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in the Paris Agreement



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Disclaimer

This technical paper explores potential benefits that countries can gain from implementing climate transparency arrangements and products from it, including operationalizing information systems to track and report progress in adaptation and mitigation action, as well as progress in means of implementation. It does not aim to provide any standardized guidelines to the current and future reporting requirements under the UNFCCC.

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List of abbreviations and acronyms

BR	biennial report
BTR	biennial transparency report
BUR	biennial update report
CO ₂	carbon dioxide
ETF	enhanced transparency framework (under the Paris Agreement)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GHG	greenhouse gas
ICAT	Initiative for Climate Action Transparency
iMRV	integrated monitoring, reporting and verification
IPCC	Intergovernmental Panel on Climate Change
ITMO	internationally transferred mitigation outcome
JCM	joint crediting mechanism
MEL	monitoring, evaluation and learning
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
MRV	measurement, reporting and verification
NAP	national adaptation plan
NC	national communication
NCCRD	National Climate Change Response Database of South Africa
NDC	nationally determined contribution
OECD	Organisation for Economic Co-operation and Development
PATPA	Partnership on Transparency in the Paris Agreement
SDG	Sustainable Development Goal
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme

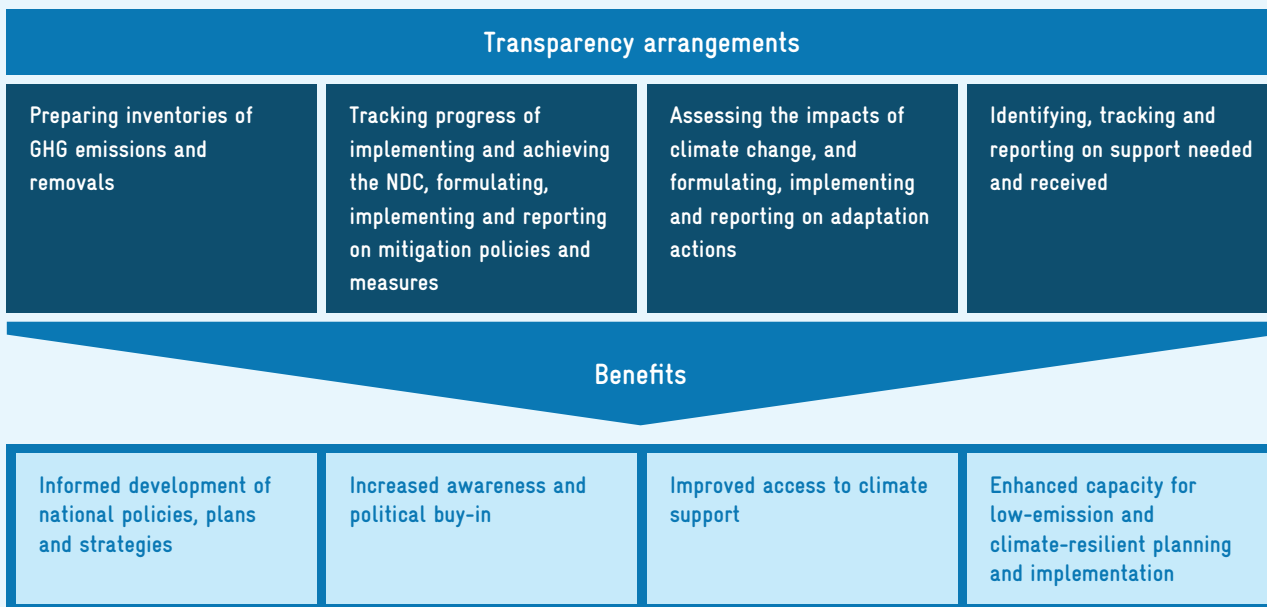
1. Introduction

This paper aims to highlight the benefits that robust and self-sustained transparency systems can bring to governments, beyond fulfilling current and future reporting requirements under the United Nations Framework Convention on Climate Change (the Convention) and the Paris Agreement. It also aims to reach climate change policymakers and practitioners from developing country Parties and enhance the reader’s understanding of these benefits, which include (see also figure 1):

- Better information for policy development and decision-making;
- Improved access to carbon markets and climate finance;
- Increased awareness of and political buy-in for climate action;
- Strengthened technical capacities for developing and implementing policies, plans and strategies for low-emission and climate-resilient development, as well as for long-term reporting.

In addition, the paper provides examples from developed and developing country Parties to explain and showcase how increased efforts to allocate human and financial resources for climate transparency can improve political commitment and enhance climate ambition.

Figure 1: National benefits arising from transparency arrangements under the Convention and the Paris Agreement



2. Setting the scene

The Paris Agreement, under its Article 2, aims to hold the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, increase the ability to adapt to the adverse impacts of climate change, and make finance flows consistent with a pathway towards low greenhouse gas (GHG) emissions and climate-resilient development.¹

Parties to the Paris Agreement committed to prepare, communicate and maintain nationally determined contributions (NDCs) and to strive to communicate long-term low-emission development strategies under Article 4; to engage in adaptation planning processes under Article 7, which provides several options for submitting and updating adaptation communications; and to regularly report on their progress under the enhanced transparency framework (ETF) established under Article 13 (see figure 2).

The 2022 NDC Synthesis Report² states that assuming full implementation of the NDCs, including all conditional elements, the best estimate of peak global mean temperature in the twenty-first century (projected mostly for 2100 when temperature continues to rise) is in the range of 2.1–2.4 °C. The Summary for Policymakers of the Synthesis Report of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) identifies that “there are gaps between projected emissions from implemented policies and those from NDCs and finance flows fall short of the levels needed to meet climate goals across all sectors and regions”.³ The Summary for Policymakers also states that “rapid and far-reaching transitions across all sectors and systems are necessary to...secure a liveable and sustainable future for all”, highlighting that “feasible, effective, and low-cost options for mitigation and adaptation are already available”.⁴

In this scientific and multilateral agreement context, national transparency systems, and the ETF, help advance understanding in terms of the progress, opportunities and improvements necessary to safeguard the climate, as well as the gaps and challenges to be overcome. The ETF is helping to build the international trust and confidence needed for successful implementation of the Paris Agreement and to increase ambition, bringing multiple other benefits to national governments as it does so.

The foundations for the ETF were in place long before the adoption of the Paris Agreement, as it builds on and enhances the existing measurement, reporting and verification (MRV) arrangements under the Convention. Under these existing arrangements, the reporting requirements and the timelines for the submission of national reports are different for developed and developing countries, in accordance with the principle of common but differentiated responsibilities and respective capabilities.

Throughout the years of reporting under the Convention, Parties have gained significant experience in MRV activities, which the Paris Agreement has ultimately recognized as an important basis for the development and implementation of the ETF.

Under the Convention, developed country Parties submit their national communications (NCs) every four years and biennial reports (BRs) every two years. For developing country Parties, the frequency is similar, as they are expected to submit their NCs every four years and their biennial update reports (BURs) every two years, but the legal nature differs, such as the mandatory reporting areas.

1 The Paris Agreement is available at <https://unfccc.int/process-and-meetings/the-paris-agreement>.

2 FCCC/PA/CMA/2022/4, para. 151. Available at <https://unfccc.int/ndc-synthesis-report-2022>.

3 Item A.4, p.10, of IPCC. 2023. Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Core Writing Team, H Lee, and J Romero (eds.). Geneva: IPCC. Available at <https://www.ipcc.ch/report/ar6/syr/>.

