While States have come together annually since the UNFCCC COP1 in 1995 to discuss regulating climate change, the Paris Agreement was a turning point in its direct encouragement of non-state actors (not formally part of the agreement) to take part in action, in particular private companies, local authorities and citizens. While a thorough and systematic assessment of diffusion is beyond the scope of this work, the analysis highlights evidence of this diffusion beyond the national level to non-Parties (incl. subnational levels and businesses) and across sectors and policy domains.

Uptake of the PA at sub-national level

There is evidence that the Paris Agreement has diffused across levels of government. The PA's adoption has in particular galvanized emission reduction by cities (and to a lesser extent regions). Regions and cities have also become particularly active in the UNFCCC since COP21, in particular through the LGMA UNFCCC constituency (which includes numerous civil society partners such as C40, ICLEI, etc.).[104]

As an illustration, the C40 network of mayors of the world's leading cities (with a population expected to exceed 3 million by 2030) went from 63 cities in 2014 to 125 in 2021 (back to 100 in 2025 likely given ambitious requirements to remain in the network).[105] C40 cities are committed to deliver their fair share of emission cuts to reach global next zero by 2050, and cut in half emissions by 2030. In 2020, climate action plans became mandatory for all C40 members.[106] As of December 2024, 1,145 cities (and 48 regions are part of Race to Zero). Each member is committed to halving emissions by 2030.[107]

On the adaptation side, 86 cities (and 81 regions) have joined the Race to Resilience.[108] According to the 2022 Cities Adaptation plans, 644 cities reported on planning instruments that are either standalone adaptation plans (142), or integrated climate plans addressing mitigation and adaptation (282) or integrated climate plans addressing mitigation and adaptation and energy access/energy poverty (220).[109]

In 2023, the UAE COP28 Presidency established the Coalition for High Ambition Multilevel Partnerships (CHAMP) for Climate Action in collaboration with several coalitions of cities and regions (C40, ICLEI, Global Covenant of Mayors, etc.). It

104 https://www.cities-and-regions.org/about-the-lgma/

105 https://www.c40.org/about-c40/our-history/

106 It has since been updated to a 'Cities Climate Transition Framework' (CCTF) in response to the UN 'Integrity Matters for Cities, States and Regions', emphasizing: urban consumption, fossil fuel phase-out, climate budgeting and mainstreaming, quantitative adaptation targets, and monitoring, evaluation, reporting and learning: www.c40knowledgehub.org/s/article/Integrity-Matters-for-Cities-States-and-Regions?language=en_US

107 https://www.climatechampions.net/campaigns/race-to-zero/whos-in/

108 https://citiesracetoresilience.org/

109 https://data.cdp.net/Adaptation-Actions/2022-Cities-Adaptation-Plans/iwt3-42qn/about_data

aimed to improve cooperation between national and subnational governments to plan, finance, implement and monitor NDCs, NAPs, LT-LEDS, and NBSAPs (National Biodiversity Strategies and Action Plans).[110]As of 2025, 75 nations have endorsed CHAMP.

Diffusion of PA beyond the climate community: the case of IOs

The climate objectives have percolated the multiplicity of international fora that support the international rules-based system, illustrating the mainstreaming of climate considerations and the percolation of the PA objectives across sectors and policy areas at the international level. While subject to the collective decision of their members and as such exposed to possible changes in policies, these IOs are relatively big machineries that respond to major shifts in their constituencies rather than individual decisions. The diffusion trend supported by (so far) anecdotal evidence can therefore be seen as the illustration of a diffusion of climate objectives beyond the climate community at play and one that supports a systemic evolution rather than a short-term political cycle.

While a more systematic review of how the PA objectives have diffused across international organizations is underway, specific but significant examples include the International Organization of Securities Commissions (IOSCO) on financial regulation, the International Monetary Fund (IMF) which has set up a climate team, the World Intellectual Property Organization (WIPO) on climate and intellectual property, the International Labor Organization (ILO) on green jobs and just transition, the G20 whose discussions on reforming the international financial system are directly relevant to the issue of financing the transition in developing countries. In the maritime sector, the International Maritime Organization (IMO) took a historic step at the 83rd session of the Marine Environment Protection Committee in April 2025, adopting a set of legally binding measures to tackle GHG emissions from international shipping, referred to as the "net-zero framework", marking the culmination of years of negotiation.[111] In the energy area, the IEA has produced the highly influential Net Zero by 2050 1.5ºC-aligned energy mix scenarios, that have fed into the COP28 Global Stocktake, and which the IEA is currently breaking down at country level. In agriculture, FAO is working on a 1.5°C roadmap for the food system, although civil society organizations have contested the process as highly untransparent, and the outcomes as so far insufficient. ISO, the International Standard Organization, formalized its commitment to climate action with a resolution approved by the General Assembly in September 2021, setting an agenda for aligning ISO standards with global sustainability and climate goals.[112]

Diffusion of PA to business and the financial sector

While the business and financial sector are not Parties to the UNFCCC inter-governmental Process they have been impacted since COP21 by countries' PA commitments and their translation into national legislation. COPs since the PA have invited non-state actors to show their contributions, through voluntary initiatives, to the systemic changes initiated by the PA.

