



ACT2025



Global Adaptation Action: Progress, Gaps, and What to Expect in 2024

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Allied for Climate Transformation by 2025 (ACT2025) is a consortium of think tanks and experts elevating the needs and priorities of vulnerable developing countries to deliver ambitious, balanced, just, and equitable outcomes at the UN climate negotiations and chart a path toward greater global solidarity. For more information and contact details, visit www.wri.org/ACT2025.

CONTEXT

Global temperatures have been soaring to new records, approaching 1.5°C above pre-industrial levels, with July and August 2023 noted as the hottest months ever recorded.¹ While global temperatures broke records, thousands of people globally lost their lives and millions more were displaced due to floods, wildfires, storms, cyclones, and landslides.²

Despite rising climate impacts, the 2023 UN Environment Programme (UNEP) Adaptation Gap Report reveals that progress on climate adaptation is slowing across planning, implementation, and finance. In 2021, public multilateral and bilateral climate finance to developing countries decreased by 15 percent to around US\$21.3 billion (in contrast, mitigation finance continuously increased).³ Notably, while it is important to recognize adaptation as an equally essential pillar of climate action alongside mitigation, adaptation has typically received less attention in multilateral climate and finance agendas,⁴ compared to mitigation efforts. Yet, the UNEP report highlights that the adaptation finance needs of developing countries are far greater than previous estimates suggest.⁵ These costs are also expected to grow significantly by 2050.

Escalating climate impacts and concerning trends, as outlined in the UNEP Adaptation Gap report, have further left countries ill-prepared to adapt to climate change. Given the urgency of the situation, civil society groups and other stakeholders had high expectations for a comprehensive adaptation outcome at the 28th UN Climate Conference

1. WMO (World Meteorological Organization). 2024. "WMO confirms that 2023 smashes global temperature record" <https://wmo.int/media/news/wmo-confirms-2023-smashes-global-temperature-record>.
2. Reliefweb. 2023. "2023 in Review: Climate disasters claimed 12,000 lives globally in 2023" <https://reliefweb.int/report/world/2023-review-climate-disasters-claimed-12000-lives-globally-2023>.
3. UNEP (United Nations Environment Programme). 2023. *Adaptation Finance Gap Update 2023*. In *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi, Kenya: UNEP.
4. Powershift Africa 2023. *Defining an African Agenda for COP28*. [https://www.powershiftafrica.org/storage/publications/COP28%20Africa%20Agenda%20Paper-Digital%20\(1\)_1700814486.pdf](https://www.powershiftafrica.org/storage/publications/COP28%20Africa%20Agenda%20Paper-Digital%20(1)_1700814486.pdf).
5. UNEP. 2023. "Adaptation Finance Gap Update 2023." In *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi, Kenya: UNEP.

(COP28) held in Dubai in November 2023. The Allied for Climate Transformation by 2025 (ACT2025) consortium, for example, outlined three crucial priorities for adaptation at COP28:⁶

1. The establishment of a robust Global Goal on Adaptation (GGA) Framework that emphasizes climate justice as well as transformative and locally led adaptation;
2. The attainment of an equitable and strong outcome on adaptation under the Global Stocktake (GST), addressing policy options for transformative actions, financial considerations, and implementation gaps; and
3. The cultivation of commitments that mobilize accessible and high-quality support for implementing National Adaptation Plans (NAPs).

This technical note aims to critically analyze the outcomes of COP28, focusing specifically on the GGA and its implications for future climate action. It also explores how other global trends beyond the international climate negotiations are shaping the frontiers of adaptation action, providing insights into effective approaches and their impacts in resolving country-specific vulnerabilities while tackling discrete dimensions of adaptation. As such, this paper will examine the progress made so far in global adaptation efforts, identify the significant gaps and challenges that remain, and outline the essential steps that need to be taken in 2024, both inside and outside the UN climate negotiations, to ensure that adaptation efforts are effective, equitable, and in line with the urgent needs of vulnerable developing countries in a rapidly changing climate.

2023 RETROSPECTIVE: COP28 OUTCOMES AND LAGGING ADAPTATION ACTION

Adaptation was high on the agenda at COP28, particularly for developing countries most vulnerable to escalating climate impacts. The conference's final outcome, known as the UAE Consensus, outlined decisions regarding adaptation within the framework of the Global Goal on Adaptation, the Global Stocktake, and National Adaptation Plans. Despite the urgent need for strengthened global efforts to accelerate adaptation action, COP28 concluded with a mixed bag of outcomes for adaptation.

Framework for the Global Goal on Adaptation

The GGA was established in 2015 as a key element of the Paris Agreement, with a focus on enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change.⁷ Recognizing the need to further elaborate on this goal, negotiators developed a framework to guide countries in their adaptation progress.⁸

The adoption of the Global Goal on Adaptation framework, now referred to as the UAE Framework for Global Climate Resilience (FGCR), represents a key adaptation outcome of the final COP28 decision.⁹ While lacking a specific overarching target (akin to the Paris Agreement's 1.5°C goal), the FGCR identifies resilience for people, well-being, livelihoods, and nature for current and future generations as its ultimate aspiration. It underscores the importance of urgent action by 2030 in key sectors such as food, agriculture, water, cities, infrastructure, ecosystems, health, livelihoods, and cultural heritage. Additionally, the framework sets targets for each stage of the adaptation policy cycle, a process that begins with assessing impacts, vulnerability, and risks and moves to planning, implementation, and monitoring and evaluation. For instance, the framework encourages all countries to have NAPs in place by 2030, setting similar target deadlines for the other areas of the policy cycle. Notably, there is a specific focus placed on multi-hazard early-warning systems, urging countries to establish them by 2027. Additionally, the framework outlines a two-year timeline for developing indicators to measure progress, stressing the importance of incorporating expertise from global scientists, researchers, and practitioners.¹⁰

6. ACT2025. 2023. *Addressing the Needs of Climate-Vulnerable Countries at COP28: A Call to Action from ACT2025*. <https://environmentaldocuments.com/act2025-call-to-action-cop28.pdf>.

7. United Nations (UN). 2015. Paris Agreement, Article 7i. https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

8. Hussein, F., M. Adow, C. Okereke, G. Olorunfemi H. Otchwemah, and C. Thangata. 2024. "Understanding the Paris Agreement's "Global Goal on Adaptation" <https://www.wri.org/insights/global-goal-on-adaptation-explained>.

9. UNFCCC (United Nations Framework Convention on Climate Change). 2023. *CMA.5 Advanced Unedited Version, Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3*. https://unfccc.int/sites/default/files/resource/cma5_auv_8a_gga.pdf.

10. Rumbaitis Del Rio, C., and E. Toth. 2024. "What's Next for Global Climate Adaptation in 2024?" Blog. <https://unfoundation.org/blog/post/whats-next-for-global-climate-adaptation-in-2024/>.

However, several gaps remain in the FGCR. Although the final text identified time-bound targets for the adaptation policy process, the sector-specific targets (e.g., for water, food, health, etc.) are vague, lack specificity, and are not quantified. Additionally, targets around planning and implementation have been postponed by five years and are now set for 2030. This delay will likely have repercussions for the second GST assessment of adaptation progress, which is due to conclude in 2028.

Above all, the major deficiency of the text is its weak and vague language on means of implementation (i.e., developed countries' financial, capacity building, and technology-transfer support to developing countries for adaptation). Although the text acknowledges means of implementation and the need to address the growing finance gap, it fails to set a quantifiable target or place an obligation on developed countries to provide, track, or evaluate support for adaptation in developing countries.¹¹ Meanwhile, reference to principles such as equity and Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) were also excluded from the outcome. Without explicit recognition of these principles, developed countries are not held accountable for taking the lead in climate change action and support. Essentially, the framework's effectiveness is undermined by not linking public financial support to helping developing countries achieve the targets set.

The outcome of the GGA is a step in the right direction, but by and large, it misses an opportunity to course correct, match the gravity and urgency of adaptation needs with implementation support, place adaptation on equal footing with mitigation, hold developed countries accountable for taking the lead on finance, and fast-track adaptation action for climate-resilient development in developing countries.