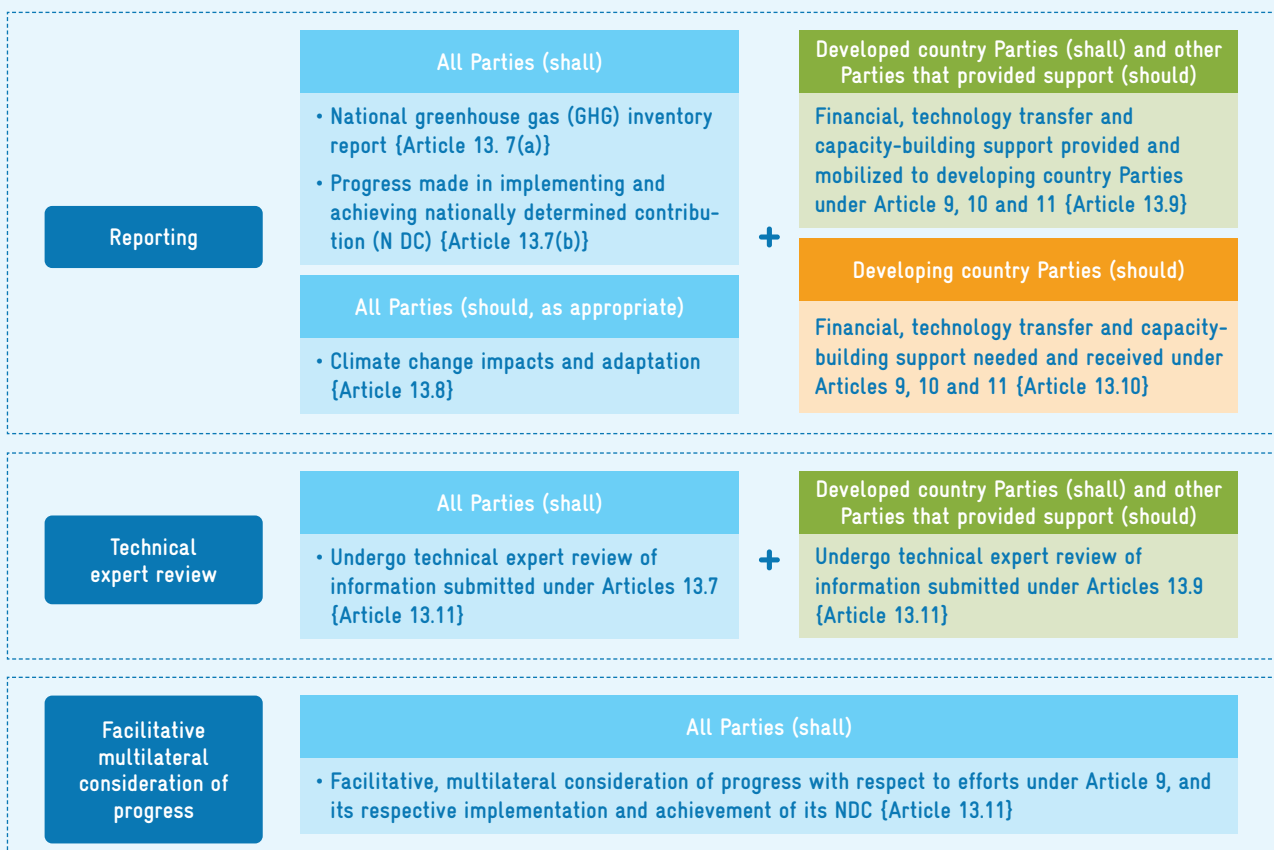
4 Item C.3, p.28, of the Summary for Policymakers referred to in footnote 3 above.

Under the ETF, the two tracks for developed and developing countries are merged: BRs and BURs will be superseded by biennial transparency reports (BTRs). The submission of NCs, a reporting obligation under the Convention, will continue. The first BTRs are due to be submitted at the latest by 31 December 2024. The ETF includes specific flexibilities that are available to those developing country Parties that need flexibility in the light of their capacities. Furthermore, in terms of when BTRs are to be submitted, in recognition of their national circumstances, the least developed countries and small island developing States may submit the relevant information at their discretion.

Glasgow Climate Pact in 2021⁶ provide the technical requirements for the operation of the ETF, such as the reporting time periods, standards and processes. The evolution of the transparency arrangements under the intergovernmental climate change regime calls on countries to develop and improve over time their transparency systems and the processes by which they gather, analyse and report climate information. The advancement of these systems allows governments to use the knowledge, data and information generated for informed decision-making and policy development and can also help them tap into the benefits of enhanced climate transparency.

The modalities, procedures and guidelines (MPGs) agreed on under the Katowice climate package in 2018⁵ and the

Figure 2: Enhanced transparency framework under Article 13 of the Paris Agreement



Note: As per Article 13, paragraphs 2–3, of the Paris Agreement, and decision 18/CMA.1 and its annex, the MPGs address the provision of flexibility to those developing country Parties that need it in the light of their capacities and the special circumstances of the least developed countries and small island developing States.

5 <https://unfccc.int/process-and-meetings/the-paris-agreement/the-katowice-climate-package/katowice-climate-package>.

6 <https://unfccc.int/process-and-meetings/the-paris-agreement/the-glasgow-climate-pact-key-outcomes-from-cop26>.

Developing, rolling out and maintaining a functional ETF for climate reporting can be a complex task, requiring engagement and cooperation at multiple levels within a country, including by public and private sector actors. As well as supporting the necessary functions for reporting under the Convention and the Paris Agreement, national transparency systems can bring additional benefits to countries. For example, operationalizing the ETF provides opportunities for countries to foster collaboration, leverage political leadership, and build knowledge and a better understanding of the climate challenge. Implementing the ETF also requires countries to establish institutional

arrangements that help align and scale action between institutions and reporting initiatives and can support the development of enabling policies and increased collective ambition. In addition, the ETF and MPGs make it possible to compare the actions taken by Parties against their NDC pledges and targets, building trust and confidence among Parties. Furthermore, NCs, BRs and BURs (under the Convention) and BTRs (under the ETF) provide substantial inputs for the global stocktake and its assessment of collective progress in achieving the goals of the Paris Agreement.⁷

7 The global stocktake is a mechanism established by Article 14 of the Paris Agreement by which the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement is to periodically take stock of the implementation of the Agreement and to assess the collective progress towards achieving its purpose and long-term goals with a view to supporting Parties in updating and enhancing their action and support as well as increasing international cooperation for climate action. For more information, see <https://unfccc.int/topics/global-stocktake>.

3. Benefits of climate transparency

This chapter provides examples of the benefits that can come from operationalizing national transparency systems to meet the requirements of the ETF and highlights how Parties are already making the most of the opportunities arising from implementation of the transparency arrangements. Despite differing national circumstances, the information and

examples presented in this chapter are relevant for most Parties, including developing countries. The examples comprise a small sample of the benefits that could be garnered from implementing the ETF – there may be many more, depending on national circumstances and the priorities and institutional arrangements already in place.

3.1. Providing coherent data for informed decision-making

The ETF has three fundamental components:

- Reporting;
- Technical expert review;
- Facilitative, multilateral consideration of progress.

Putting all three components into practice will require the active engagement of a broad set of national stakeholders, including statistical services, ministries, local authorities, private organizations and civil society, as appropriate. Depending on national circumstances, the institutional arrangements put in place for transparency purposes under the Convention and the Paris Agreement can provide opportunities for subnational entities and other stakeholders to become involved in providing information or compiling, analysing or interpreting the information gathered. Collaborative arrangements can also help statistical services and other organizations ensure the reliability of the data and their coherence across multiple reporting initiatives.

The information gathered for international reporting purposes is also important at the domestic level, providing countries with an essential input to policy development related to emission reduction and climate resilience. This information also provides the basis for countries to analyse the efficiency and effectiveness of policy implementation

and to better understand the linkages between policies and emissions or emission trends, or between policies and strengthened resilience and reduced vulnerability, allowing adjustments and enhancements to be made in support of more ambitious climate action.

The operationalization of the ETF and good governance⁸ go hand in hand. A national transparency system can help improve the reliability and coherence of data – reliable, coherent data are fundamental to informed decision-making and policy development across sectors. Moreover, coherent data can improve the consistency of projections and ‘business as usual’ scenarios, as well as enhance efforts to implement action reflected in the country’s NDC.

The example from Tunisia in box 1 shows how a new emission tracking tool helped improve data collection, develop projections for the energy sector and support national policymaking. In box 2, the example from Germany shows how data generated for reporting under the Convention can be used for long-term climate policy development. Box 3 explains how Japan is assessing the progress of implementation of its climate policies and actions to improve their effectiveness.

⁸ Good governance has eight major characteristics: it is participatory, consensus-oriented, accountable, transparent, responsive, effective and efficient, and equitable and inclusive, and it follows the rule of law. It ensures that corruption is minimized, the views of minorities are taken into account and the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society. See <https://www.unescap.org/sites/default/files/good-governance.pdf>

Box 1: Tunisia: Tracking emissions in the energy sector

In 2022, Tunisia developed a powerful tool for tracking carbon dioxide (CO₂) emissions from the energy sector that enables the National Agency for Energy Management to monitor progress towards achieving the country's mitigation objectives.⁹ The approach for tracking emissions considers the MPGs for the ETF as well as the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. The method uses global information and a national energy information system data set. It quantifies the effects of drivers of GHG emissions in the energy sector and then analyses their impacts in terms of GHG emissions over a given period.

Changes in GHG emissions are attributed to key global and sectoral drivers, generating substantive information for decision-making and policy development. A detailed, transparent analysis of past trends facilitates the construction of forward-looking scenarios and provides information to guide updates to the NDC.

The tool was developed by the Tunisian National Agency for Energy Management through the project titled "Setting up institutional capacities for NDC implementation in Tunisia", which was financed by the International Climate Initiative of the German Federal Ministry for Economic Affairs and Climate Action.

⁹ For more information, see <https://www.international-climate-initiative.com/en/project/setting-up-the-institutional-capacities-for-the-implementation-of-tunisia-s-ndcs-20-i-316-tun-g-ndc/>.