Among the first initiatives, reporting and the development of related measurement "tools" were seen as a way to enable companies to identify and monitor their GHG emission footprint following the principle that "what get measured get addressed", and to make climate risk more material in order to guide investors and the financial sector decisions towards more climate-aligned choices. Voluntary frameworks (such as CDP) started in 2000. Mandatory frameworks also developed in mid-2000 in Europe, Canada, Japan and the US.[113] These initiatives were however limited to a small number of companies until the Paris Agreement when they fully entered business operations.

They were complemented in 2015 by initiatives such as: the Task-force on Climate-related Financial Disclosures (TCFD) set up by the Financial Stability Board on request of G20 Finance Minister and Central Bank Governors in order to set out recommendations on how to disclose on climate-related risks and opportunities;[114] and the SBTi (Science-Based Targets initiative) set up by CDP and other partner, etc. In 2023, the TCFD was disbanded (following publication of its recommendations), and its functions taken up by the International Sustainability Standards Board (ISSB), whose standards have been endorsed by the Organization of Securities Commissions, with members in 130 jurisdictions.[115] Its aim is to develop "high-quality, comprehensive global baseline of sustainability disclosures focused on the needs of investors and the financial markets".[116]

In addition to this interplay of mandatory requirements and voluntary initiatives related to disclosure meant to infuse the economic system, many companies started to adopt voluntary measures in relation to the Paris Agreement and become more and more involved in the global fight against climate change.

In the financial sector, which is an important sector in terms of its leverage effect on business action, several alliances developed in the wake of the PA to explicitly align with its 1.5ºC objective. The three most significant include the Net-Zero Asset Owners Alliance, Net-Zero Banking Alliance, and the Net Zero Asset Managers Initiative, all three of whom are members of Race to Zero (see Box 2). The large assets under these alliances point to at least a formal diffusion of the PA.

110 https://www.cities-and-regions.org/champ/

111 A new legally binding deal for shipping: what was decided and why it matters | IDDRI

112 ISO - ISO's climate commitment

113 See OECD (2011), Corporate Greenhouse Gas Emission Reporting: A Stock-taking of Government Schemes: 5k97g3x674lq-en.pdf

114 https://www.fsb-tcfd.org/about/#our-work

115 https://www.ifrs.org/groups/international-sustainability-standards-board/#about

116 https://www.ifrs.org/groups/international-sustainability-standards-board/issb-frequently-asked-questions/

The Network of Central Banks and Supervisors for Greening the Financial System (NGFS) (founded in 2017 by eight central banks and with now 160 members and observers) aims to coalesce central banks in supporting the global response to the PA long-term goals (namely through monetary policy, improve the financial system's ability to manage climate-related physical and transition risks (through climate stress testing), and mainstream climate finance across central banks.[117]

BOX 2. THE RACE TO ZERO FINANCIAL ALLIANCES

The Net-Zero Asset Owners Alliance, convened by the United Nations Environment Programme Finance Initiative (UNEP-FI), aims to align investment portfolios with net-zero GHG emissions by 2050, in line with the 1.5ºC limit. To this end, it accompanies its members in a managed reduction of portfolio emissions through: capital allocation (investing in sectors and companies supporting the net-zero transition), engagement (with policymakers, regulators, etc.) for an orderly transition to net-zero, and field building (shaping norms and standards).[118] As of 2025, 87 asset owners (with $9.5 trillion under management) are part of the alliance, among which 79 have published targets for 2025 (22-32%) and for 2030 (40-60%).[119]

The Net-Zero Banking Alliance, UNEP-FI-convened but led by banks, is an alliance of banks committed to reaching net zero GHG emissions by 2050, by aligning their lending, investment, and capital market activities. Members set a 2050 target, a 2030 target (focused on most GHG-intensive sectors), and intermediary 5-year targets, and commit to publish every year emission data, transition strategy detailing actions and policies.[120] As of April 2025, 129 banks across 44 countries with $49 trillion assets are part of the alliance.[121]

The Net Zero Asset Managers Initiative was founded in 2020, to support the goal of reaching 2050 net zero to limit warming in line with 1.5ºC. However, following Blackrock's departure, it has suspended its activities and is conducting a review to ensure "NZAM remains fit for purpose in the new global context".[122]

International Financial Institutions and Multilateral Development Banks have also been important instruments of the diffusion of the PA objectives. In 2017, the World Bank and eight Multilateral Development Banks (MDBs) announced Paris-alignment, and in 2023, ten major development banks including the World Bank—providing in $125 billion for climate action worldwide—outlined common principles to harmonize their PA-alignment for both mitigation and adaptation.[123] With regards to adaptation, as these PA-alignment guidelines were developed prior to COP28, they do not have a formal link with the GGA sectoral and dimensional (climate risk and vulnerability assessments; planning; implementation and monitoring; and evaluation and learning) targets adopted at COP28, nor with the COP28 UAE Framework for Global Resilience.