The Global Stocktake Outcome and Adaptation Finance

Another major focus at COP28 centered on the first ever GST, which assessed progress on a full spectrum of climate issues, including mitigation, adaptation, loss and damage, and means of implementation. The objective of the GST is to place climate action back on track and provide a path forward for countries as they gear up to submit their next round of NDCs.¹²

The GST outcome signaled progress in adaptation particularly related to finance and knowledge gaps through a series of actions:¹³

1. Urging developed countries to report progress on doubling adaptation finance by 2025 as compared to 2019 levels, fulfilling the commitment they made in 2021 at COP26 in Glasgow. Although certainly a positive move forward, opting for a report, rather than a clear road map, means developed countries are not held accountable for how they intend to fulfill their existing commitments and fill the growing adaptation finance gap, which as of 2023 was estimated to be US\$194–366 billion per year.¹⁴ A clear road map on how the adaptation finance gap will be addressed must be a priority in 2024.
2. Recognizing that financial support must be scaled up significantly beyond the current commitment to double adaptation finance as adaptation needs continue to evolve. Furthermore, the text calls for and recognizes “new and additional, grant-based, highly concessional finance, and non-debt instruments remains critical to developing countries...as they transition in a just and equitable manner.” The incorporation of nuanced language addressing the issue of debt in climate finance is a significant step forward, aligning with a long-standing request from the Global South.
3. Deciding to convene the first ever ministerial dialogue at COP29 on “the urgent need to scale up adaptation finance [...] and ensure mobilization by developed country Parties of the adaptation support pledged,” will help promote more transparency.
4. Encouraging the scientific community's ongoing efforts to advance understanding and address knowledge gaps regarding adaptation and the accessibility of information on climate impacts.

While the GST text presents some encouraging elements on adaptation finance, it falls short in establishing the tone needed to catalyze broader global climate action on adaptation. The omission of crucial points raised in the synthesis report on the GST Technical Dialogues contributes to this shortfall, particularly regarding the

11. UNFCCC. 2023. *CMA.5 Advanced Unedited Version, Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3*. https://unfccc.int/sites/default/files/resource/cma5_auv_8a_gga.pdf.

12. Srouji, J., and D. Cogan. 2023. “What is the Global Stocktake and How Can It Accelerate Climate Action?” <https://www.wri.org/insights/explaining-global-stocktake-paris-agreement>.

13. UNFCCC. 2023. *CMA.5 Advanced Unedited Version, Outcome of the first Global Stocktake*. <https://unfccc.int/documents/636584>.

14. UNEP. 2023. “Adaptation Finance Gap Update 2023.” In *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi, Kenya: UNEP.

importance of mainstreaming adaptation and climate risk considerations across the adaptation policy cycle as well as national decision-making and development planning processes (e.g., National Development Plans, NAPs and NDCs).¹⁵ Furthermore, the text overlooks the significance of locally led adaptation initiatives informed by local contexts, populations, and priorities, which is critical to advancing on-the-ground implementation of many essential adaptation measures.¹⁶ The final decision also lacks clarity on how existing adaptation gaps, specifically related to means of implementation, will be addressed. Additionally, the inadequacies in the FGCR, as previously noted, have significant ramifications for the adaptation outcomes included within the GST, representing a missed opportunity to incorporate more ambitious decisions and commitments.

National Adaptation Plans (NAPs)

By the end of 2023, 53 NAPs had been published and submitted to the UNFCCC.¹⁷ However, the UNEP Adaptation Gap Report 2023, released ahead of COP28, found that despite some progress, adaptation planning and implementation are plateauing and require greater support, with one out of six countries still not having an adaptation planning instrument in place.¹⁸

The outcomes at COP28 on NAPs were equally limited and disappointing, with most issues deferred to the next intersessional meeting in Bonn in June 2024. Although the FGCR and GST both incorporated timelines for NAPs, there are distinctive differences. While the GGA envisions the development of comprehensive, country-driven NAPs by 2030, the GST urges Parties to have NAPs in place by 2025 and to have made progress in implementing them by 2030. However, the GST also acknowledges the timelines outlined in the FGCR, creating potential confusion on the timeline to which countries should adhere. Also, as COP28 outcomes guide future actions, a clear commitment to providing means of implementation will be pivotal in achieving the outlined adaptation goals.

Adaptation-Related Finance Developments

For context, it is important to note that estimated costs of adaptation for developing countries fall in the range of US\$130-415 billion per year this decade.¹⁹ Even more, adaptation finance needs of developing countries are 10 to 18 times as much as current international public finance flows—over 50 percent higher than the previous estimated range. These gaps remain huge and daunting for climate-vulnerable countries in the atmosphere of weak reforms for multilateral development banks (MDBs).

While these facts fed into the discourse at COP28, the final outcome deferred additional finance matters to the next UN Climate Conference (COP29), taking place in Baku, Azerbaijan, where the adoption and establishment of the New Collective Quantified Goal on Climate Finance (NCQG)²⁰ will be a pivotal focus. However, negotiators did make progress in Dubai by further clarifying the process for setting this new finance goal, prioritizing aspects such as its time frame, transparency arrangements, sources, and structure, rather than delving into options for these elements.²¹

The final decisions coming out of COP28 on the GGA, GST, and NCQG overlooked another critical adaptation finance issue: the lack of recognition that developed countries failed to allocate 50 percent of climate finance to adaptation efforts to achieve a balance with mitigation, with adaptation only receiving 33 percent of total climate finance.²² This shortfall in adaptation funding highlights the pressing need to address funding gaps and mobilize resources to achieve adaptation targets. It underscores the urgency for increased financial commitments and the effective allocation of funds to support climate action.

15. UNFCCC. 2023. *Technical Dialogue of the first Global Stocktake: Synthesis report by the co-facilitators on the technical dialogue*. <https://unfccc.int/documents/631600>.

16. Hammill, A., A. Dazé, E. Beauchamp, J. Qi, and A. Crawford. 2024. *After COP28: What's next for adaptation?* <https://www.iisd.org/articles/explainer/after-cop-28-what-is-next-for-adaptation>.

17. UNFCCC; NAP Central. 2024. *Submitted NAPs from developing country Parties*. <https://napcentral.org/submitted-naps>

18. UNEP. 2023. *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi, Kenya: UNEP.

19. UNEP. 2023. *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi, Kenya: UNEP.

20. Alayza, N. 2023. *Untangling the finance goal: An introduction to the new collective quantified goal*. <https://www.wri.org/research/untangling-finance-goal-introduction-new-collective-quantified-goal>.

21. UNFCCC. 2023. *CMA.5 Advanced Unedited Version, Matters relating to finance, New collective quantified goal on climate finance*. https://unfccc.int/sites/default/files/resource/cma5_auv_10e_NCQG.pdf.

22. Oxfam. 2023. *Climate Finance Shadow Report 2023: Assessing the Delivery of \$100 Billion Commitment*. <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621500/bp-climate-finance-shadow-report-050623-en.pdf;jsessionid=F5BA8CB748A4C4129760F83291D90E28?sequence=19>.

SPOTLIGHT: International finance reform gaining momentum, but more is needed

One of the achievements of the COP27 climate negotiations was the agreement that international financial institutions should undergo comprehensive reform, to be better structured for climate crisis response.

To lay the foundations for a renewed international financial system, France hosted the Summit on a New Global Financing Pact in June 2023. Expectations from developing countries were high; although ending with some positive signals, the summit did not fully deliver on past promises related to guaranteeing the \$100 billion goal, \$100 billion in Special Drawing Rights (SDRs), nor an increase in Official Development Assistance (ODA). The world's development banks did not show the desired commitment to reform their policies to be able to make money available to combat climate change and poverty across vulnerable countries. The summit also did not result in full agreement on the on the development banks' reforms, but declared support for the increase in the implementation of the Capital Adequacy Framework. Also, the Debt Pause Clause, which was included, was open-ended and was not finalized.

Calls for debt cancellation and reforms of development banks structure at the World Bank-International Monetary Fund annual general meeting in Marrakesh in October 2023 were not adequately addressed. Despite being held on the African continent, the meeting failed to address the peculiarity of Africa's rising debt profile and debt servicing cost nor the long-standing issue of the highly extractive approach of Africa's raw materials.

Source: Authors

Underlining various COP28 outcomes was heightened political attention on adaptation finance pledges that were far from meeting the needs of the vulnerable countries. Outside the formal negotiations, there were some noteworthy developments:

- A group of MDBs joined forces²³ to drum up support for global climate resilience, acknowledging the need for MDBs to foster climate resilience and collective sustainable solutions. The meeting added that effective climate resilience "requires their collaboration, the engagement of local banks and regional collaboration, and a shift to a programmatic approach structured around country-driven platforms with clear, ambitious, and monitorable targets." However, the commitments and pledges by the MDBs to global and national adaptation finance remains limited.
- Pledges made to the Adaptation Fund did not meet the targeted amount. They were about \$108 million short of the \$300 million target, while the total amount that needs to be mobilized for projects in the fund's pipeline is \$425 million.²⁴
- Although many pledges were made to the loss and damage fund, questions were raised on the potential shift of resources away from adaptation, highlighting the importance of securing new and additional finance instead of reallocating a limited amount of funds from one pot to another.
- At COP28, the new Coalition of Ambition on Adaptation Finance was launched, coming out of the 2023 Climate and Development Ministerial hosted by the COP28 presidency with the governments of Malawi, the UK, and Vanuatu to enhance country-owned programmatic financing, ease access to adaptation finance, and scale all sources of adaptation finance. The challenge that looms large is whether it will receive the number of endorsements required to become functional before the next COP.²⁵

23. African Development Bank. 2023. "MDBs join forces at COP28 for Global Climate Resilience." <https://www.afdb.org/en/news-and-events/mdbs-join-forces-cop28-global-climate-resilience-66507>.