Box 2: Germany: Developing an action plan for 2050 using information from the measurement, reporting and verification system

In 2016, Germany adopted its long-term strategy for climate action, the Climate Action Plan 2050.¹⁰ The document was updated in 2022¹¹ in response to recent policy and regulatory developments in the country, including the approval of the Climate Change Act,¹² which sets out mandatory emission reduction targets, monitoring schemes and a mechanism for constant improvement. The Climate Action Plan 2050 summarizes the German Government's climate protection policy and the governance system for compliance with climate targets and describes the pathway to a GHG-neutral Germany by 2045, with a negative GHG balance after 2050. The updated document sets out ambitious GHG emission reduction targets linked to national and subnational MRV systems that add transparency to implementation efforts aimed at ensuring the achievement of Germany's medium- and long-term climate targets. The German Government

will also harmonize data records for the whole country, making them available electronically to facilitate access. Annual climate action reports prepared by the Government show progress in implementing measures, present current emission trends and estimate the expected emission reductions. These reports will be used for developing more ambitious climate measures.

The Climate Change Act sets annual emission reduction targets for different sectors. To review, on an annual basis, the compliance of these sectors with the targets there is a clear link between the emission data reported internationally and domestic policy response. The German Environment Agency publishes emission data estimates for the preceding year, considering the national GHG inventory. When annual emissions exceed their target for a given sector, the federal ministry responsible for that sector must develop an immediate

¹⁰ Available at <https://www.bmu.de/en/publication/climate-action-plan-2050-en>.

¹¹ Available at <https://unfccc.int/process/the-paris-agreement/long-term-strategies>

¹² For information about the Climate Change Act, see <https://www.bundesregierung.de/breg-de/themen/klimaschutz/climate-change-act-2021-1936846>.

action plan to ensure compliance with the target in the coming years. The Climate Action Plan 2050 functions as a continuous learning process, with a regular revision of targets and steady improvement as per the Paris Agreement.

Furthermore, to help shape a socially just transition, the Federal Ministry for Economic Affairs and Climate

Action and the Federal Ministry of Labour and Social Affairs will establish a climate action social monitoring system that complements the country's transparency framework to evaluate the social acceptance of climate policies and instruments. This monitoring system will assist policymakers in improving policy instruments for a just transition.

Box 3: Japan: Tracking and monitoring the progress of implementation of climate policies and actions to improve their effectiveness

Japan has an ambitious target to achieve net zero GHG emissions by 2050. Furthermore, its NDC target is a 46 per cent reduction in GHG emissions by 2030 compared with the base-year (2013) level. The key legislation for achieving these targets is the Act on Promotion of Global Warming Countermeasures (1998), which was amended after Japan declared in 2021 its commitment to net zero. Japan enhanced its Plan for Global Warming Countermeasures, by setting non-binding targets at each sector for reducing

GHG emissions to achieve the NDC target by 2030. To regularly track implementation and ensure the effectiveness of the Plan, the Japanese Government strictly evaluates the progress of climate policies and actions each year, discloses information publicly, and revises low-performing policies and actions. Evaluation of the implementation of policies and actions is achieved by comparing forecasted annual targets against the measured indicators.¹³

Evaluation results of the implementation of mitigation policies and measures in 2020

Category	Explanation	Number of policies and measures
A	Policies and measures for which the evaluation indicator is expected to exceed the target level if current efforts continue and for which the actual results have already exceeded the target level	6
B	Policies and measures for which the evaluation indicator is expected to exceed the target level if current efforts continue (excluding A)	15
C	Policies and measures for which the evaluation indicator is expected to be equivalent to the target level if current efforts continue	66
D	Policies and measures for which the evaluation indicator is expected to fall below the target level if current efforts continue	21
E	Policies and measures for which quantitative data cannot be obtained	7

The table above presents the five categories under which policies and actions are ranked following evaluation of the progress of their implementation. Policies and actions assessed as being in the C and D categories will be enhanced and reinforced over the next few

years. The data and information generated from this domestic monitoring and evaluation system helps the Government to improve climate policies and actions and to enhance NDC implementation in the country.

13 Japan's 2021 Plan for Global Warming Countermeasures is available (in Japanese) at <https://www.env.go.jp/content/900440195.pdf> and the 2022 progress report on the Plan is available (in Japanese) at <https://www.kantei.go.jp/jp/singi/ondanka/kaisai/dai49/pdf/siryou1.pdf>.

3.2 Promoting coherence among national reporting initiatives, including the Sustainable Development Goals

National governments have reporting requirements under the various international conventions and agreements they have signed or ratified. Parties to the Convention must report on measures they undertake to mitigate and adapt to climate change. Developing countries are required, under the Convention, to periodically report on their national circumstances, GHG emissions, mitigation and adaptation actions, and the capacity-building, technology and financial support they need to tackle the climate crisis. Similarly, Member States of the United Nations report on their progress towards achieving the 17 Sustainable Development Goals (SDGs) and the 169 targets of the 2030 Agenda for Sustainable Development, and Parties to the Convention on Biological Diversity report on the status and trends of biodiversity and their efforts regarding its conservation and sustainable use. Countries may have additional reporting requirements on water quality, air quality, land use, waste management, human rights, and economic and financial performance, among others.

Complying with all international reporting requirements efficiently is a complex task. However, there are opportunities for better connecting existing MRV, monitoring, evaluation and learning (MEL), and information systems and simplifying reporting processes that can bring additional benefits to governments – and to climate action.

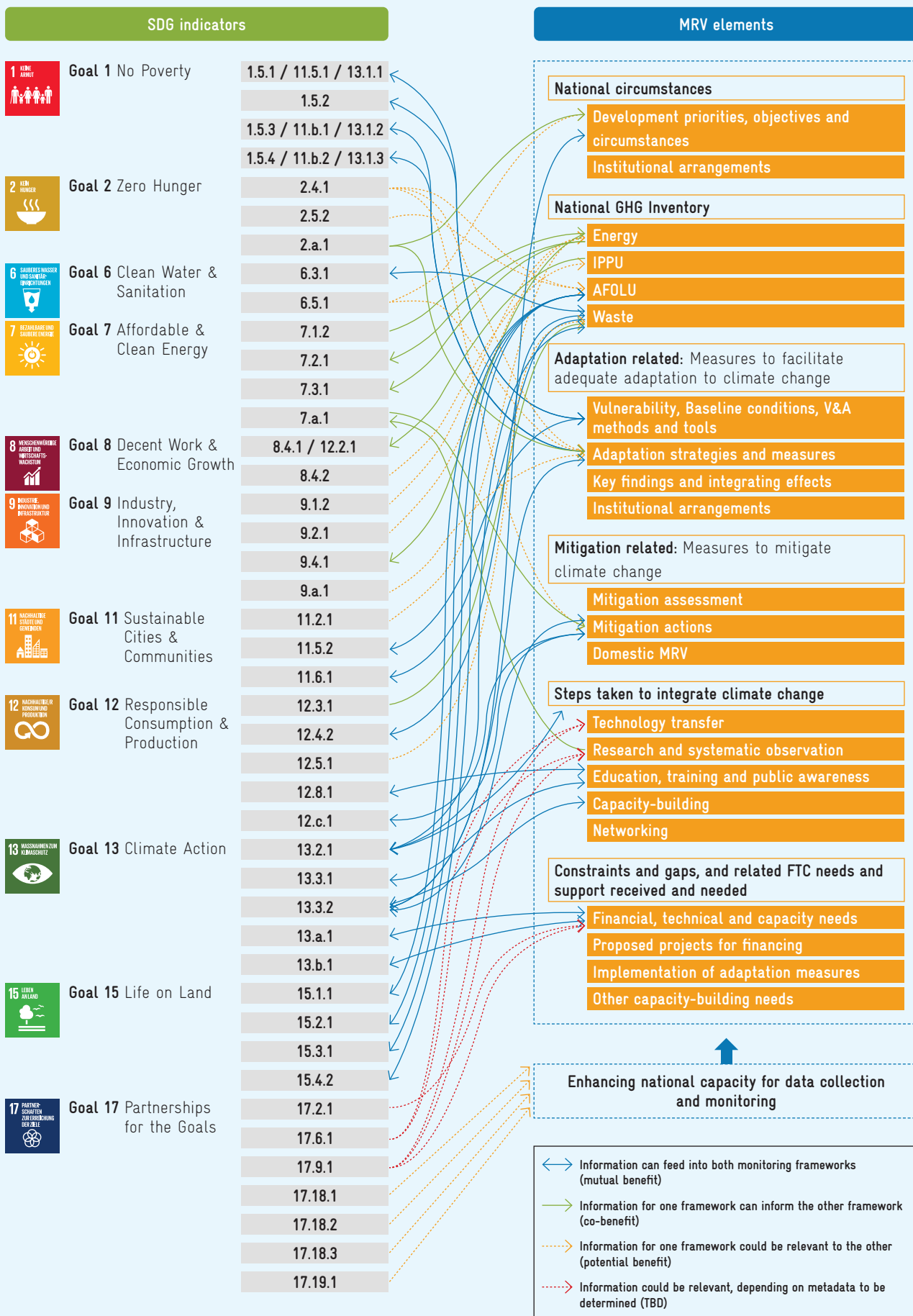
One such opportunity lies in the development of an integrated reporting system that can bring coherence to and foster synergies across different reporting systems. Integrating systems is possible because of the inherent linkages between biodiversity protection, climate action and human development, and the close interconnection between the goals and targets of different international conventions. For example, the 2030 Agenda for Sustainable Development and the objective of the Convention have clear linkages around SDG 7 on affordable and clean energy, SDG 11 on sustainable cities and communities and SDG 13 on climate action (see figure 3).