Diffusion of PA to international law: the case of three international courts of justice' Advisory Opinions on climate change

Certain States (prompted at times by civil society pressure)[124] have also sought clarification on States' obligations through requests for Advisory Opinions (AO) within international courts of justice. While non-binding, AOs are viewed as setting legal precedence and moral influence. Three requests for AOs have been filed so far—to the International Tribunal for the Law of the Sea (ITLOS—delivered in May 2024), the Inter-American Court of Human Rights (IACtHR—published in December 2024), and the International Court of Justice (ICJ—adopted through a UN Resolution in 2023) —that refer back to PA (see Box 3). The ICJ AO is emblematic in this respect. It is the largest case at the ICJ to date, having received more than 91 written statements by States and other entities, and a record number of almost 100 Parties and other IOs participating in oral hearings in late 2024.

BOX 3. ADVISORY OPINIONS' REFERENCES BACK TO THE PA, AND POTENTIAL IMPACTS ON FUTURE IMPLEMENTATION OF PA

The ITLOS advisory in particular referred back to the PA, finding that States have the obligation to "take all necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG emissions" and "determined objectively, taking into account, inter alia, the best available science and relevant international rules and standards contained in climate change treaties such as the UNFCCC and the Paris Agreement, in particular the global temperature goal of limiting the temperature increase to 1.5°C".[125]

The ICJ AO request resolution grounded the PA as one of the key international legal instruments on the basis of which the ICJ should seek to clarify "the obligations of States under international law to ensure the protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases for States and for present and future generations" and the "legal consequences

117 https://www.ngfs.net/en/about-us/origin-and-purpose

118 https://www.unepfi.org/net-zero-alliance/about/frequently-asked-questions-net-zero-asset-owner-alliance/

119 https://www.unepfi.org/net-zero-alliance/alliance-members/

120 https://www.unepfi.org/net-zero-banking/commitment/

121 https://www.unepfi.org/net-zero-banking/members/

122 https://www.netzeroassetmanagers.org/update-from-the-net-zero-asset-managers-initiative/

123 https://www.worldbank.org/en/publication/paris-alignment/joint-mdb-paris-alignment-approach

124 https://sdg.iisd.org/commentary/generation-2030/the-journey-to-the-hague-youth-led-campaign-for-climate-justice-at-the-icj/

125 https://www.itlos.org/fileadmin/itlos/documents/press_releases_english/PR_350_EN.pdf

under these obligations for States where they, by their acts and omissions, have caused significant harm to the climate system and other parts of the environment" including States and individual (present and future generations).[126]

The ICJ AO is expected to lead to further integration of human right and climate law, provide court guidelines (helping domestic litigation), empower civil society, and help UN member states take stronger action to implement the PA.[127] It could identify the obligations under the PA (e.g., on NDCs and policies to implement them as 'due-diligence', which could help "put pressure on states to identify their fair share and to determine transparent national contributions consistent with this aim and thereby push states towards a decentralized implementation of the temperature target», and could find the duty of implementing the treaty of the PA in good faith (cf. Vienna Convention), namely to not jeopardise the treaty's objective, which could be a basis to push states to phase out fossil fuels.[128]

Diffusion of the PA to society at large: the case of the rise of climate litigation

Precisely assessing the PA's diffusion in society is challenging given the lack of straightforward indicators. Nevertheless, the following proxy indicators provide some indication of the uptake of the Paris Agreement in the society at large:

- Citizen involvement in climate litigation since 2015: Many climate litigation plaintiffs are common citizens
- Emergence of and participation in citizens' assemblies on climate
- Global youth movements (e.g., Fridays for Future) or social movements (e.g., Extinction Rebellion) which have emerged since COP21 and explicitly reference the PA and its 1.5ºC temperature limit
- Evolution of media coverage on climate change

While more work would be needed to disentangle the supporting evidence, this section focuses on the steady rise in litigation since 2015, a relatively straightforward indicator of diffusion across society of climate awareness.

The rise of climate litigation has been one of the relatively unexpected consequences of the PA. Climate cases against States and corporations have increased significantly since the PA's adoption, with about 70% filed since (i.e., about 1,800 cases from 2015 to 2023).[129] UNEP describes it as becoming a key tool in delivering climate justice.[130] In 2023, around 70% of all cases involved government actors among the defendants and the rest involved companies across multiple economic sectors. While the majority of the cases take place in the United States, 55 countries are affected, the vast majority in the Global North (87%), but increasingly in the Global South (e.g., Brazil, India, Namibia, Panama).[131]

The PA, as a mostly bottom-up treaty with primarily procedural obligations, lacks 'teeth' to constrain implementation and grants States broad discretion in the implementation of their obligations. This has spurred legal challenges in domestic courts, with plaintiffs (often citizens and civil society organizations) seizing the obligations under the PA and the PA's temperature goal as the basis to contest perceived insufficient action by States and domestic courts led to interpret international commitments and to assess adequacy of national policies.[132]

The PA adoption has led to what is now known as strategic climate litigation–i.e., cases that are filed with the aim to bring about a broader political, economic and/or social change on climate, beyond the case at hand. About 110 such cases have been filed against States that challenge the ambition or implementation of their overall climate policy responses.[133] The first successful case, the Urgenda case found the Dutch government's mitigation commitments insufficient and ruled they needed to be increased.[134] The PA is also being used explicitly to develop novel climate litigation strategies, for example pushing to determine their 'fair share',[135] and challenging States' over-dependence on carbon dioxide removal (CDR) as likely contravening international law.[136] Further, litigation cases such as the *KlimaSeniorinnen vs. Switzerland* are seen as playing a key role in strengthening the PA by "triggering the necessary democratic debates on which the PA relies "from the bottom up".[137]