24. Adaptation Fund. 2023. "Adaptation Fund Mobilizes Over US\$192 Million in New Pledges at COP28 for the Most Climate-Vulnerable." <https://www.adaptation-fund.org/press-release-adaptation-fund-mobilizes-nearly-us-160-million-in-new-pledges-at-cop28-for-the-most-climate-vulnerable/>.

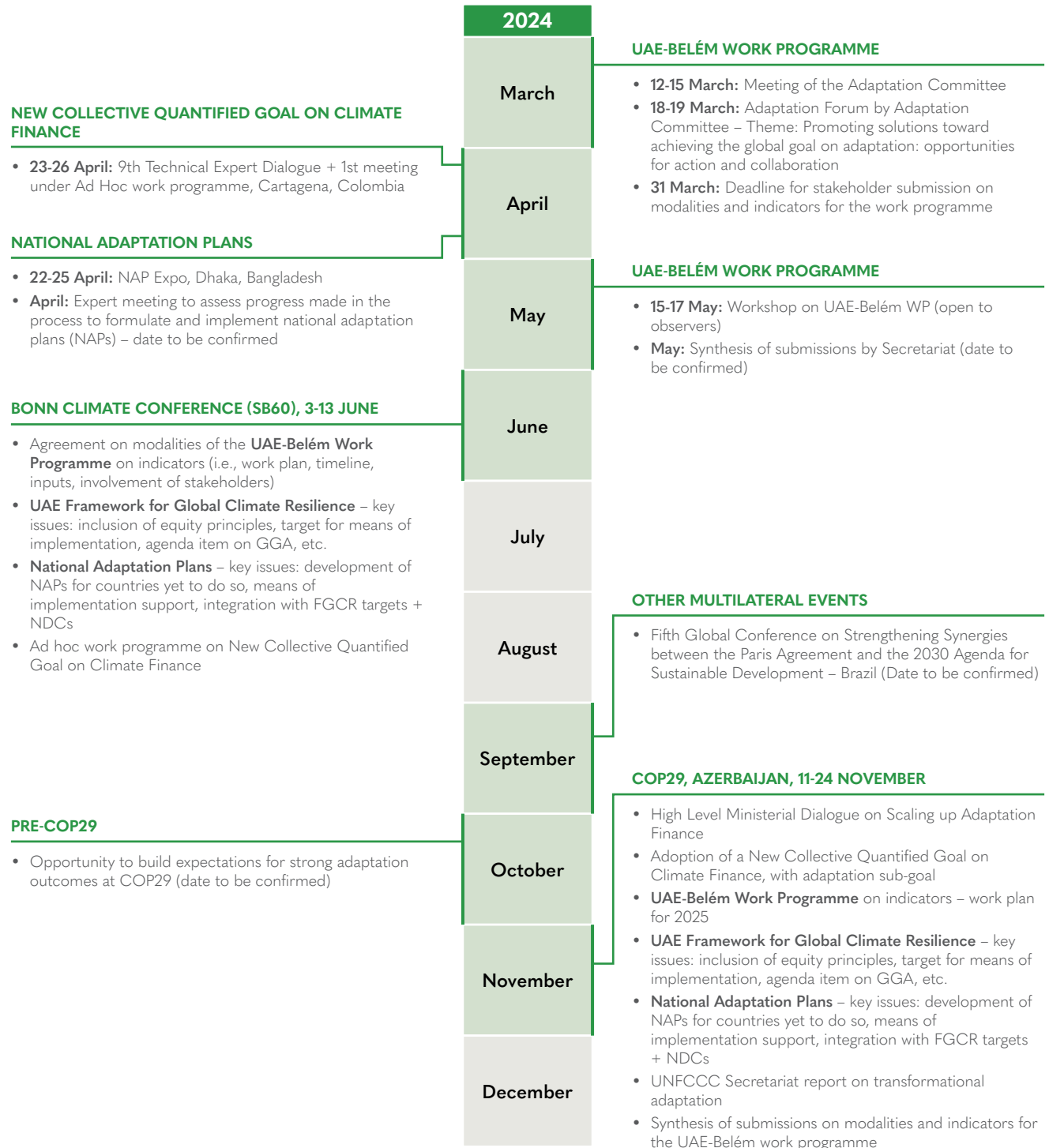
25. E3G. 2023. *2023 Climate and Development Ministerial: Coalition of Ambition on Adaptation Finance*. <https://www.e3g.org/publications/2023-climate-and-development-ministerial-coalition-of-ambition-on-adaptation-finance/>.

EXPECTATIONS FOR GLOBAL ADAPTATION IN 2024

This section outlines the essential steps that need to be taken and expected trends in 2024, both inside and outside the UN climate negotiations, to ensure that adaptation efforts are effective, equitable, and in line with the urgent needs of vulnerable developing countries in a rapidly changing climate.

Under the UNFCCC and Paris Agreement

In preparation for COP29, various adaptation-related work programs must decide on and commit to more ambitious outcomes. These include the UAE Framework for Global Climate Resilience, the UAE-Belém Work Programme concentrating on indicators, discussions concerning the New Collective Quantified Goal on Climate Finance, and National Adaptation Plans.



UAE Framework for Global Climate Resilience (FGCR)

To advance the GGA and operationalize the FGCR, the COP28 decision mandates key technical work to be undertaken in 2024 and beyond.²⁶ Primary focus areas involve knowledge exchange through platforms, like the Nairobi Work Programme, along with broadening its network, incorporating traditional knowledge, and identifying new thematic areas. Equally important is a focus on comprehensive capacity gap and needs assessments, which involves mapping existing capacities, understanding barriers to adaptation, and formulating strategies for capacity building, technology transfer, and financial support.

Additionally, understanding the connections between the FGCR and future GSTs is vital. In terms of timelines, the next GST will conclude in 2028, while the timeline for achieving the FGCR is 2030. Developing a set of indicators for adaptation progress that aligns with the FGCR's targets and creates consistency across Parties' reports is crucial. As such, streamlined methodologies for collecting, analyzing, and reporting on adaptation actions and progress in subsequent GSTs must be a priority.

Concurrently, collaboration between the Intergovernmental Panel on Climate Change (IPCC) and other scientific organizations is vital for establishing standardized methodologies to assess climate risks, enhance tools, and ensure accessibility. This collaboration is particularly crucial as the IPCC's Seventh Assessment Cycle, including revisions to technical guidelines on impacts and adaptation along with adaptation indicators and metrics, will significantly influence how to measure and understand adaptation progress. The Seventh Assessment Report is anticipated to be published by 2029, providing timely insights for the FGCR. However, if the report were to be released earlier by 2028, it could also inform the next GST. Equally significant is the review mechanism for the FGCR, the terms of reference for which (including scope, frequency, and process of the review, incorporating stakeholder engagement) are still to be defined.

Prior to COP29, progress must be made on operationalizing targets for key sectors and the adaptation policy cycle by identifying concrete strategies and mechanisms to achieve them.²⁷ With input from negotiating groups and other stakeholders, transformational adaptation also requires definition and unpacking to understand its applicability for different sectors and spatial scales and to identify mechanisms to assess progress in planning and implementing transformational adaptation approaches.

Other UNFCCC-related meetings (e.g., intersessional meetings in Bonn) are pivotal for resolving outstanding issues; these include: strengthening support for finance and means of implementation generally for developing countries; integrating equity and the principle of CBDR-RC into the FGCR; and setting up a specific agenda item to continue discussing the GGA. Importantly, discussions around financing the FGCR must tie into conversations and decisions on adaptation finance as part of the NCQG.

26. UNFCCC. 2023. *CMA.5 Advanced Unedited Version, Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3*. https://unfccc.int/sites/default/files/resource/cma5_auv_8a_gga.pdf.

27. UNFCCC. 2023. *CMA.5 Advanced Unedited Version, Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3*. https://unfccc.int/sites/default/files/resource/cma5_auv_8a_gga.pdf.