Setting up a system that combines information on emissions of GHGs and other air pollutants can help countries identify measures with diverse benefits and reduce the duplication of reporting structures. GHGs and other air

pollutants are often emitted from the same sources, so multiple inventory systems can combine data collection and processing and support the development of policies and mitigation measures that target GHG and other air pollutants at the same time. Other opportunities that can be seized when developing MRV and MEL systems relate to shared institutional arrangements and collaboration on climate reporting.

MEL systems are a key component of transparency in the national adaptation planning process because such systems enable countries to better understand which adaptation actions are working and who is benefiting in what ways. Well-designed MEL systems enable countries to make decisions more transparently and ensure that the most vulnerable people and communities benefit from the processes of developing, implementing and updating national adaptation plans (NAPs). Given the need for alignment between NAPs and the adaptation components of NDCs, BTRs and NCs, the countries that already have effective MEL systems established under the NAP are well placed to report effectively and efficiently on their actions that relate to adaptation.

Figure 3: Mapping of Sustainable Development Goal indicators to measurement, reporting and verification elements¹⁴



14 For more information, see [Exploring synergies between measurement, reporting and verification under the Convention and the monitoring of the implementation of the Sustainable Development Goals, UNFCCC, 2017.](#)

The connection between international reporting on progress under the Paris Agreement through the ETF and national climate and other reporting means that governments can facilitate cooperation between institutions to streamline and standardize complementary processes to improve data-sharing and consistency. These can be achieved by:

- Adopting common data standards and protocols or common reporting platforms and databases;
- Enhancing data comparability and consistency;
- Ensuring that the information collected is used to inform decision-making and policy development.

In addition, MRV systems may collect data and information that facilitates the monitoring of the social, economic and environmental dimensions of sustainable development. As such, MRV and MEL systems can provide data and information for tracking progress in achieving SDGs. This is particularly the case if a specific tracking system is not or is only partially in place, but can make use of existing structures for simultaneously tracking SDGs (e.g. SDGs 7,

13 and 15 (life on land)) and climate commitments. Linking the indicators used under different conventions and agreements can also improve the complementarity, reliability and coherence of the information reported.

Adaptation can play a significant role in achieving the SDGs because many of the sectors that are most vulnerable to climate change are key to countries' development, such as agriculture, health, water, infrastructure and urban areas. For instance, promoting sustainable agriculture and addressing climate change in the agriculture sector yields significant benefits with regard to food security and therefore to SDG 2 (on zero hunger), while adaptation measures that prevent or reduce the impact of flooding in urban areas can contribute to achieving SDG 11.

The country cases presented in this section from South Africa (box 4), Egypt (box 5) and Senegal (box 6) show how national governments have developed synergies across separate reporting initiatives, resulting in increased collaboration, accountability, awareness and political buy-in, with stronger MRV and information systems and enhanced transparency.

Box 4: South Africa: Establishing robust institutional arrangements for data collection and national reporting

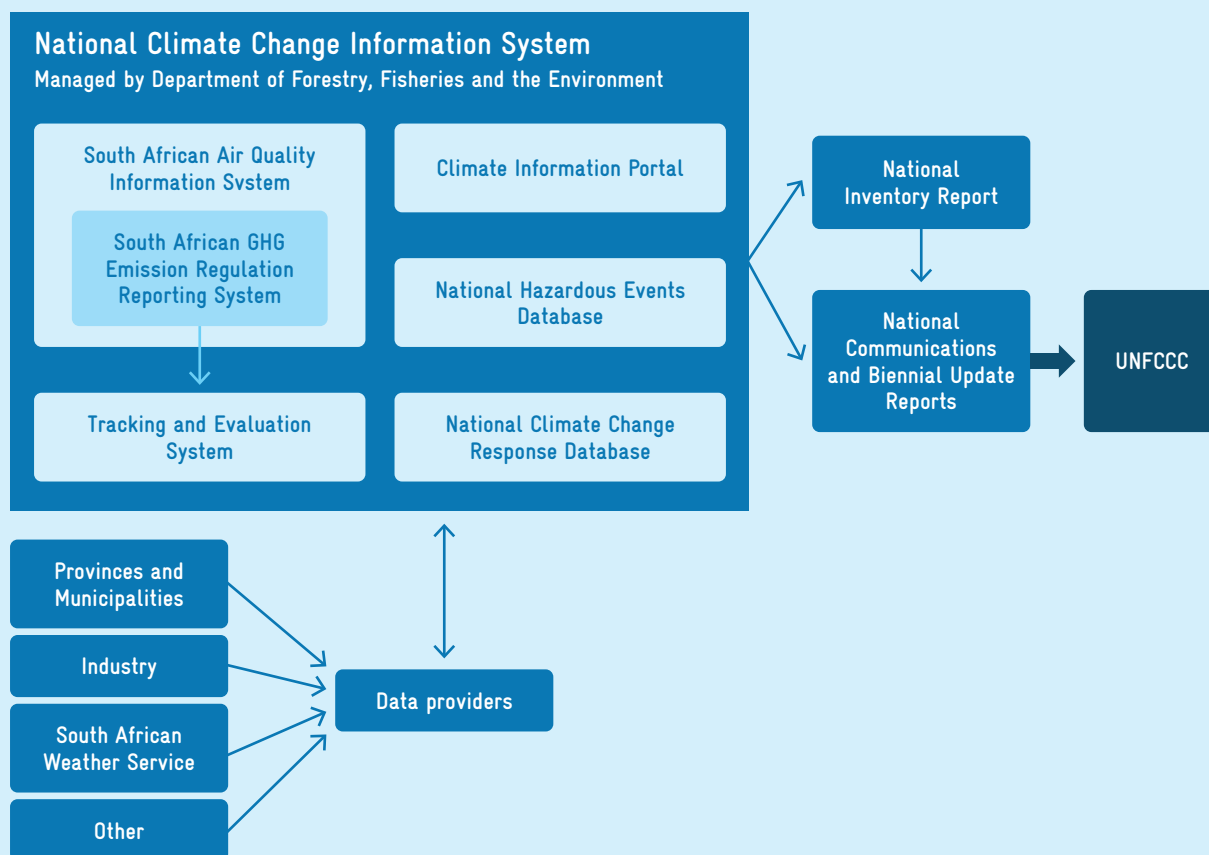
South Africa's climate change MRV system is informed by the National Climate Change Response Policy (2011), for which a system was established to monitor the country's transition to a lower carbon economy and a climate-resilient society. Operational since 2009, South Africa's National Climate Change Response Database (NCCRD) is an online platform that allows users to track national-, provincial- and local-level actions to combat climate change.¹⁵ The NCCRD is part of the National Climate Change Information System, which also incorporates the Climate Information Portal, a hazardous events database, a tracking and evaluation system, and an air quality information system¹⁶ (see the figure below).

The NCCRD, coordinated by the Department of Forestry, Fisheries and the Environment, collects information from voluntarily registered adaptation and mitigation projects. The database records information about these projects such as their location, description, associated impacts, funding sources, supporters and related activities.

¹⁵ The database is available at <https://nccrd.environment.gov.za/>.

¹⁶ For further information, see South Africa's fourth BUR, available at <https://unfccc.int/documents/307104>.

South Africa's National Climate Change Information System¹⁷



The National Climate Change Information System and its NCCRD serve the reporting requirements under the Convention and allow the South African Government to:

- Develop an informed position for international climate change negotiations;
- Avoid duplicating mitigation, adaptation and research projects;
- Identify gaps, needs and opportunities in climate action;
- Track ambition and the impact of climate responses in the country;
- Identify projects to scale up for enhanced climate ambition.

South Africa's MRV system also informs domestic reporting on climate action through annual climate change reports,¹⁸ in which information on climate actions, including their impacts and their contribution to the national development plan imperatives of reducing poverty and addressing inequality and job creation, is compiled. Even though the NCCRD was originally developed to meet the reporting requirements under the Convention, its information content and annual reports have the potential to catalyse additional and more ambitious climate actions and funding and to provide complementary information for other national purposes and international reporting initiatives, such as those related to the SDGs.