In addition, about 230 strategic climate litigation cases have been brought since 2015 against companies and trade associations.[138] The type of cases that most explicitly link to the PA (specifically seek to incentivise steeper emission cuts

126 https://documents.un.org/doc/undoc/ltd/n23/094/52/pdf/n2309452.pdf?_gl=1*1mb799o*_ga*MTcxMjY2NDIzMS4xNzQyOTEwNzg5*_ga_TK9BQL5X7Z*MTc0NDAyMjgyNS4yLjEuMTc0NDAyNDY2Mi4wLjAuMA..*_ga_S5EKZKSB78*MTc0NDAyMjgyNS4xLjEuMTc0NDAyNDY2Mi4zMi4wLjA.

127 https://news.un.org/en/story/2024/12/1157671

128 https://www.ejiltalk.org/progress-through-disruption-what-role-for-the-icj-in-the-advisory-opinion-on-climate-change/

129 Setzer, J. & Higham, C. (2024)

130 https://www.unep.org/news-and-stories/press-release/climate-litigation-more-doubles-five-years-now-key-tool-delivering

131 Setzer, J. & Higham, C. (2024)

132 Maljean-Dubois, S. (2022)

133 Setzer, J. & Higham, C. (2024)

134 For example, in the 2019 'Urgenda' case in the Netherlands – famous as the first in which citizen plaintiffs established the State had a legal duty to prevent dangerous climate change – the court assessed the Dutch government's ambition was insufficient to meet the Netherland's fair emissions contribution required under the Paris Agreement and ruled the Government cut emissions by at least 25% by 2020 https://www.urgenda.nl/en/themas/climate-case/

135 https://www.stibbe.com/publications-and-insights/climate-litigation-and-fair-share-how-fast-should-the-government-act-to

136 Stuart-Smith, R. *et al.* (2023), Legal limits to the use of CO_2 removal, Science https://www.science.org/doi/10.1126/science.adi9332

137 https://verfassungsblog.de/the-paris-effect/

138 Setzer, J. & Higham, C. (2024)

by requiring changes to company policies and corporate governance. Other cases use the PA more or less explicitly (e.g., cases that call for mainstreaming of climate into sectoral policies; climate washing cases—often with regards to climate neutrality claims; cases that contest investment in fossil fuels; cases on failing to adapt; polluter-pays cases,[139] etc.).[140]

5.4. What challenges or shortcomings remain on this pillar?

Experts have assessed gaps in the commitments of non-state actors involved in the fight against climate change, questioning both the significance of the uptake, the integrity and reversibility of the claims. This includes:

- As of 2024, less than a quarter of major cities (271 of 1,186) had net-zero targets (covering less than 800 million people), with most of these in 'high income' countries (178 of 271). In lower income countries, only about 10% of major cities have net zero targets.[141]
- Overall, Net Zero Tracker and Oxford University found that less than 5% of all net-zero pledges by cities, regions and companies meet criteria for net zero integrity.[142]
- UNSG's high-level expert group report on Net Zero integrity presented at COP27 emphasizes the need to prevent "greenwashing" by ensuring that net-zero pledges are not merely symbolic but are backed by concrete actions and transparent reporting. It serves as a guide for non-state actors to align their climate commitments with the overarching goal of limiting global warming to 1.5°C: https://www.un.org/en/climatechange/high-level-expert-group

Recent shifts also point to the fragility or reversibility of voluntary commitments by the financial sector. In addition to NZAM's suspension, under review to assess its continued relevance, the departure in January 2025 of six major US banks (JP Morgan, etc.) from the alliance in advance of President Donald Trump's return to office, has raised concerns on the sustainability and resilience of such voluntary commitments to political cycles.[143] In addition, 2024 research from the European Central Bank questioned the effectiveness of these alliances: it showed that NZBA banks had reduced their lending to high-emitting sectors by 20%, similar to banks not part of the NZBA. Further, NZBA members were found to not have divested from high-emitting sectors such as mining, nor were firms financed by NZBA banks more likely to set emission reduction targets than others.[144]

Beyond the significance and continuity of climate action by non-state actors, their fragmentation raises the question of the orchestration of climate efforts, which is a clear weakness of the international climate architecture. Climate action, which is spread across numerous relatively siloed international fora, lacks monitoring mechanisms to inform back the UNFCCC and the PA on relevant efforts and their contribution to the PA goals. Addressing this challenge is an important element to informing progress and guiding future action.

A similar challenge exists in some instances between the national and sub-national level. In terms of adaptation, the UNEP typically finds a lack of alignment, with only 50% of National Adaptation Plans (under the UNFCCC) referring to subnational plans.[145]

6. CONCLUSION

Introspection into the implementation of the PA treaty over the last 10 years, using what we identify as the four main pillars of its theory of change, shows that the Agreement provided the necessary political space and legal framework to facilitate higher collective action than what countries would do individually. There are no obvious signals that put the factual implementation of the Treaty into question. The collective progress is remarkable, even if insufficient.