Expected Outcomes at COP29 on the FGCR

More ambitious adaptation outcomes, especially to support developing countries in implementing the FGCR, will be crucial at COP29 in Azerbaijan in November 2024. Under the FGCR, the final decision text must include and prioritize the following outcomes:

- **Equitable Principles in the FGCR:**
 - Inclusion of equity and CBDR-RC as foundational principles of the FGCR, integral to achieving the GGA.
- **Concrete Targets for Means of Implementation:**
 - Stronger language and a specific target for means of implementation support (finance, technology transfer, and capacity building) for developing countries.
 - The target should aim for 50 percent of global climate finance dedicated to adaptation, aligning with developing countries' needs outlined in their NAPs, NDCs, and the NCQG.
- **Continued Discussion on GGA:**
 - Re-establishment of an agenda item to continue discussing the GGA and recognition of the value of creating dedicated spaces to further discussions on the framework's implementation and evaluation.
- **Linkages between the GGA and GST:**
 - Recognition and identification of the linkages between the GGA and second GST, specifically by identifying indicators aligned with the FGCR.

Source: Authors

UAE-Belém Work Programme on indicators for measuring progress toward GGA's overarching targets

Alongside the FGCR, COP28 also established the UAE-Belém Work Programme with a two-year timeline to develop indicators and methodologies for measuring those indicators. It must be noted that the limited time frame of two years is a source of concern, as Parties are tasked with the initial challenge of reaching consensus on the modalities of the work program. This encompasses crucial elements such as organization of the work, timelines, inputs, outputs, and the participation of stakeholders. These modalities must be agreed during the intersessional negotiations at Bonn in June 2024 to ensure sufficient time to negotiate the indicators during the two-year period.

One starting point for the work program must be to identify relevant and appropriate indicators in existing frameworks, such as the Sendai Framework for Disaster Risk Reduction, the United Nations 2030 Agenda Sustainable Development Goals (SDGs), the Kunming-Montreal Biodiversity Framework, and other multilateral agreements that intersect with or complement the GGA targets.²⁸ This approach would not only avoid duplication but also foster greater alignment between climate objectives and other multilateral agendas, such as sustainable development and biodiversity conservation.²⁹

Moreover, these linkages extend beyond mere identification; strong correlations exist between the thematic and policy cycle targets of the FGCR and indicators within the UN 2030 Agenda³⁰ and Sendai framework³¹ (see Appendix). For example, SDG target 13.1 and Sendai target E, with their corresponding indicators, directly align with the adaptation policy target concerning impact, vulnerability, and risk assessment. These indicators linked to Sendai target E and SDG 13.1 measure the adoption and implementation of disaster risk-reduction strategies, while also assessing the availability and accessibility of multi-hazard early warning systems and disaster risk information at national and local levels. Crucially, these indicators offer valuable insights into interpreting FGCR targets at national and subnational levels. Similar links are also apparent between the adaptation planning target in the FGCR and SDG targets 13.2 and 13b and between the FGCR targets on water, food-agriculture, infrastructure-human settlements,

28. Del Rio, C.R., and E. Toth. 2024. "What's next for Global Climate Adaptation in 2024?" Blog. <https://unfoundation.org/blog/post/whats-next-for-global-climate-adaptation-in-2024/>.

29. UN. 2023. Synergy Solutions for a World in Crisis: Tackling Climate and SDG Action Together. https://sdgs.un.org/sites/default/files/2023-09/UN%20Climate%20SDG%20Synergies%20Report-091223B_1.pdf.

30. UN. N.d. *The 17 goals*. <https://sdgs.un.org/goals>.

31. UN. 2015. *Sendai Framework for Disaster Risk Reduction 2015-2030*. https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf.

poverty eradication-livelihoods, cultural heritage, and SDG targets 6.1, 6.4, 2.1, 2.4, 9.1, 9a, 1.5, and 11.1 respectively. These connections highlight the interconnectedness between the FGCR and the broader global sustainability agenda outlined in the SDGs.

However, it is crucial to synchronize the timelines identified in the FGCR with those of existing multilateral frameworks to ensure coherence and alignment with broader global objectives. This synchronization not only streamlines global agendas and efforts, but also underscores the importance of leveraging existing indicators to effectively achieve these shared goals. Additionally, there is a need to connect the indicators to existing UNFCCC reporting requirements, consider disaggregated indicators for a more detailed analysis, and emphasize the importance of capacity building, particularly for developing countries, to ensure equitable participation in implementing the work program.

Where gaps exist in current frameworks, new indicators will need to be developed drawing on input and expertise from scientists, researchers, practitioners, civil society groups, and representatives of vulnerable stakeholders worldwide. The open call for submissions via the UNFCCC presents crucial opportunities for these stakeholders to actively shape and guide the design of the work program, along with the selection of indicators.

The successful implementation of the two-year UAE-Belém Work Programme hinges on prioritizing delivery of and reaching decisive agreement on a comprehensive list of adaptation indicators at COP30 in 2025 to measure progress toward the FGCR thematic and policy cycle targets. To achieve this goal, the work program must be organized effectively, using a range of strategic approaches over the course of 2024 and 2025. This includes reaching a decision on the work modalities at the 2024 Bonn Climate conference, hosting workshops dedicated to identifying principles and broad categories for indicators, and forming thematic working groups that actively engage diverse stakeholders from experts to community representatives. Furthermore, incorporating pre-workshop submissions and preparing synthesis reports, both before and after workshops, will provide valuable insights into the feasibility and effectiveness of identified indicators.

However, designing indicators to track progress toward adaptation goals is neither necessarily simple nor straightforward. A major challenge arises from the significant diversity of geographical scales, political landscapes, and the institutional and many other contexts in which adaptation occurs.³² Compounded by a lack of consensus on definitions for various elements related to adaptation, data limitations, and the absence of universal methodologies, this complexity underscores the importance of ensuring that adaptation indicators are fit-for-purpose. Relying on overarching and simplistic indicators not only jeopardizes the advancement and efficacy of adaptation efforts but also runs the risk of fostering institutional misalignment and overlooking the critical needs of the most vulnerable groups. Therefore, ensuring that adaptation indicators align with the specific needs of vulnerable regions, countries, and demographics is critical for effectively measuring progress toward achieving targets.

32. Njuguna, L., Biesbroek, R., Crane, T.D., Tamás, P., and Dewulf, A. 2022. Designing fit-for-context climate change adaptation tracking: Towards a framework for analyzing the institutional structures of knowledge production and use. *Climate Risk Management*, 35: <https://doi.org/10.1016/j.crm.2022.100401>.

Expected Outcomes at COP29 on the UAE-Belém Work Programme

Considering the complexities around developing indicators and the limitations of a two-year work program, negotiators could agree on the following principles at COP29:

Key principles and considerations to guide the development of Global Adaptation Indicators:

- **Relevance:** Indicators must be directly relevant to the agreed targets of the GGA embedded in the FGCR, capturing key aspects of adaptation progress, including resilience building, reducing vulnerabilities and enhancing adaptive capacities. The indicators should be designed to feed into the GST process, providing a clear picture of global progress on adaptation.
- **Comprehensive:** The suite of indicators should cover all dimensions of adaptation, including physical, economic, social, and ecological aspects, ensuring a holistic assessment of adaptation progress.
- **Scalability:** Indicators should be applicable at various scales, from local to global, allowing for aggregation and comparison across regions and countries.
- **Simplicity and Understandability:** While maintaining scientific accuracy, indicators should be easy to understand and use by policymakers, practitioners, and the broader suite of relevant stakeholders.
- **Inclusivity and Equity:** The development and application of indicators should consider the needs and perspectives of vulnerable developing countries and communities, promoting equity in adaptation efforts.
- **Integration and avoidance of additional reporting:** It is essential that adaptation indicators be integrated into existing UNFCCC reporting mechanisms, such as National Communications and the Enhanced Transparency Framework under the Paris Agreement including the Biennial Transparency Reports (BTRs). Indicators should also, wherever possible, draw from existing frameworks, including the UN SDGs, Sendai and biodiversity frameworks.
- **Finance needs:** Each thematic target and target for the adaptation policy cycle process must also include measurable finance indicators that would enable progress toward the targets set. Identification of overarching finance indicators that address issues such as quantity, quality, and accessibility of financial resources for achieving the FGCR are equally crucial.

Potential broad categories of indicators for consideration:

- **Outcome Indicators:** Measure the impacts of adaptation actions in building resilience, reducing vulnerability and enhancing adaptive capacity.
- **Process Indicators:** Track the implementation of adaptation actions, policies, and plans.
- **Input Indicators:** Quantify the resources allocated toward adaptation efforts, including financial, technological, and capacity-building support.

Work plan for 2025:

- The work plan should define a systematic approach to the technical work in 2025 for developing indicators culminating in a decision of adaptation indicators at COP30 in 2025. Such a process could include:
 - Call for submissions from Parties and non-Party stakeholders on specific sets of potential indicators
 - Synthesis report by the secretariat including a list of potential existing and new potential indicators and assessment of pros and cons
 - Host workshops, including with inputs from IPCC and other scientific institutions, to test the applicability of potential indicators
 - Request that the Adaptation Committee support the work of developing indicators

Source: Authors.