¹⁷ Adapted from South Africa's fourth BUR, figure 6.2, pp.219–220. Available at <https://unfccc.int/documents/307104>.

¹⁸ Available at https://cer.org.za/virtual-library/gvt_docs/south-africas-annual-climate-change-reports.

Box 5: Egypt: Connecting a sustainable development strategy to a climate measurement, reporting and verification system

The Government of Egypt established its sustainable development strategy, Egypt Vision 2030,¹⁹ using a participatory strategic planning approach. Various civil society organizations, national and international development partners and government institutions collaborated on setting comprehensive objectives for the strategy. Egypt aims to become a country with a competitive, balanced and diversified economy, dependent on innovation and knowledge, based on justice, social integrity and participation, characterized by a balanced and diversified ecological collaboration system, investing the ingenuity of place and humans to achieve sustainable development and to improve Egyptians' quality of life.

The sustainable development strategy covers the three dimensions of sustainable development set out in the country's 2030 agenda – namely social, environmental and economic – with each dimension structured around a number of pillars. The economic dimension has four pillars:

- (1) Economic development;
- (2) Energy (efficient use of resources);
- (3) Knowledge, innovation and scientific research;
- (4) Transparency and efficient government institutions.

Each pillar includes three types of indicators: input indicators to measure the resources available, outcome indicators to measure results, and strategic results indicators.

The energy pillar includes mitigation targets of a reduction in GHG emissions from the energy sector of 5 per cent by 2020 and 10 per cent by 2030 compared with the 'business as usual' scenario. There are synergies in monitoring progress using energy sector indicators, measuring the emission reductions from climate actions implemented in the energy sector and Egypt's MRV system, which complies with UNFCCC reporting requirements.

The environmental dimension has an environment pillar and an urban development pillar. Under the environment pillar, environmental considerations are integrated into all economic sectors with the aim of preserving natural resources and supporting their efficient use and investment while protecting the rights of future generations. Under the environment pillar, the indicator on the rate of reduction of the expected increasing rates of greenhouse gas emissions is indicated a value of 276 t CO₂ equivalent. Therefore, monitoring the indicators of Egypt's Vision 2030 will be linked with climate reporting, taking advantage of synergies in data collection and analysis between these reporting systems.

¹⁹ Available at https://arabdevelopmentportal.com/sites/default/files/publication/sds_egypt_vision_2030.pdf.

Box 6: Senegal: Developing a measurement, reporting and verification system that can support the tracking of progress in achieving the Sustainable Development Goals

Senegal is in the process of formalizing its MRV system. The country has established institutional arrangements and quality control processes for producing its GHG inventories, NCs and BURs that also make it possible to use the collected information for sustainable development reporting. The Ministry of the Environment and Sustainable Development, supported by international technical partners, is establishing sectoral MRV systems and institutional frameworks for the energy, waste, transport, industrial processes and agriculture sectors.

In developing a robust MRV system, the energy sector is particularly relevant for Senegal, given its importance for the economic transformation of the country (see the Plan for an Emerging Senegal²⁰), its high emissions, and Senegal's previous reporting experience for this sector. In its NDC, Senegal committed to universal access to electricity in rural areas by 2025 and installing approximately 700 MW capacity from renewable energy generation technologies by 2030. These targets closely link the NDC with SDG 7 (affordable and clean energy).

Despite lacking capacity, resources to finance monitoring and an online platform through which energy data can be accessed,²¹ the Government of Senegal has a solid foundation for developing a robust MRV system for the energy sector through its mechanism for data collection and its framework for validation of the data. In this context, the framework for climate reporting that is being developed has the potential to provide the added benefit of supporting the tracking of progress towards achieving SDG 7 by producing information about clean energy generation and rural electrification.

Another example of potential synergies between international reporting requirements is Senegal's proposed monitoring system for tracking adaptation and vulnerability, which can also take stock of progress in achieving various SDGs. In addition, Senegal's climate finance monitoring system will follow private sector engagement in climate action and provide information relevant to redirecting resources towards achieving the SDGs.

20 See <https://www.presidence.sn/en/pse/emerging-senegal>.

21 See the final report, available (in French) at <https://climateactiontransparency.org/wp-content/uploads/2021/09/D1-Rapport-general-de-letude-sur-la-mise-en-place-dun-systeme-de-mesure-notification-et-de-verification-MNV-de-la-contribution-determinee-au-niveau-national-CDN-du-Senegal.pdf>.

3.3 Increasing political buy-in for climate action

The urgent need for implementing NDCs to achieve the long-term goals of the Paris Agreement requires political leadership and commitment to be met. The Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, at its fourth session held in Sharm el-Sheikh in 2022, reiterated that the impacts of climate change will be much lower at a temperature increase of 1.5 °C compared

with 2 °C and resolved to pursue further efforts to limit the temperature increase to 1.5 °C.²² However, the 2022 NDC Synthesis Report states that even under the scenario of full implementation of the 166 latest available NDCs from 193 Parties to the Paris Agreement, the best estimate for peak global mean temperature increase is 2.1–2.4 °C by the end of the century.²³

22 Decision 1/CMA.4, para. 8. Available at https://unfccc.int/sites/default/files/resource/cma2022_10_a01E.pdf.

23 FCCC/PA/CMA/2022/4. Available at <https://unfccc.int/documents/619180>.

This highlights the urgency for implementing scaled-up NDCs. Scaling up action depends on the buy-in and sustained support of political leaders at the highest levels, and the rolling out and tracking of sectoral policies that enable the necessary transformations.

Over recent years, public awareness of the threats of climate change has increased as governments, communities and industries feel the increasing impacts of extreme weather events. As a result, civil society and practitioners alike are strongly encouraging policymakers to tackle climate change and implement policies to reduce GHG emissions and increase resilience. Having transparent and reliable information grounded in science helps supports decision-making and encourages commitment from politicians, enabling the development of a long-term vision.

Transparency processes can enhance collaboration between government institutions and provide open access to information that raises the awareness and accountability of

policymakers and decision makers, thereby accelerating climate action. A functioning transparency system can also provide a deeper understanding of the causes, gaps and challenges, as well as possible solutions, which, if addressed, could accelerate climate action and increase the engagement of political leaders. Furthermore, buy-in from policymakers can be enhanced by providing additional information from transparency systems on the co-benefits of climate action for job creation, pollution reduction and biodiversity protection. Developing capacities, institutionalizing processes and raising awareness relating to low-emission development and climate resilience can also foster political support.

The two cases presented below, one from the Dominican Republic (box 7) and the other from Sri Lanka (box 8), are good examples of how developing countries have managed to enhance political buy-in for climate action through climate reporting.

Box 7: Dominican Republic: Enhancing political buy-in for climate action through capacity development in climate change reporting

The Dominican Republic had an early start in prioritizing climate change in the national political agenda. In the early 2010s, the country established the National Council for Climate Change and Clean Development Mechanism on the basis of a presidential decree from 2008 and also developed a national strategy for low-carbon development. However, national capacities for conducting vulnerability assessments and estimating GHG emissions remained low for many years, which meant that only a few climate policies were implemented.

In 2014, when the Dominican Republic began preparing its NC3, it decided to develop these national capacities and established a climate change working group comprising experts from different ministries and agencies. International consultants had already prepared GHG estimates, so the working group needed to develop capacities for preparing the country's national GHG inventory report and the vulnerability assessment for inclusion in the NC3. Increasing the capacity for developing the information base required

for international reporting led to an understanding of climate change drivers, impacts and vulnerabilities, and, in turn, improved buy-in among political leaders.

National climate change policy occupies a prominent place on the public agenda, a contributing factor of which is that the Dominican Republic is one of the countries with the highest climatic vulnerability owing to it being an island and its geographical location.

The Dominican Republic's climate agenda has gained relevance in recent years. The climate change working group has contributed to developing the NDC, in which the country commits to reducing GHG emissions by 27 per cent (20 per cent conditional target, 7 per cent unconditional target) by 2030 compared with the baseline. The National Council for Climate Change and Clean Development Mechanism has also been working on a proposed climate change law with the support of other national institutions, which illustrates the benefit of a good information base leading to political buy-in for developing a more climate-resilient economy. In

2020, the Parliament of the Dominican Republic passed decree 541-20, which established a legal framework for a national transparency system and defined the main

roles and responsibilities of the key entities involved in collecting, compiling and reporting data and information.²⁴

²⁴ For further information, see <https://climateactiontransparency.org/case-study-improving-the-mrv-framework-and-ndc-tracking-in-dominican-republic>.

Box 8: Sri Lanka: Strengthening climate transparency in the transport sector²⁵

With the desire to deliver on its climate change reporting commitments, Sri Lanka made efforts to develop the country's first MRV system, for its transport sector. The process was key to helping the national government review many of its climate-related commitments and will support the country in developing climate change projects and enhancing sustainable development.