We can see evidence of the collective progress achieved over the last 10 years, notably in the widespread diffusion of a long-term direction of travel towards carbon neutrality across territories, levels of governance and among non-state actors, guided by science and equity considerations, and in the establishment of a new green economy powered by renewables and electric vehicles. Ultimately, the impact can be seen in the narrowing of the projected global temperature increase from 4 °C, at the time of establishing the Paris Agreement, to a range of 2.1–2.8 °C.

However, the evidence also shows that the transformations required on the ground are not fully taking place, or not fast enough, which implies a rapidly closing window to meet the PA and SDG goals. The latest IPCC report (AR6 Synthesis Report, 2024) is clear that keeping temperature rise to the 1.5ºC limit is still in reach if steep and rapid emissions cuts occur—namely -48% CO_2 emissions by 2030 and -65% by 2035—and stem from transformative shifts through the economy that will enable reaching global net zero emissions around 2050. While new research may question the feasibility of 1.5°C pathways, it is

139 E.g., A case against Total Energies namely calls for the company to adopt "a realistic transition plan,[...] based on the best current scientific knowledge and aligned with the objectives of the Paris Agreement." https://climatecasechart.com/non-us-case/hugues-falys-fian-greenpeace-ligue-des-droits-humains-v-totalenergies-the-farmer-case/

140 Setzer, J. & Higham, C. (2024)

141 https://www.ox.ac.uk/news/2024-09-23-over-40-major-companies-cities-and-regions-lack-emission-reduction-targets-shows-new. As of April 2025, the number of cities with net zero goals rose to 283 https://zerotracker.net/

142 https://zerotracker.net/analysis/net-zero-stocktake-2024

143 https://greencentralbanking.com/2025/01/20/jp-morgan-nzba-voluntary-climate-change-commitments/

144 https://greencentralbanking.com/2024/04/24/ecb-report-bank-climate-commitments-are-not-effective/

145 United Nations Environment Programme (2024). *Adaptation Gap Report 2024: Come hell and high water — As fires and floods hit the poor hardest, it is time for the world to step up adaptation actions*. Nairobi. https://doi.org/10.59117/20.500.11822/46497. Available at: https://www.unep.org/resources/adaptation-gap-report-2024

important to recognize that transformational change is neither linear nor centralized—making it difficult to predict how shifts in domestic ambition and action may reshape future projections.

Are we therefore facing a paradox that a relatively satisfactory implementation of the Treaty is not providing for the attainment of the temperature goals and ability to adapt for most countries? Should we attribute it a defect in the initial agreement whose functions were not sufficient to meet their intended goals? Should we rather blame Parties for not 'playing the game' as per the PA theory of change? Or do we owe this unsatisfactory result to a degrading international and geopolitical context (as an external factor)?

The answer is, of course, a bit of all the above. By examining the four pillars underpinning the theory of change and collecting relevant evidence (see summary in Annex II), this diagnosis identifies strengths and key limitations in the current functions of the Paris Agreement and offers insights into the responsibilities of different types of actors. The analysis also highlights unresolved questions that remain difficult to answer, given that several mechanisms of the Agreement are not yet fully operational, or their effect have yet to be observed.

A diagnosis of the Paris Agreement against four pillars

From its inception, the PA was conceived to operate through a dynamic of cross-level incentives and pressures, linking domestic decision-making with international expectations to build resilience against external shocks. In practice, the Agreement has withstood several disruptions—including the debt crisis, the COVID-19 pandemic, and the first Trump administration—and has managed to maintain momentum in mobilization and implementation despite shifting geopolitical dynamics. While it remains unclear whether the level of current disruptions under the Trump administration was anticipated or what their medium-term consequences may be, the Agreement has thus far demonstrated notable resilience.

The first pilar considered in this paper—universal action—is a central condition for meeting PA goals both from a scientific perspective, and a political standpoint, as it motivates individual action and enables the benefits of cooperative action—in a competitive environment too. Universal participation has been working to date but shows signs of deterioration. Participation is reflected in the numbers of submissions to the procedural aspects of the PA over time, be they NDC, LT-LEDS, NAPS, BTRs or voluntary adaptation communications. Most countries have also translated the commitments made under the PA in their national legislation: since 2015, we have seen a surge in domestic climate laws and frameworks across geographies. We have also seen as a result most developed countries peaking on their emissions, even though not always followed by sharp and rapid emissions reductions.

Secondly, the PA was set to trigger structural transformations. Its vision for a new economy went beyond emissions reductions across sectors, to envision the emergence of an economy beyond fossil fuels—one requiring radical changes in production, supply chains, governance models, and more. This new economic model was envisioned as having the potential to address both climate and development challenges, and relied on the responsibility of Parties with the capacity to do so to help ensure universal access to the opportunities it represents—embedded in PA morals of equity, responsibility, capacity and solidarity. Ten years later, a transformative agenda is firmly embedded in discourse and is shaping research and policy efforts. There is sustained market dynamics in several critical areas of the transition, such as renewable energy and mobility. The focus has shifted away from emissions cuts alone toward a better understanding of the socio-economic implications of climate action and climate impacts and seeking alignment between local benefits and a carbon-free global economy.