Adaptation Finance and the New Collective Quantified Goal on Climate Finance

Formal deliberations on the NCQG were initiated in 2021 at COP26. Technical work through an ad hoc work program was undertaken in 2022 and 2023, with the expectation for a final decision on the new goal at COP29 in 2024. Establishing a new goal on climate finance is set to be the biggest agenda item in the lead-up to and at COP29 in Azerbaijan in November.

The technical expert dialogues and the ad hoc work programme in 2024 will focus on the development of a draft negotiating text, which may include the quantitative and qualitative elements of the goal, funding sources, and mechanisms for transparency. Another key area of concern among negotiators and other stakeholders will center on whether to have subgoals for various thematic areas of finance: mitigation, adaptation, and loss and damage.³³

Discussions on the nature and size of the NCQG, especially for the adaptation subgoal, must consider the widening finance gap, which further underscores the need to scale up financial efforts beyond doubling, as acknowledged in the 2023 GST outcome.

Another key consideration in developing the new goal must be the changing needs and priorities of developing nations, requiring a financial framework that is both responsive and equitable. This could lead to a larger share of finance being directed toward adaptation, which could contribute to, but not necessarily completely plug, the finance gap.³⁴ However, given the debt distress of many developing countries, scaling up of adaptation finance must include innovative mechanisms and be new, additional, reliable, debt-free, predominantly grant-based, and accessible to the most vulnerable groups.³⁵

The importance of a clear adaptation subgoal lies in its potential to guide investments towards GGA targets and contributing towards enhancing adaptive capacity, strengthening resilience and reducing vulnerability.

Expected Outcomes at COP29 on Adaptation Finance and the NCQG

The final decision at COP29 must include an ambitious finance package that includes the following key outcomes:

- **Adoption of a New Quantified Collective Goal on Climate Finance**
 - The adoption of the NCQG at COP29 presents a critical opportunity to establish a clear adaptation subgoal, ensuring that financial resources are allocated in a manner that addresses the urgent need for adaptation to the impacts of climate change, particularly in the most vulnerable countries.
- **High-Level Ministerial Dialogue**
 - The convening at COP29 of a high-level ministerial dialogue on the urgent need to scale up adaptation finance must consider the outcome of the first GST that confirmed the widening adaptation finance gap.
- **Adaptation Finance Gap and Road Map**
 - A clear recognition of the widening adaptation finance gap, which is currently estimated to be \$194–366 billion per year.
 - Developed countries must provide an update on the status of the report outlining their progress in meeting their Glasgow commitment to double funding for adaptation by 2025.
 - In the context of the adaptation finance gap, COP29 must require developed countries to provide a road map, including a delivery and implementation plan, to double adaptation finance by 2025, in line with the Glasgow Climate Pact at COP26.

Source: Authors

33. Alayza, N. 2023. *Untangling the finance goal: An introduction to the new collective quantified goal*. <https://www.wri.org/research/untangling-finance-goal-introduction-new-collective-quantified-goal>

34. UNEP. 2023. *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi, Kenya: UNEP. <https://doi.org/10.59117/20.500.11822/43796>.

35. Padmanabhi, R., M. Richmond, D. Wignarajah, G. Martinez, and K. Schell-Smith. 2023. *Accelerating Adaptation Finance—Africa and Global Perspectives*. <https://www.climatepolicyinitiative.org/wp-content/uploads/2023/09/GCA-CPI-Accelerating-Adaptation-Finance.pdf>.

National Adaptation Plans (NAPs)

As crucial tools for countries to identify adaptation needs, NAPs can help to mobilize resources and facilitate implementation of adaptation actions. NAPs serve two key objectives: they bolster resilience and adaptive capacity to reduce vulnerability to climate impacts and integrate climate adaptation into new and existing policies and programs, development planning processes, and strategies across various sectors.³⁶ Countries that have not yet developed their NAPs should prioritize their formulation as a top agenda item in 2024. Increasing the number of completed NAPs by 2025, rather than waiting until 2030 as identified in the FGCR, would significantly elevate the evaluation of adaptation progress in the second GST. Aligning with the GST specified timelines is not only essential for individual countries but also contributes significantly to global adaptation efforts.

To meet these ambitious timelines, developed countries must play a crucial role in supporting developing nations through means of implementation, including finance, technology transfer, and capacity building—all vital components for the successful formulation, implementation, and mainstreaming of NAPs. To put this in context, required adaptation finance for implementing domestic priorities in developing countries constitutes 0.6 to 1.0 percent of the combined GDP of all developing countries and is based on extrapolated costs from Nationally Determined Contributions (NDCs) and NAPs.³⁷

The effective implementation of these plans hinges on greater availability and access to quality adaptation finance. Additionally, most countries lack the necessary technical expertise or infrastructure to effectively monitor and evaluate their national adaptation processes. Another major concern is that least developed countries and small island developing states are lagging behind the global average in national adaptation planning, reinforcing the urgent need for increased financial and technical support to advance their adaptation planning.³⁸

In 2024, a pivotal focus must revolve around enhancing the alignment among policy processes, objectives, and targets, particularly in relation to countries' NAPs and NDCs. The NAP process acts as a crucial domestic planning tool, outlining implementation strategies for achieving adaptation goals identified in countries' NDCs. It is essential to establish stronger alignment and synergy between NDCs and NAPs, as well as with the BTRs and long-term low emissions development strategies, especially in anticipation of future GSTs. This alignment is vital for fostering cohesive and effective strategies to tackle climate impacts at both national and global scales. As countries develop their updated NDCs, set to be submitted well in advance of COP30 in 2025,³⁹ and their first BTRs in 2024, integrating the knowledge acquired from the NAP process into NDCs becomes imperative to catalyze and expedite ambitious adaptation actions.⁴⁰ For countries yet to formulate their NAPs, leveraging insights and experiences from developing their NDCs can serve as catalysts for developing robust NAPs, thereby enhancing overall climate-resilience strategies.⁴¹

A crucial element of the adaptation provisions in the Paris Agreement is the Adaptation Communications (AdComs), which provide insights into Parties' adaptation priorities, needs, plans, and actions. AdComs serve to enhance visibility of adaptation efforts, mobilize support for implementation, and inform GST processes. Parties have the flexibility to submit their AdComs as standalone documents, or as part of their NDCs or NAPs.⁴² These AdComs, along with NAPs and BTRs, collectively play a pivotal role in presenting a comprehensive overview of global adaptation efforts. The BTRs are particularly instrumental in monitoring and tracking progress on adaptation by providing detailed information on the implementation and effectiveness of adaptation actions.⁴³

With the evolution of NDCs to include more robust adaptation components in future iterations, there is increasing emphasis on integrating adaptation into national climate strategies.⁴⁴ This integration ensures that NAPs, AdComs, BTRs, and NDCs collectively contribute to the GST, offering a holistic perspective on both achievements and gaps

36. UNFCCC LDC Expert Group. 2021. *2021 National Adaptation Plans: Progress in the Formulation and Implementation of NAPs*. <https://unfccc.int/sites/default/files/resource/UNFCCC-NAP2021-Progress-report.pdf>.

37. UNEP. 2023. *Adaptation Gap Report 2023: Underfinanced, Underprepared, Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi, Kenya: UNEP.

38. UNFCCC LDC Expert Group. 2021. *2021 National Adaptation Plans: Progress in the Formulation and Implementation of NAPs*. <https://unfccc.int/sites/default/files/resource/UNFCCC-NAP2021-Progress-report.pdf>.

39. Waskow, D., J. Srouji, J. Layke, N. Warszawski, et al. 2023. *Unpacking COP28: Key Outcomes from the Dubai Climate Talks, and What Comes Next*. <https://www.wri.org/insights/cop28-outcomes-next-steps#ndcs>.

40. NAP Global Network. N.d. "NDC-Nap Alignment." <https://napglobalnetwork.org/themes/ndc-nap-linkages/>.

41. CDKN (Climate Development Knowledge Network). N.d. *CDKN Planning for NDC Implementation: A Quick-Start Guide—Adaptation*. <https://ndc-guide.cdkn.org/book/planning-for-ndc-implementation-a-quick-start-guide/adaptation/>.

42. UNFCCC. N.d. "Adaptation Communications." <https://unfccc.int/topics/adaptation-and-resilience/workstreams/adaptation-communications>.

43. Qi, J., and E. Beauchamp. 2023. *Adaptation in Biennial Transparency Reports: Frequently Asked Questions*. <https://napglobalnetwork.org/wp-content/uploads/2023/09/napgn-en-2023-faq-adaptation-biennial-transparency-reports.pdf>.