Sri Lanka partnered with the Initiative for Climate Action Transparency (ICAT) in 2018 to design the national MRV system for the transport sector and revise transport-related NDC actions. With no historical transport data sets available, collecting the required data from several ministries and agencies was the necessary starting point in the development of the system. The Ministry of Environment as well as the Ministry of Transport initiated a review of data available and institutional arrangements in place in the transport sector. Extensive consultations with stakeholders, including all relevant ministries and institutions, contributed to the design of the centralized MRV system. Roles and responsibilities were assigned, and a road map to operationalize the new MRV system was prepared.

Consultation workshops provided an opportunity for national and subnational stakeholders to share information on data availability and collection, discuss

revised actions and indicators for the transport sector, and validate institutional responsibilities in the MRV system.

These efforts enabled Sri Lanka to review the effects of transport policies on the electric and hybrid vehicles subsector in terms of GHG emissions. In turn, doing so helped the government to review and revise several of its transport sector policies and measures, as reflected in its updated NDC.

Raising awareness and improving communication among national and subnational stakeholders has resulted in their gaining an understanding of the MRV system and the benefits of transparency in reporting on climate action and on progress in achieving GHG emission reduction targets in the NDC. Enhanced transparency is expected to support Sri Lankan policymakers in developing and approving new and updated national development plans and climate change projects whose implementation is sustainable. Enabling local ownership of the project to develop the MRV system has helped to strengthen the national capacity to meet the requirements of the ETE.

²⁵ For further information, see <https://climateactiontransparency.org/country-highlight/country-highlight-sri-lanka/>.

3.4 Enhancing and sustaining technical capacity for long-term reporting and policy development

Climate change reporting as part of the UNFCCC process requires knowledge, data and analysis from various government and other entities as well as the capability to analyse those data, and experts to coordinate efforts under a national transparency system. Since reporting covers diverse sectors such as energy, industrial processes, waste, agriculture, forests and land use, the different institutions involved employ professionals that acquire relevant skills and also help improve the institutional capacities by operationalizing transparency arrangements. For instance, implementing these systems can help to develop the capacities and skills of national technical experts by introducing and raising awareness of new technical standards for data collection, storage, analysis and reporting. Furthermore, the capacity-development activities that a country undertakes for peripheral stakeholders²⁶ (so that they can participate effectively in climate change transparency systems) can result in improvements to, for example, data-collection systems, such as those of national statistics offices, and therefore increase the quality of the data collected for climate reporting and for reporting on other relevant national statistics.

Another opportunity to improve capacities is provided by the international assessment and review process under the Convention or similar processes to which experts from developing countries can be nominated (e.g. the UNFCCC roster of experts²⁷). These experts conduct reviews of the annual GHG inventories and NCs from Parties included in Annex I to the Convention or undertake technical analyses of developing country Parties' BURs under the international consultation and analysis process. Moving towards the implementation of the ETF, the review processes for developing and developed country submissions will be replaced by a single review process under Article 13 of the Paris Agreement that is applicable to all countries. The experts who participate in these processes must be qualified to do so by taking part in training designed by the UNFCCC secretariat. Through this training and the experience gained as qualified reviewers, these experts deepen their

knowledge and enhance their capacities for reporting under the Convention and the Paris Agreement, which generates valuable in-country expertise that can be applied and shared in the national context to further strengthen national MRV systems and international reporting.

Implementing the required transparency arrangements involves producing, compiling and regularly reporting information on GHG emissions and removals, on the effects of policies and progress towards achieving the NDC targets, on support provided, needed and received, and on the development of adaptation actions and plans in response to knowledge gained on the impacts of climate change. The process of reporting on an ongoing basis, through building and sustaining the necessary technical capacities, has the additional benefit of contributing to building and sustaining the knowledge and technical capacities needed to formulate and implement plans, policies and actions for low-emission and climate-resilient development. The examples from Cameroon (box 9) and Tunisia (box 10) illustrate this benefit.

26 Peripheral stakeholders are understood as organizations related to MRV who do not work routinely on reports but have a system related to their core activities that can provide some information for the primary stakeholders. An example of a peripheral stakeholder is a national office for geographic information system mapping.

27 See <http://www4.unfccc.int/sites/roe/Pages/Home.aspx>.

Box 9: Cameroon: Establishing a national measurement, reporting and verification system as part of implementing the nationally determined contribution

Cameroon's vision for response to climate change involves transforming climate constraints into development opportunities.²⁸ It has pledged to reduce its GHG emissions by 35 per cent by 2030 compared with its 'business as usual' scenario, of which 23 per cent is conditional on international support in the form of financing, capacity-building and technology. The country has five priority areas for actions that will lead towards achieving the goals in its NDC, namely governance, mitigation, adaptation, finance and MRV. The governance priority area focuses on creating an enabling environment for action and MRV, thereby supporting the monitoring, implementation and application of lessons learned.

Under the MRV priority area, Cameroon has put in place a decentralized institutional mechanism to facilitate ownership and data collection. The mechanism is led by an inter-ministerial committee (including representatives of the Office of the Prime Minister and the Ministry of Environment, Nature Protection and Sustainable Development, among other ministries) and involves regional and local coordination with the private sector, civil society and vulnerable groups. Execution of all the technical aspects occurs at the local and regional level. Various working groups of 10–15 members from all the involved institutions have been established, and these are tasked with facilitating data flow and reporting mechanisms for mitigation, adaptation, climate finance

and research. Civil society and vulnerable groups contribute to implementing actions towards achieving the NDC goals, whereas the private sector, research centres and universities play complementary roles in the analysis and provision of data while also opening doors for technological innovation.

Each working group has benefited from capacity-development exercises to enhance participants' technical knowledge on reporting, including training in data collection, the use of tools for GHG inventory preparation, and the tracking of overall national climate-related resources, revenues and expenditures. A national inventory working group has also been created; this group is mostly composed of young professionals who have benefited from capacity-development activities, thus producing many dedicated GHG and NDC experts for different ministries. Distributing this expertise across sectors helps to ensure the sustainability of Cameroon's national MRV system. To further ensure the system is sustainable, Cameroon has observed the need for establishing a financial mechanism, involving the Ministry of Finance, that supports young experts.

Cameroon has submitted two NCs and an updated NDC, is on its way to submitting its NC3 and its first BUR, and also started with the process of preparing its first BTR.

28 See Cameroon's updated NDC, available at the NDC Registry: <https://unfccc.int/NDCREG>.

Box 10: Tunisia: Developing a national transparency system for adaptation and mitigation activities²⁹

On the basis of the requirements of Article 13 of the Paris Agreement, Tunisia is developing a national transparency system³⁰ that comprises transparency frameworks for both mitigation and adaptation activities at the national level.

Under its transparency framework for adaptation, Tunisia aims to establish a reference and knowledge platform on adaptation policies and actions. The system will allow users to:

- Develop the national portfolio of adaptation policies and actions in the target areas (priority sectors, ecosystems and cross-cutting areas);
- Report on the implementation and evolution of adaptation policies and actions;
- Provide information on the impacts of adaptation policies and actions;
- Provide information on the state of play or baseline of target areas, climate risks and vulnerability.

Tunisia's transparency framework on mitigation has three pillars:

- The national GHG emissions inventory system, which will be used to quantify emissions from the various sectors;
- The national mitigation assessment and monitoring system, which will be used to monitor the implementation of the actions included in the NDC;
- The national monitoring system of support under the Paris Agreement, which will be used to monitor the support provided and received, for example funding received from the international community.

Implementation of the transparency system began in April 2022, and its components will be rolled out between 2023 and 2024. Ministries and government agencies responsible for different sectors report their data to the Climate Change Unit of the Ministry of the Environment, which manages the system. The sectoral transparency systems are currently under development; these will be used to measure, report and verify sectoral GHG emissions, as well as to monitor the impacts of the implemented measures and the finance flows that have supported the various sectoral mitigation actions. Operationalization of the transparency system followed an implementation plan that required the engagement and capacity development of technical experts in different areas and institutions. A team at the Ministry of the Environment is responsible for ensuring the availability of human resources for operating the transparency system, making the most of the available capacities and knowledge while continuously improving the quality of the system.

The development of the abilities and skills of technical experts in the government and sectoral institutions through the operationalization of the national transparency system has already improved the national capability to track Tunisia's progress towards achieving the goals of the Paris Agreement and to identify the resources and technologies necessary for their achievement. The capacities and skills that are being developed in the country improve the reliability of the data for reporting as part of the UNFCCC process (NCs, BURs and the upcoming BTRs). They also allow Tunisia to continue monitoring the implementation of actions under its NDC and to improve its capacity for long-term reporting using national expertise.

²⁹ See (in French) <https://www.giz.de/en/worldwide/22600.html>.