However, there is growing disappointment regarding the prospects of benefiting from this new economic paradigm—and, consequently, on its ability to reduce inequalities between and within countries. The vision of a prosperous and resilient economy and society beyond fossil fuels is being publicly questioned by some, despite the unstoppable acceleration of renewable energy deployment and cost reductions since 2015. This scepticism partly reflects growing resistance from vested interests. It also festers on the failure of holding together the social and climate agenda. The concept of a "just transition", that appealed to many as a useful paradigm, remains as yet insufficient to address the societal impacts of the concomitant green and digital transformations and the conflicts emerging from the reconciliation of national efforts with evolving international relations.

As third pilar, the report shows that the PA was a turning point in its direct encouragement of non-state actors (not formally part of the Agreement) to take part in action, in particular private companies, local authorities, citizens or even other international organizations. NDC and LT-LEDS development, the Global Stocktake outcome and the Action Agenda have largely kept the momentum. The Paris Agreement is diffusing across government levels, sectors, and policy areas. There is evidence that the business community and the financial sector are acting as a result of a combination of regulatory requirements and voluntary initiatives. There is also evidence of the uptake of the Paris Agreement in society at large through the steady rise in litigation since 2015. But there are challenges and gaps when it comes to the significance and the integrity of some of these claims. Recent shifts also point to the fragility of several voluntary commitments, notably by the financial sector. Beyond, the fragmentation of action also raises the question of its orchestration, which is a clear weakness of the international architecture—both across policy areas and between climate and the finance community.

Last, for all those actors, the PA has been successful in setting a clear long-term direction for climate action, especially for mitigation, with 108 countries, covering 82.3% of global GHG emissions communicating a net-zero target—and subnational and non-state actors following suit. By contrast, overly lengthy process to precise the adaptation goal and ambition has limited the catalyst effect it could have for universal

effective national planning and hindered the tracking of progress—even if efforts made in recent years are helping to correct course. Similarily, the absence of a common understanding of scope and implementation strategy regarding aligning finance with PA goals is a definite obstacle to progress on the ground.

Still, the outcome today is that implementation is falling short. The green economy is growing fast, though not always replacing the fossil fuel one. We also know little about the effectiveness of adaptation efforts. This is despite the near-universal adoption of commitments by Parties and their integration into national legislation, the efforts of international organizations to mainstream climate signals into a rules-based global system, and the commitments made by subnational governments and enterprises under a common framework guided by a shared direction of travel. The implementation gap is reinforcing negative dynamics in the ambition gap, demonstrating that the two cannot be disconnected. These gaps are not only a matter of pace, but structural transformations are also falling short.

All things considered, the verdict is that the Paris Agreement continues to be relevant in an evolving context, but effectiveness of implementation is highly dependent on this external context. Challenges to effective implementation include matters of capacity and orchestration, political frontiers and resistance to change, and unfit liabilities in the short term.

Some processes can take place within the formal COP agenda, but the past 10 years have shown that the PA primarily—and critically—creates common tools, transparency mechanisms, benchmarks and methodologies to structure and support national discussion and policy development. It also contributes to generating or maintaining political pressure that is felt outside the UNFCCC. Most action is therefore expected to occur at the national level, including efforts to shape the ecosystem for international cooperation. This is not to say that improvements are not needed at the international governance level, and in the unfolding of the implementation of the PA to get on track to meet its goals and strengthen the resilience of the Treaty. Rather, it underscores the logic that should guide these improvements.

Four key areas of attention in the short term: the diffusion of signals, the ambition mechanism, the enablers of country-level action, and differentiation of responsibilities.

The PA framework relies on diffusion and alignment of expectations across actors, with limited opportunities for most of these to be regulated from within UNFCCC. Given the small or volatility uptake of some of these signals by specific sectors and actors, additional elements of governance might need to be added to ensure more political liability and permanence of collective action. Links between the UNFCCC and outside systems with the mandate to enact drivers of transformation and resilience, including outside champions who can play a role in monitoring and reporting progress towards individual GST signals, are necessary. Mechanisms to improve orchestration among international organizations on climate would help coherence and efficiency. To support vertical integration, regional-level organizations might need to step up efforts in mainstreaming climate action, for instance to address transboundary climate risks. New initiatives may be needed to fill gaps in the coordination among specific actors, particularly stemming from critical transition value-chains or for addressing the transition away from fossil fuels from the perspective of producers and consumers.

The ambition mechanism is yielding its first results after completing a first full cycle. NDCs to date have shown a global gap between short- and long-term ambition, demonstrating that short-term liabilities—in form of political and economic costs, or perceived risks—has prevailed in domestic decision-making. Country by country NDC analysis is done by NGOs and academics, but the level of discussion and independent accountability at the national level is varied, including the role of independent advisory bodies, parliament or other political constituencies. The design and potential of the peers dialogues and accountability amongst Parties within the PA, for instance under the Facilitative Multilateral Consideration of Progress (FMCP) may deserve more attention. NDC analysis underscore mitigation elements, and headline targets foremost, with little discussion on its transformative nature and the interface with the rest of the world. An evolution of the role of NDC may also contribute to shifting attention to adaptation ambition beyond the question of finance. All in all, the ambition mechanism raises the following questions: to what extend the governance of the different provisions (transparency & reporting, stocktake, review of NDCs and LT-LEDS, finance discussion, implementation and compliance committee) supports the continuous building of political pressure that can ratchet up ambition? And to what extend the UN process is using (and influenced by) the expression of all other NSA in its capacity to keep this political pressure on the right issue at the right moment?