44. United Nations Climate Change Secretariat. 2024. "Message to Parties and Observer States." https://unfccc.int/sites/default/files/resource/message_to_parties_ndcs_%203.0.pdf.

in global adaptation efforts. Consequently, this will enable more informed decision-making and foster enhanced coordination for future climate action. Through the GST process, the effectiveness and progress of these adaptation actions can be evaluated against the global targets set under the FGCR, thereby ensuring that global efforts are aligned with the overarching objectives of enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change.

Expected Outcomes at COP29 on NAPs

Given the deceleration in progress concerning adaptation planning, implementation, and finance, COP29 must expedite action on NAPs.

The final decision text should prioritize the following outcomes:

1. Recognize developed nations' responsibility to provide adequate financial and technical assistance to support developing countries in developing and implementing their NAPs.
2. Urge countries that have not yet submitted their NAPs to do so by 2025 at the latest, to contribute to the assessment of the GGA in the second GST scheduled to conclude in 2028.
3. Encourage all Parties to update and align their NAPs with the targets identified in the FGCR, findings from the 2023 GST, and their revised/enhanced NDCs.
4. Call upon the UNFCCC financial mechanisms (i.e., Green Climate Fund, Adaptation Fund, and Global Environment Facility) to offer increased, expedited, easily accessible, and direct financial support for developing countries in the preparation and implementation of their NAPs.

Source: Authors

Beyond the UNFCCC: Adaptation Action Trends to Expect in 2024

Parallel to the activities of the UNFCCC as the primary international forum for climate negotiations and agreements, it is equally important to examine activities of other contributors, initiatives and actions that are complementary to the developments in the UNFCCC space. Progress on climate-adaptation action can also be seen across the board in other multilateral, sectoral, and national efforts. Exploring how these efforts contribute to shaping global trends for adaptation in 2024 is highly imperative. Adaptation strategies vary across different regions, each with its unique challenges, so it is important to see how other global trends beyond the UNFCCC are shaping the frontiers of adaptation action. Such insights into effective approaches are helpful to understand how their impacts are helping to resolve country-specific vulnerabilities while tackling discrete dimensions of climate change-induced impacts.

Integration of adaptation into core development planning and finance

Adaptation has been an increasing part of mainstream development planning and finance over the last two decades, from improving water resource management to building resilience into agriculture. However, discussions of climate resilience and adaptation in the climate / environment and core development spaces have often been separate. The main issue and consideration with mainstreaming adaptation into development planning is financing and making a case for adaptation, particularly around requirements – such as the 'climate rationale' – for project financing by financial institutions. There is an increasing understanding of the need to integrate these.

Developing countries are increasingly looking at how to build climate resilience into their national and sectoral development plans and budgets. The V20, a group of finance ministers representing 68 climate-vulnerable countries, home to 1.74 billion people, are developing Country Prosperity Plans, which are designed to integrate measures that counteract climate risks and leverage transition opportunities into core development planning. World Bank Country Climate Development Reports (CCDRs) aim to help countries account for climate impacts in their core economic and development decision making, so they can target adaptation measures in their planning, policies and investments. The Independent High Level Expert Group on Climate Finance report, commissioned by India's

G20 Presidency, pointed to the importance for increasing finance of adaptation and loss and damage (as well as mitigation) measures being integrated into core development and sectoral planning, with investment strategies and ‘country platforms’ as the basis for governments, their financing partners and the private sector mobilising finance.

So whilst NAPs and NDCs are seen as important documents for setting ambition and identifying priorities, the integration of the main adaptation actions identified in these are seen as critical for driving implementation and finance.

Financial instruments and policies based on local climate risk assessments

Over time, other financial instruments outside the UNFCCC have been developed and put to use for the development of adaptation projects in developing countries,⁴⁵ while other innovative ways that the private sector can finance adaptation have been documented.⁴⁶ Various financial instruments beyond traditional debt approaches are being considered to reduce the gap between existing adaptation finance and global adaptation finance needs. Although traditional instruments are needed to spur and bridge the gap of public adaptation investments, instruments beyond market-based debt can help to balance and scale the finance flows without further aggravating debt burdens, especially on already vulnerable and severely indebted countries.⁴⁷ Some financial instruments available for adaptation include, for example, debt-for-climate swaps, guarantees, insurance, liquidity instruments, local currency swaps, and other instruments.

Despite the availability of these instruments, several obstacles hinder countries from maximizing their use for development. These include constraints related to financing and unpredictability of costs, lack of involvement of local stakeholders in project development, inconsistency in country ownership of projects and institutional support, information and knowledge gaps, and the complexity of accessing international climate funds.

Research shows that investments in adaptation can have significant economic advantages. For instance, investing \$1.8 trillion in adaptation between 2020 and 2030 could hold potentially yield over \$7.1 trillion in benefits. In regions such as Africa, the appeal of adaptation actions lies in their distinctive investment potential, offering a triple dividend by preventing losses, fostering economic gains, and delivering positive social and environmental benefits.⁴⁸

The year 2024 may open up opportunities for climate-vulnerable countries to adopt more dynamic approaches to accessing adaptation funds. This could involve developing policies to promote local climate risk assessments prompting advancements in climate modeling, data analytics, and risk assessment methodologies that were previously lacking.

Early warning systems for all

At the UN Climate Ambition Summit in September 2023 in New York, UNDP announced the development of a large-scale, collaborative push to establish life-saving early warning systems in some of the world’s most climate-vulnerable countries.⁴⁹

An initial injection of \$1.3 million from the Green Climate Fund (GCF) was used to kick-start a much larger initiative aimed at delivering \$157 million from the GCF and partner governments to move toward universal early warning for all. As part of the announcement, UNDP and its partners appealed for other donors to join forces, growing the initiative beyond the first group of countries of Antigua and Barbuda, Cambodia, Chad, Ecuador, Ethiopia, Fiji, and Somalia.

One year into the Early Warnings for All initiative, Africa has doubled the quality of early warning system coverage but still falls below the global average; less than half of the least developed countries and only 40 percent of small island developing states have a multi-hazard early warning system; in the Arab states, risk knowledge to underpin early warning systems was found to be particularly low.⁵⁰

45. UNFCCC. 2023. *Mapping of available sources of finance for climate change adaptation for the least developed countries*. <https://unfccc.int/sites/default/files/resource/Mapping-of-adaptation-finance.pdf>.

46. IISD (International Institute for Sustainable Development). 2023. *Innovative Financial Instruments and Their Potential to Finance Climate Change Adaptation in Developing Countries*. <https://www.iisd.org/system/files/2023-06/financial-instruments-climate-change-adaptation.pdf>.

47. Climate Policy Initiative, Global Center on Adaptation. 2023. *State and Trends in Climate Adaptation Finance 2023*. https://gca.org/wp-content/uploads/2023/12/State-and-Trends-in-Climate-Adaptation-Finance-2023_WEB.pdf.

48. Global Center on Adaptation. 2019. *Adapt Now: A Global Call for Leadership on Resilience*. <https://www.wri.org/initiatives/global-commission-adaptation/adapt-now-report>.

49. World Meteorological Organization. 2023. "At Climate Ambition Summit, UN agencies and IFRC kick-start major initiative towards realizing Early Warnings for All by 2027". <https://wmo.int/media/news/climate-ambition-summit-un-agencies-and-ifrc-kickstart-major-initiative-towards-realizing-early>.

50. World Meteorological Organization. 2023. *Global Status of Multi-Hazard Early Warning Systems 2023*. <https://wmo.int/publication-series/global-status-of-multi-hazard-early-warning-systems-2023>.

Since the number of climate-vulnerable countries reporting the existence of multi-hazard early warning systems is below the global average, national governments, non-governmental organizations, and international agencies are expected to invest in technology and infrastructure as well as technology transfer to disseminate accurate and timely information to vulnerable populations about impending climate-related threats. These threats were acknowledged by the UN Secretary General and set as a top priority for 2024 in his address at the 78th session of the UN General Assembly on the basis of the raging conflicts and rising geopolitical division across the globe. Importantly, early warning systems must be complemented with access to the resources needed to take action in the event of a climate-related disaster.