³⁰ Tunisia's transparency system is explained (in French with English subtitles) in the video from the German Agency for International Cooperation-Tunisia available at <https://youtu.be/kP2EBKM2q-I>.

3.5 Building knowledge for enhanced ambition

A robust and effective national transparency system provides a framework under which government institutions and other stakeholders can collaborate and improve the climate information base available to policymakers and decision makers. MRV systems provide strategic stakeholders with the information necessary to track progress towards meeting a country's climate commitments and to identify the areas where additional effort is needed. The outputs of a well-functioning transparency system (i.e. GHG inventories, NCs, BURs, BRs and BTRs) provide crucial information for countries when setting more ambitious climate targets within their NDC cycles. Furthermore, stakeholders who participate in climate reporting improve their understanding of the data types and data collection needed for reporting, as well as gain an appreciation of the principles that underpin international reporting, including transparency, accuracy, completeness, consistency, comparability and environmental integrity. This improved knowledge can help them to adjust the scope and methods used for data collection and processing to enhance the usefulness of the data. Boxes 11 and 12 present examples of this type of improvement in Egypt and Uganda respectively.

Transparency systems are fundamental to building trust and confidence among institutions, organizations and countries; they achieve this by providing reliable, transparent information on individual progress. Transparency systems are also especially relevant for the global stocktake because they contribute information needed for periodically assessing collective progress towards achieving the purpose and long-term goals of the Paris Agreement. Because the outputs of the global stocktake will inform future NDC cycles, these systems also encourage more ambitious climate action.

Well-run transparency systems can also encourage greater ambition by contributing to a more supportive and collaborative environment in which countries feel more confident about making and pursuing more ambitious climate targets.

Box 11: Egypt: Improving data collection reveals opportunities for enhancing ambition³¹

Egypt has initiated the preparation of a national climate change MRV system, following consultations with representatives of all relevant national institutions. The proposed MRV system consists of a supervisory body, the National Climate Change Council, coordinated by the Climate Change Central Department, and composed of representatives of relevant ministries and government agencies. The system captures data covering four areas:

- (1) The GHG inventory;
- (2) Mitigation policies and actions;
- (3) Support received;
- (4) Adaptation policies and actions.

The National Climate Change Council has adopted but not yet institutionalized the proposed national MRV system. Operationalization of the system is pending funding and other resources that, once available, would support national institutions in making the system functional and seizing the related opportunities for enhancing ambition. However, some of the planned MRV activities have already been put in place, providing a solid foundation for the evolution of the comprehensive national MRV system.

The Industrial Development Authority and the Egypt National Cleaner Production Centre are improving their data-collection systems to include data from

³¹ Egypt's first updated NDC (available at <https://unfccc.int/documents/522817>) and Egypt's first BUR (available at <https://unfccc.int/documents/204823>).

industry on energy and climate that will help to advance more ambitious climate action. The Egypt National Cleaner Production Centre is developing a database of all industrial facilities in the country and will collect data from chambers of commerce, the Federation of Egyptian Industries, investor associations and other sectoral institutions. Data for 2008–2018 have been collected and used for benchmarking all industrial activity in the country and identifying opportunities for improvement. The Industrial Development Authority, which is responsible for issuing operating licences for all industrial establishments in the country, is also developing a database of information from industrial stakeholders, which will receive, verify, process and maintain energy data and feed the data

into the national energy information system. Once available, these databases of industry-related climate and energy information will support decision-making and ambition-raising at different governance levels and help identify areas for improvement. The data collected from companies will include general information on industrial production and energy consumption. This information can be used to help verify the data gathered by the Central Agency for Public Mobilization and Statistics during the process of updating industrial licences. The efforts of both the Industrial Development Authority and the Egypt National Cleaner Production Centre provide a deeper understanding of Egypt's industry sector, as well as its role in combating the climate crisis and the opportunities it has to tackle it.

Box 12: Uganda: Enhancing ambition and improving national policies³²

Uganda submitted a GHG inventory in 2019 as part of its first BUR. The inventory covered 2005–2015 and was prepared using the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Developing this GHG inventory improved the country's understanding of sectoral emissions and revealed that national emissions had been consistently increasing over the past 10 years, triggered mainly by deforestation, forest degradation and changes in land use.

In 2020 the Climate Change Department, which is responsible for coordinating Uganda's climate action and reporting, initiated the revision of Uganda's NDC.³³ Having the GHG inventory information made it possible to:

- Expand the scope and coverage of sectors in the updated NDC, including two new sectors and six subsectors;
- Define sectoral emission targets;

- Establish a more ambitious economy-wide contribution.

The current NDC, submitted in 2022, aims at reducing total emissions by 24.7 per cent by 2030 compared with the 'business as usual' scenario, an increase of 2.7 per cent compared with the 22 per cent target in the initial NDC submitted in 2015.

The GHG inventory data were also used for modelling and projecting future emissions – key information for defining emission reduction targets and prioritizing sectors when developing mitigation policies and measures. Having a better understanding of the inventory data and therefore of the implications of drivers of sectoral emissions on policymaking also influenced budget allocation; for example, the Natural Resources, Environment, Climate Change, Land and Water Management Programme received a 34 per cent increase in its budget for 2022–2023 compared with the previous fiscal year.^{34,35}

32 How Uganda's climate reporting is delivering national value. Lessons from the greenhouse gas inventory process, Alcobé, F and Lwasa, J. 2022, IIED, London. Available at <https://www.iied.org/21171iied>.

33 Uganda's updated NDC is available at <https://unfccc.int/documents/613827>.

34 <https://budget.finance.go.ug/sites/default/files/National%20Budget%20docs/National%20Budget%20Framework%20Paper%20FY%202021-22.pdf>.

35 <https://budget.finance.go.ug/sites/default/files/Natural%20Resources%2C%20Environment%2C%20Climate%20Change%2C%20Land%20%26%20Water.pdf>.

Uganda's experience shows that several factors contributed to successfully integrating GHG reporting with policy design:

- **Legal framework:** the National Climate Change Policy (2015) followed by the Climate Change Act (2021) were instrumental in building the institutional architecture. Through them, the country put in place institutional arrangements, established climate action plans and created an MRV system;
- **Data-sharing:** GHG inventories demand data gathering from multiple private and public sources. Uganda's inter-ministerial cooperation agreement and memorandums of understanding for data-sharing protocols were key to collecting relevant information from a variety of stakeholders;
- **National expert team:** Uganda appointed a national team to lead the inventory preparation and train national experts from government entities, academic institutions and civil society organizations. Building in-country technical capacity strengthened understanding of the inventory and its implications, and increased ownership of the reporting process;
- **Coordination and cooperation:** close collaboration between the GHG inventory teams and the NDC team, coordinated by the Climate Change Department, was crucial for understanding emission trends and drivers, and when setting new mitigation targets;
- **Political buy-in:** high-level leaders, including the President of Uganda, gained an understanding of and advocated for climate action, and a Parliamentary Forum on Climate Change³⁶ was established, all of which was instrumental to policy development and budget allocation for climate action.

36 <https://www.parliament.go.ug/page/parliamentary-forum-climate-change-pfcc>.

3.6 Improving tracking of and access to support

The ETF is a system that covers not only climate action but also support for that action. Under Article 13, paragraph 9, of the Paris Agreement, developed country Parties are required to report in their BTRs information on support³⁷ mobilized and provided to developing country Parties under Articles 9–11 of the Paris Agreement. Other Parties that provide support should also report this information. Under Article 13, paragraph 10, of the Paris Agreement, developing country Parties should report information on the support needed and received.

While reporting information in the BTR on support (finance, technology development and transfer, and capacity-building) needed and received is not mandatory, there is added value in reporting this information. For instance, reporting information on financial support needed and received can provide a clear sense of gaps,

inflows and impacts, with the potential to make the provision of international support more responsive to national priorities and needs. Hence the BTR itself can be seen as a tool for leveraging access to international support. For example, the information on progress towards achieving its NDC targets together with the GHG impacts of the underlying policies and measures provides a country with the basis to identify areas where support is needed for implementation or to enhance implementation. Similarly, although it is not mandatory to provide information related to climate change impacts and adaptation in the BTR (in line with chapter IV of the MPGs), the provision of such information provides another opportunity to report on progress in implementing adaptation actions and to identify domestic priorities, challenges, gaps and barriers related to adaptation. Using the BTR to provide this information, together with the information provided in

37 BTRs are to include information on financial, technology development and transfer, and capacity-building support provided and mobilized under Articles 9–11 of the Paris Agreement.

line with chapter VI of the MPGs (on support needed and received), has the potential to make the BTR a powerful instrument to enhance provision of international support. Reporting such information could also help coordinate donor strategies, enhance transparency about the geographical and sectoral distribution of support received, and facilitate the steering of budgets towards climate action, as

illustrated in box 13 on Kenya's experience in this regard. From a domestic point of view, having a clear picture of the climate finance received could also help countries plan and prioritize subnational budget allocation and, more broadly, improve decision-making and accountability.