Focus on the enablers of country-level action can be pursued in different ways. Greater knowledge collection and exchange can contribute to the understanding of transition costs and domestic political economies, as well as improving the understanding of the global enablers of national action to inform the crucial agenda of the enhancement of the international cooperation. Enhancing in-country analysis and transparency will facilitate the assessment of individual efforts vis-a-vis global progress indicators to enable stronger accountability. Operationalization of the finance alignment long-term goal Art 2.1c, to provide insight into questions of responsibility within and outside UNFCCC, is a key enabler of climate action.

Power relations and geopolitical context evolve over time, but the stance of science to meet the PA targets provides a clear basis on how to make it happen. Collective action must prevail, but a few countries concentrate the power and capacity to steer the international cooperation ecosystem to enable action with resilience and low-carbon development at the centre. G20 countries—with extremely different nationally circumstances—account for 76% of emissions and 85% of GDP; and yet, they are held to the same level of accountability as many small countries

with far less capacity to drive systemic transformations at global level (EGR2024; IDDRI 2024).[146] Enhancing universal action and being practical, requires moving away from re-emerging North-South tensions in the context of the PA. As a growing number of individual countries are expected to act on climate regardless of a global framework due to the alignment achieved between economic and climate interests, strengthening multilateralism will become the more important to meet ultimate PA goals.

In summary, the PA holds a valid and functioning framework, with no imaginable alternative at multilateral level that could correct course on time. Additional efforts, including specific governance improvements, are nevertheless necessary to complement the existing framework. There is a collective responsibility to think of solutions that contribute to these four questions:

- How to support better implementation both through better orchestration of climate efforts at international level and through addressing national-level implementation bottlenecks?
- How to place the development and socio-economic picture at the centre of climate action, decisions, investments and performance assessments, including the need for more strategic international collaboration and cooperation as a new form to delivery equity and enable just transitions in every place?
- How to ensure greater differentiation and reduced risks against worsening of universality paradigm and resilience of the PA, especially in turbulent geopolitical time?
- How to politically and technically guarantee that long-term direction of travel provides clear benchmarks for short-term accountability and political liability for both mitigation and adaptation, for Parties and NSA alike?

[146] https://www.iddri.org/en/publications-and-events/billet-de-blog/baku-bearings-ambition-need-king-size-u-turn

ANNEX I

TABLE 1. Pillar 1 – How Universality and nuanced differentiation is anchored in the PA

	UNIVERSALITY	NUANCED DIFFERENTIATION AND FLEXIBILITY
Overarching (Art. 2 & 3)	**The PA is the first universal climate treaty in that:** • "All Parties are to undertake and communicate ambitious efforts [in mitigation, adaptation, finance, capacity building, technology transfer, and transparency] with the view to achieving the [PA's purpose, i.e., long-term goals to achieve ultimate goal of the UNFCCC – stabilizing climate change]" (Art. 3). • The PA's legally binding procedural obligations (e.g., submission of NDCs and transparency reports) are applicable to all Parties. This in contrast with the Kyoto Protocol—under which only developed country Parties (i.e., 'Annex 1' Parties) had substantive and procedural commitments. Two other forms of 'universality' in the PA are: • It is open for adoption and ratification by all Parties to the UNFCCC (yet so was the KP, which had 192 Parties) • It calls on action beyond Parties, to non-Party stakeholders (in 1/CP.21)	The PA shifts beyond the KP's strict bifurcation between a set list of developed and developing countries (Annex 1/Non-Annex 1), to a more nuanced 'self-differentiation' based on the 'bottom-up' nature of the NDCs (which are nationally determined), and flexibility given to developing countries in the implementation of some key provisions. The PA sets out from the start (Art. 2) to be implemented reflecting equity and 'Common but Differentiated Responsibilities and Respective Capabilities' (CBDR-RC) (a core principle of the UNFCCC text (Art. 3.1). Yet CBDR-RC is complemented with the wording "in the light of different national circumstances." Such language—used for the first time in the PA—recognizes that countries' capacities will evolve over time. Hence, the flexibility, coupled with encouragement to evolve over time (e.g., in NDCs).
Mitigation (Art. 4)	**Ambitious climate action established as a universal commitment, ensuring inclusivity of all Parties.** **Each Party is:** • Required to develop and communicate a 'nationally determined contribution' (NDC) every 5 years (mitigation mandatory, adaptation component optional), that reflects a progression and its 'highest possible ambition'. This NDC is to be informed by the Global Stocktake, and to include clarifying information (e.g., how the Party considers its NDC reflects its highest possible ambition). • Required to pursue domestic mitigation policies to aim to achieve its NDC. • Invited to develop and communicate an LT-LEDS 'long-term low greenhouse gas emission development strategies'	**Nuanced differentiation and flexibility** **Developed country Parties** • NDCs: 'should continue to take the lead' in mitigation through economy-wide absolute emission reduction targets in NDCs **Developing country Parties:** • NDCs: recognition of later emissions peaking, encouraged to move to economy-wide targets over time, are to receive support for implementing NDCs. NDCs are to be developed 'in the light of different national circumstances' (evolution over time). • LT-LEDS: 'in the light of different national circumstances' **LDCs/SIDS:** • Special flexibility in submitting NDCs
Adaptation (Art. 7)	**Each Party is:** • Required to engage in adaptation planning and implementation • Invited to strengthen adaptation cooperation, submit and update an 'adaptation communication'	**All Parties:** • Flexibility in adaptation communication format • Developing country Parties • Adaptation communications: to not create any additional burden; are to receive support
Support – finance (Art. 9) technology transfer (Art. 10), Capacity building (Art. 11)	**FINANCE** • No universality per se—PA notes a continuation of UNFCCC obligations for developed country Parties to provide financial resources to assist developing country Parties for implementation of Convention. • PA opens the 'firewall' of finance by inviting 'other Parties' to provide support.	**FINANCE** **Developed country Parties:** • Required to provide financial resources to assist developing country Parties for mitigation and adaptation; to communicate biennially this support • Invited to continue taking the lead in mobilizing climate finance across wide sources **'Other' Parties (new formulation under UNFCCC):** • Encouraged to provide support voluntarily and communicate on it biennially **TECHNOLOGY TRANSFER** • Technology transfer support shall be provided to developing country Parties (unspecified by whom) **CAPACITY BUILDING** • Prioritized to developing country Parties 'with the least capacity' (e.g., LDCs) and particularly vulnerable (e.g., SIDS)
Accountability Individual Party accountability – Enhanced Transparency Framework (Art. 13) and Collective Accountability – Global Stocktake (Art. 14)	**TRANSPARENCY** **The PA establishes a universal transparency framework, under which each Party is required to:** • Report GHG inventories, and information to track progress in implementing and achieving its NDC—this is the 'biennial transparency report' (BTR) (reporting on adaptation is voluntary) • Review: Have its report undergo a technical expert review; and participate in a 'facilitative, multilateral consideration of progress' toward implementation and achievement of NDC **GLOBAL STOCKTAKE** • All Parties participate in a collective assessment of progress every five years	**TRANSPARENCY** The PA transparency framework has: **Built-in flexibility for implementation of reporting and review:** • For developing country Parties "that need it in light of their capacities". • LDCs and SIDS' have their special circumstances recognized • Review process can include assistance to developing country Parties on identifying capacity-building needs **Differentiation in reporting on Support provided and received:** • Developed country Parties: required to report information on support provided to developing country Parties • 'Other Parties' providing support: invited to report • Developing country Parties: invited to report on support needed and received