Stronger efforts to address climate mobility (migration, displacement, planned resettlement)

Climate change has been acknowledged as one of the drivers of human mobility. Increased evidence of this is seen, for example, in Sub-Saharan Africa, across the Pacific islands, Bangladesh, the Maldives, and parts of Central America due to interconnected challenges of desertification, prolonged drought, sea level rise, frequent flooding, cyclones, and other weather events. Indeed, by the year 2050, about 216 million people could be forced to move due to the impact of climate change across the globe.⁵¹ From the rise in conflicts in drought-stricken regions over decreasing water resources to numerous cases of forced migration due to extreme weather events, it is important to note that the nexus between climate change and migration has created a complex web around mobility that has continued to affect livelihoods in and around vulnerable communities worldwide.⁵²

The International Organisation for Migration's strategic plan 2024–2028⁵³ highlighted a defining moment in the global approach to migration and called for a new strategic direction and renewed energy to deliver on three broad objectives: to save lives and protect people on the move, drive solutions to displacement, and facilitate pathways for regular migration. The report also identified enablers for success to include workforce, partnerships, funding, data and evidence, learning and innovation, communication, and internal system coordination. As such, 2024 will likely see these issues on the front burner with an increased acknowledgment of the interconnectedness of climate change, migration, and human rights.

Interventions to enhance the resilience of agriculture and agri-food systems

The COP28 UAE Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action, supported by 159 heads of state and government and two additional Parties, recognizes the adverse effects of climate change and the risks it poses to agriculture and food systems, along with the potential for innovative responses to climate change in these sectors. The Parties declared a collective intention to work together and pursue the objectives highlighted in the declaration, including scaling up adaptation and resilience activities and responses, promoting food security and nutrition, supporting workers in agriculture and food systems, strengthening the integrated management of water in agriculture and food systems at all levels, and maximizing the climate and environmental benefits.

While lacking in a specific implementation plan, the declaration signatories are expected to fulfill the embedded commitments by 2025. It will be essential to see how these commitments are translated into action and integration into the more ambitious NDCs, due by 2025.

The Food and Agriculture Organization, in its 2023 report, *The State of Food and Agriculture*,⁵⁴ has also highlighted how agrifood systems generate significant benefits to society through provision of nourishing foods, jobs, and livelihoods for over one billion people. It equally emphasizes the negative impacts of agricultural practices as contributing to climate change, environmental degradation, and the affordability of healthy diets. The report delved into the true cost of food for sustainable agriculture and introduced the concept of hidden environmental, health, and social costs into decision-making to aid transformation of agrifood systems. While it proposed the true cost accounting approach, the first assessment for 154 countries suggested a global cost of \$10 trillion, and indicated that low-income countries still bear the highest burden of the hidden cost of agrifood systems relative to national income.

51. The World Bank Group. 2021. *Climate Change Could Force 216 Million People to Migrate Within Their Own Countries by 2050*. <https://www.worldbank.org/en/news/press-release/2021/09/13/climate-change-could-force-216-million-people-to-migrate-within-their-own-countries-by-2050>.

52. The World Bank. 2018. *Groundswell: Preparing for Internal Migration*. <https://openknowledge.worldbank.org/entities/publication/2be91c76-d023-5809-9c94-d41b71c25635>.

53. International Organization for Migration (IOM). 2024. *IOM Strategic Plan 2024-2028*. <https://publications.iom.int/system/files/pdf/pub2023-159-r-iom-strategic-plan.pdf>.

54. Food and Agriculture Organization of the United Nations. 2023. *The State of Food and Agriculture: Revealing the True Cost of Food to Transform Agrifood Systems*. <https://www.fao.org/3/cc7724en/cc7724en.pdf>.

Innovation in data-driven and digital technologies

A confluence of factors, such as scientific and technological developments, policy support, market demand, and a rising sense of urgency, are driving the development of path-breaking technologies for climate adaptation. This convergence is catalyzing innovation and opening new pathways to build adaptive capacity into organizations and communities worldwide.

As such, a set of data-driven and digital technologies, all synergistic with artificial intelligence (AI) and advanced computing, are emerging as mission-critical tools for climate adaptation.⁵⁵ These technologies could support a comprehensive strategy for adaptation and play a key role at each stage of the adaptation cycle:

- **Comprehending risks and opportunities:** AI, Earth observation, the internet of things (IoT), and drones are transforming how people gather, process, and analyze information. These technologies provide intelligence on how the Earth is changing at the planetary level and how the impacts may be felt by businesses and local communities.
- **Building resilience against climate impacts:** AI is helping build resilience into critical infrastructure, such as flood management systems, through optimization and real-time maintenance. Earth observation and IoT are bringing new precision to critical resilience tools such as early-warning systems.
- **Responding dynamically when impacts hit:** Earth observation, along with drones, can provide a view of hard-to-reach areas in the aftermath of an extreme event. Drones are also being used to make deliveries of emergency aid and support search and rescue operations. AI's capabilities for prediction and optimization improve situational awareness.

Company disclosure of climate-related risk

Virtually every sector of the global economy is exposed to some degree of climate-related risk, and momentum is building in the private sector around climate change adaptation. Companies are already exposed to extreme weather events and the physical impacts of climate change, such as heat waves, droughts, wildfires, flooding, and hurricanes, and will likely see significant increases in financial costs over the coming decades.⁵⁶

Although many businesses say they support the Task Force on Climate-Related Financial Disclosures (TCFD), only a small number actually report their climate-related exposure.⁵⁷ With an alarming rise in climate impacts, both in the form of extreme and slow onset events, investors and stakeholders are demanding transparency on how companies are planning for and mitigating climate-induced risks. Moreover, considering that supply chains for large companies often originate in developing countries, failure to recognize and incorporate climate-related physical risks and nature-related risks into decision-making is considered a serious corporate risk and threat to socioeconomic security. Moreover, preparing for physical climate risks can be a catalyst for companies' innovation and growth. Nevertheless, they must first form a clear picture of their vulnerabilities and make plans to manage them.⁵⁸

Particularly, the International Sustainability Standards Board issued the IFRS requirements of disclosure for financial and climate-related disclosures⁵⁹ to help organizations improve trust and confidence in their disclosures about sustainability to apprise investment decisions. Both standards have the recommendations of the TCFD⁶⁰ incorporated for effective strategy communication and resilience. Effective for periods beginning on or after January 1, 2024, they mark the start of a new era of requiring companies to make sustainability-related disclosures.

These disclosures, which are described as pivotal to the provision of the Article 2.1c of the Paris Agreement,⁶¹ underscore the need for risk management to go beyond transparency and help to direct adaptation and mitigation funding. Despite the disclosures, the implementation and scope of Article 2.1c remains vague on what it entails.

55. World Economic Forum. 2024. *Innovation and Adaptation in the Climate Crisis: Technology for the New Normal*. https://www3.weforum.org/docs/WEF_Innovation_and_Adaptation_in_the_Climate_Crisis_2024.pdf.

56. S&P Global. 2023. *Quantifying the financial costs of climate change physical risks for companies*. <https://www.spglobal.com/esg/insights/featured/special-editorial/quantifying-the-financial-costs-of-climate-change-physical-risks>.

57. UK GBC (The UK Green Building Council). 2022. *A Framework of Measuring and Reporting of Climate-related Physical Risks to Built Assets*. <https://ukgbc.org/resources/a-framework-for-measuring-and-reporting-of-climate-related-physical-risks-to-built-assets/>.

58. PWC (Price Waterhouse Cooper). 2023. *How climate adaptation can both protect and grow your business*. <https://www.pwc.com/gx/en/issues/esg/how-climate-adaptation-can-both-protect-and-grow-your-business.html>.

59. IFRS Foundation. 2023. "IFRS Sustainability Standards Navigator." <https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/>.

60. Task Force on Climate-related Financial Disclosures. 2017. *Recommendations of the Task Force on Climate-related Financial Disclosures*. <https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf>.

61. UNFCCC. 2015. *Conference of the Parties, Adoption of the Paris Agreement, 2015. FCCC/CP/2015/L.9/REV/1*. https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

RECOMMENDATIONS: WHAT THE WORLD NEEDS MOVING FORWARD

In recent years, scientific reports and data have consistently highlighted the expanding gap between the progress required for adaptation and the actual measures in place. This global lack of preparedness to manage increasing climate risks through widespread and effective adaptation is marked by insufficient technology transfer, limited capacity building, and a scarcity of adaptation funds or inadequate investments to support developing countries in planning, implementing, and evaluating adaptation action. By the conclusion of COP28, most adaptation commitments and targets outlined in the FGCR and GST fell short of the ambition needed to close the widening finance and action gap. Meanwhile, the agenda item on NAPs was deferred to the Bonn Climate Conference in June 2024, and the Adaptation Fund only generated half of the expected funds. While these issues may seem minor, they suggest a potential dysfunction in the perception, management, and prioritization of adaptation within global policy processes.

Navigating the complex landscape of global adaptation necessitates a transformative shift in the adaptation narrative to reprioritize and place adaptation on an equal footing with mitigation. This involves recognizing the inherent link between adaptation and development as well as with equity and justice issues. Further research is needed to understand adaptation through a just transition lens, not only to champion equitable and just adaptation but also to integrate adaptation issues into the UNFCCC's Just Transition Work Programme and funding partnerships that serve to facilitate just transitions in developing countries (e.g., Just Energy Transition Partnerships). Additionally, further research and advocacy on adaptation should underscore the opportunities and benefits associated with strategic investments in adaptation, rather than framing it solely as a risk.

Across the various UNFCCC adaptation work programs, prioritizing the inclusion of diverse voices and perspectives—particularly from vulnerable groups such as farmers, women, or representatives of Indigenous groups—is paramount. Incorporating the principles of locally led adaptation is essential to ensure that the adaptation strategies are contextually relevant and sensitive to the needs and rights of local communities, and that those who are most vulnerable to climate change have the decision-making and budgetary authority required to play an active role in building their own resilience. The prioritization of inclusion and equity will enhance the efficacy of global adaptation and resilience initiatives, with great potential to accelerate the implementation of adaptation interventions at the community and local level.

Within the international climate policy space, there is a need to provide a quality guide for the relevance of financial flow governance for transparency for adaptation funding. The article must also provide for the risk-management framework and responsibilities of international, public, domestic, and private financing for adaptation.

The UNFCCC must recognize the efforts of other players – including indigenous peoples, local authorities, the scientific community, development actors, the private sector, and others – as complementary to the wider adaptation efforts and ensure that their perspectives are captured in subsequent assessment reports. This will help to create a path for synergy through multilateralism to combat the rising challenge of funding gaps for climate change adaptation. Furthermore, science and collaborative research remain pivotal in supporting the implementation of the GGA, its FGCR and other associated work programs. Strengthening the scientific foundation ensures informed decision-making and facilitates the development of targeted, evidence-based strategies.

Finally, it is imperative to prioritize and secure increased finance and investments dedicated to adaptation. Adequate financial resources are essential for achieving the targets set forth in the GGA and FGCR, advancing NAPs, and achieving related work programs. Mobilizing substantial financial support through innovative mechanisms, such as sustainable debt-for-climate swaps and financial guarantees, will fast-track the practical implementation of adaptation measures, bolstering global resilience against the impacts of climate change with less emphasis on geopolitics. Importantly, it is vital to ensure that the newfound focus on the Loss and Damage Fund does not divert adaptation finance away from its intended purpose, rather than providing new and additional finance for loss and damage. This underscores the critical need for careful resource allocation and strategic planning to comprehensively address the multifaceted challenges posed by climate change.

As we navigate the intricate landscape of global adaptation in 2024, ambition and support for adaptation are imperative this year, and will serve as the crux to establishing a robust framework capable of addressing the multifaceted challenges of climate change effectively.

APPENDIX: Linkages between the GGA targets and relevant targets and indicators in other multilateral frameworks

RELATED TARGETS AND INDICATORS

GLOBAL GOAL ON ADAPTATION TARGETS

Water:

Significantly reducing climate-induced water scarcity and enhancing climate resilience to water-related hazards toward a climate-resilient water supply and climate-resilient sanitation and toward access to safe and affordable potable water for all

SDG target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all

- Relevant indicators:
 - SDG 6.1.1: Proportion of population using safely managed drinking water services

SDG target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

- Relevant Indicators:
 - SDG 6.4.1: Change in water-use efficiency over time
 - SDG 6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Food—Agriculture:

Attaining climate-resilient food and agricultural production and supply and distribution of food, as well as increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all

SDG Target 2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round

- Relevant indicators:
 - SDG 2.1.1: Prevalence of undernourishment
 - SDG 2.1.2: Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale

SDG Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

- Relevant Indicators:
 - SDG 2.4.1: Proportion of agricultural area under productive and sustainable agriculture

Ecosystems and biodiversity:

Reducing climate impacts on ecosystems and biodiversity and accelerating the use of ecosystem-based adaptation and nature-based solutions, including through their management, enhancement, restoration, and conservation and the protection of terrestrial, inland water, mountain, marine, and coastal ecosystems.

Kunming-Montreal Biodiversity Framework

GOAL A: The integrity, connectivity, and resilience of all ecosystems are maintained, enhanced, or restored, substantially increasing the area of natural ecosystems by 2050; human-induced extinction of known threatened species is halted, and, by 2050, the extinction rate and risk of all species are reduced tenfold and the abundance of native wild species is increased to healthy and resilient levels; the genetic diversity within populations of wild and domesticated species, is maintained, safeguarding their adaptive potential. **GOAL B:** Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced, with those currently in decline being restored, supporting the achievement of sustainable development for the benefit of present and future generations by 2050.

Infrastructure—human settlements:

Increasing the resilience of infrastructure and human settlements to climate change impacts to ensure basic and continuous essential services for all, and minimizing climate-related impacts on infrastructure and human settlements;

SDG Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

- Relevant indicators:
 - SDG 9.1.1: Proportion of the rural population who live within 2 km of an all-season road

Target 9a: Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries, and Small Island developing states

- Relevant indicators:
 - SDG 9a.1: Total official international support (official development assistance plus other official flows) to infrastructure

Note: SDG 11 which aims to “make cities and human settlements inclusive, safe, resilient, and sustainable,” along with several of its targets and indicators, are also relevant to or overlap with this GGA thematic target

RELATED TARGETS AND INDICATORS

GLOBAL GOAL ON ADAPTATION TARGETS (CONT.)

Poverty eradication and livelihoods:

Substantially reducing the adverse effects of climate change on poverty eradication and livelihoods, in particular by promoting the use of adaptive social protection measures for all

SDG Target 1.5: *By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social, and environmental shocks and disasters*

- Relevant indicators:
 - SDG 1.5.1: *Number of deaths, missing persons, and directly affected persons attributed to disasters per 100,000 population*
 - SDG 1.5.2: *Direct economic loss attributed to disasters in relation to global gross domestic product*
 - SDG 1.5.3: *Number of countries that adopt and implement national disaster risk-reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030*
 - SDG 1.5.4: *Proportion of local governments that adopt and implement local disaster risk-reduction strategies in line with national disaster risk-reduction strategies*

Cultural heritage:

Protecting cultural heritage from the impacts of climate-related risks by developing adaptive strategies for preserving cultural practices and heritage sites and by designing climate-resilient infrastructure, guided by traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems

SDG Target 11.4: *Strengthen efforts to protect and safeguard the world's cultural and natural heritage*

- Relevant indicators:
 - SDG 11.4.1: *Total per capita expenditure on the preservation, protection, and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural), and level of government (national, regional, and local/municipal)*

ADAPTATION POLICY CYCLE TARGETS

Impact, vulnerability, and risk assessment: By 2030, all Parties have conducted up-to-date assessments of climate hazards, climate-change impacts, and exposure to risks and vulnerabilities and have used the outcomes of these assessments to inform their formulation of national adaptation plans, policy instruments, and planning processes and/or strategies; and by 2027, all Parties have established multi-hazard early warning systems, climate information services for risk reduction and systematic observation to support improved climate-related data, information, and services

SDG Target 13.1: *Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries*
AND

Sendai Target E: *Substantially increase the number of countries with national and local disaster risk-reduction strategies by 2020.*

- Relevant indicators:
 - SDG 13.1.2 / Sendai Framework E1: *Number of countries that adopt and implement national disaster risk-reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030*
 - SDG 13.1.3 / Sendai Framework E2: *Proportion of local governments that adopt and implement local disaster risk-reduction strategies in line with national disaster risk reduction strategies*

Sendai Target G: *Substantially increase the availability of and access to multihazard early warning systems and disaster risk information and assessments to the people by 2030*

- Relevant indicators:
 - Sendai Framework G1: *Number of countries that have multi-hazard early warning systems*
 - Sendai Framework G2: *Number of countries that have multi-hazard monitoring and forecasting systems.*
 - Sendai Framework G4: *Percentage of local governments having a plan to act on early warnings.*
 - Sendai Framework G5: *Number of countries that have accessible, understandable, usable, and relevant disaster risk information and assessment available to the people at the national and local levels.*

Planning: By 2030, all Parties have in place country-driven, gender-responsive, participatory, and fully transparent national adaptation plans, policy instruments, and planning processes and/or strategies, covering, as appropriate, ecosystems, sectors, people, and vulnerable communities, and have mainstreamed adaptation in all relevant strategies and plans

SDG Target 13.2: *Integrate climate change measures into national policies, strategies, and planning*

SDG Target 13b: *Promote mechanisms for raising capacity for effective climate change-related planning and management in Least Developed Countries and Small Island Developing States, including focusing on women, youth, and local and marginalized communities*

- Relevant indicators:
 - SDG 13.2.1: *Number of countries with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change*
 - SDG 13.b.1: *Number of least developed countries and Small Island developing states with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change.*



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