ANNEX II

Table 2 summarizes findings across the four pillars:

	HALF FULL GLASS	HALF EMPTY GLASS
Ensuring universal action	• Universal ratification, and proven resilience against withdrawal cascade • Very good level of participation, evidenced by the fulfilment of procedural obligations (submissions of NDCs, NAPs and reports under EFT, and voluntary elements (LT-LEDS, Adaptation Communications) • Consensus-based decision making remains a sign of necessary trust amongst Parties	• Collective action masking non-compliance or backsliding by individual Parties on: 'highest possible ambition' in NDCs, implementation of domestic policies and contribution to finance • Lack of collective mindset for adaptation action
Creating a vision for a new economy	• A transformative agenda is established, aligned with SDGs, moving away from emission cuts-based framings and seeking aligning between local benefits and a carbon free global economy. • Inclusion of transition away from fossil fuel language under the formal process, even if symbolic. • Progress on the articulation of mitigation and development as two sides of the same coin – country, scientific and development partners standpoints-, though lesser in relation to provision of support • Business models for the green economy are growing fast, though not always replacing the fossil fuel one	• Poor achievements, continuously unevenly distributed investments and growing distrust in the collective goal to promote equitable access to the benefits of the transition to promote low-carbon development • No progress to unpack the international dimensions of supporting just transitions and poor dialogue on the impact of domestic action to international relations • Growing divergences over the features of the new economy -including on the future of the fossil economy- with little capacity for the Agreement to define them • At national level, growing fears that transition will be socially unfair leading to resistance • No granular information from countries on strategies and timelines to transition away from fossil fuels, nor clear individual signals to society • Resilience element of the vision for the new economy and society goes largely unnoticed
Setting a long-term direction of travel for all actors	• Carbon neutrality mainstreamed by Parties and NSA, featuring as political anchor and basis for voluntary target setting standards • NSAs, particularly in finance sector, developing frameworks to foster alignment of finance flows • Ratcheting-up mechanism in place, with GST-1 outcome proving the importance of the technical dialogue for stepping up climate ambition across all topics	• Struggle to consolidate an operational long-term vision for adaptation • No detailed common understanding of alignment of financial flows (Art 2.1c) • In need for further articulation of long-term Paris compatible pathways, including the question of overshooting • Incipient discussion on LT-LEDS effectiveness • Misalignment between GST2 and IPCC AR7 timeline
Diffusing climate goals and action across institutions, sectors and society	• Uptake at sub-national and local levels • Percolation of PA goals into the multiplicity of international fora that support the international rules-based system • Rapid diffusion to international law	• Significance of the uptake, integrity and reversibility of claims • Potential for enhanced orchestration, monitoring and transperency

Paris+10 diagnosis: Looking back to look forward

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