Box 13: Kenya: Developing a climate finance tracking system

Kenya's National Policy on Climate Finance recognizes the transparency arrangements established under the Convention and the Paris Agreement. The policy provides for the development of a governance and institutional framework that maximizes the opportunities for climate finance mobilization in the various sectors of the economy. The policy also provides for the establishment of a national MRV system that enables a clear overview of domestic and international climate finance flows. The policy includes several interventions to facilitate MRV, some of which are yet to be implemented.

While Kenya has been developing the relevant systems and processes for monitoring, tracking and reporting climate finance needed and received, to facilitate tracking of climate finance received. In 2020, the Government of Kenya, through National Treasury and Economic Planning, and partners analysed the climate finance support received in 2018 and produced a report, *The Landscape of Climate Finance in Kenya*.³⁸ The analysis used existing MRV processes and data-collection and data management systems (such as the Integrated Financial Management System, the National Integrated Monitoring and Evaluation System and the

Electronic Project Monitoring Information System) to ensure completeness, transparency, comparability and accuracy regarding climate finance reporting.

The findings of the analysis show that empowering local governments would improve vertical integration by avoiding policy gaps between national action plans and local initiatives and doing so could also ensure horizontal coordination across local governments. Kenya's Financing Locally Led Climate Action programme is an example of one approach that aims to build climate finance capacity at the local (county) level.

Kenya has remaining challenges and gaps that affect the reporting of climate finance support, including the need to develop or operationalize procedures for monitoring support received, a strategy for monitoring and tracking the uses of climate finance by a range of actors, and regulations for facilitating reporting of climate finance support. There is also a lack of national and subnational capacities to participate in the MRV process and its systems, including capacities to track support received and impacts of the support received.

38 Available at <https://www.climatepolicyinitiative.org/wp-content/uploads/2021/03/The-Landscape-of-Climate-Finance-in-Kenya.pdf>.

3.7 Enabling access to carbon markets

For decades, carbon markets have been seen as part of the solution to climate change. Carbon markets can stimulate innovation and investment, and if held to high standards of integrity and transparency, can help accelerate the transformation needed to reach the goals of the Paris Agreement by putting a price on emissions and creating an economic incentive for reducing emissions. Since the introduction of international carbon markets in the 1990s, schemes for the trading of GHG emission reductions have multiplied around the globe. Through these schemes, countries seek to cooperate in achieving their mitigation targets by helping to mobilize the necessary resources and technology to reduce emissions where it is most cost-effective. The adoption of the Paris Agreement in 2015, specifically its Article 6, gave an additional push to this trend through the incorporation of different market-based mechanisms for countries to cooperate on in implementing actions to achieve the goals in their NDCs. As of 2022, more than 80 per cent of NDCs included the intention of the Party to use international market-based mechanisms towards mitigation of GHG emissions.³⁹

At the core of emissions trading systems is the transfer of ‘credits’ representing a specific quantity of GHG emissions reduced through activities in one country (the seller) and sold to another country (the buyer), which can then claim those reductions against its mitigation targets. For this system to work, transferred emission reductions must be counted by only one country – the buyer – towards its NDC. In order to avoid double counting, the selling country re-adds the amount of the transferred emission reductions to its GHG account to ensure that emission reductions are not claimed twice. Carrying out these ‘corresponding adjustments’ is a key principle for participating in cooperative approaches under Article 6. In practical terms, this means a functioning transparency and accounting system is a prerequisite for countries that want to participate in carbon markets. Hence, a direct benefit of transparency is the possibility of participating in these markets, whether as a buyer or a seller.

The post-2020 carbon markets under Article 6 of the Paris Agreement are being built following the bottom-up approach; that is, they are increasing the complexity and diversity of reporting and verification approaches for GHG emission and mitigation outcomes. The European Bank for Reconstruction and Development, European Space Agency, International Emissions Trading Association, United Nations Development Programme (UNDP), UNFCCC and World Bank Group have established the Digital for Climate (‘D4C’) Working Group.⁴⁰ This Group is creating an end-to-end digital ecosystem for the carbon markets with standardized modular components. The aim of the digital ecosystem is to provide countries with a digitizing methodology, MRV data systems and access to a registry, all of which make it possible to track the issuance of digital carbon assets (or tokens) through Climate Action Data Trust metadata. The modules, together with blockchain technology, can be used for tracking GHG emission reductions and corresponding adjustments related to mitigation activities and programmes. Building on success stories, the goal of this initiative is to support the development of standard registries to provide a solid basis by which countries can access carbon markets.

With access to carbon markets in mind, several countries are establishing or enhancing their national transparency systems, as illustrated by the case studies from Vanuatu (box 14) and Peru (box 15). The experience of Japan and Switzerland (box 16) represent the first examples of Article 6 pilot agreements, showing how buyer countries are demanding corresponding adjustments from sellers.

39 For further information, see <https://www.wri.org/insights/understanding-ndcs-paris-agreement-climate-pledges>.

40 <https://www.theclimatewarehouse.org/work/digital-4-climate>.

Box 14: Vanuatu: Developing an integrated monitoring, reporting and verification tool for climate action tracking

The Government of Vanuatu, with support from UNDP and other stakeholders, has developed an integrated monitoring, reporting and verification (iMRV) tool for tracking:⁴¹

1. GHG emissions;
2. The impacts of mitigation actions;
3. The impacts of adaptation actions;
4. Climate finance flows;
5. The impacts on achieving SDGs.

These five components that the iMRV tool enhance the transparency of reporting related to national GHG emissions and climate actions in the country and also help in reporting as part of the UNFCCC process (NCs, BURs and the upcoming BTRs) and to development partners and other stakeholders. The reporting tool provides information for the national GHG inventory and for NCs, BURs and the upcoming BTRs on progress towards achieving the NDC, progress towards achieving the SDGs, and international financial and technical support received.

The iMRV tool can be used to monitor the five components for each project or programme in the country, through which it improves the monitoring of the flow of data for international cooperation and support in Vanuatu. Tracking GHG emission reductions helps the country to fulfil its transparency requirements under the Paris Agreement, and the GHG data can also be used for reporting under market and non-market approaches and as internationally transferred mitigation outcomes (ITMOs) under Article 6 in conjunction with Vanuatu's National Carbon Registry. Together with the iMRV tool, the National Carbon Registry provides a solid basis for the country to access and participate in global carbon markets. The versatility and modularity of the iMRV tool and the National Carbon Registry have great potential for replication and could enhance other countries' participation in carbon market mechanisms such as those under Article 6 of the Paris Agreement.

41 See <https://www.neoclimate.org/imrv-tool>.

Box 15: Peru: Developing a transparency system that enables participation in carbon markets

Peru's national transparency arrangements are governed by a Ministry of Environment decree (decree 13-2019), which refers to the MRV of GHG emissions and removals, and emission reductions and enhanced removals. The country's MRV system comprises five components:

1. The national baseline of GHG emissions and removals;
2. Infocarbono, the country's web platform for coordinating the work of ministries regarding consolidating data for and communicating the national GHG inventory;⁴²
3. The Carbon Footprint tool, an innovative tool that allows private and public sector actors to receive official recognition from the government for their efforts to measure, report and reduce their GHG emissions;⁴³
4. The National Registry of Mitigation Measures, which informs stakeholders about mitigation progress and authorizes the transfer of carbon credits for actions or projects in carbon markets;⁴⁴
5. The reports and communications prepared as part of the UNFCCC process.

42 See (in Spanish) <https://infocarbono.minam.gob.pe/>.

43 See (in Spanish) <https://huellacarbonoperu.minam.gob.pe/huellaperu/#/inicio>.

44 See (in Spanish) <https://www.gob.pe/institucion/minam/campa%C3%B1as/13214-registro-nacional-de-medidas-de-mitigacion-gei>.

The components are interlinked, providing a solid transparency framework for stakeholders to participate in Article 6 carbon markets that incorporates the registry and accounting of emissions and reductions and the use of corresponding adjustments that avoid double counting. In addition, the system highlights the co-benefits of mitigation actions, enables public

recognition for transparency of progress and helps track the environmental integrity of mitigation actions. This robust MRV system, with complementary tools and components, will enhance transparency and help with preparing Peru to participate in the market-based mechanisms established under Article 6 of the Paris Agreement.

Box 16: Japan and Switzerland: Implementing pilot agreements for carbon markets under Article 6 of the Paris Agreement

Article 6, paragraph 2, of the Paris Agreement allows countries to utilize cooperative approaches that involve the use of ITMOs to achieve the goals stipulated in their NDCs.⁴⁵ Some countries, including Japan and Switzerland, have long communicated their intention to achieve the goals reflected in their NDCs in part by funding climate protection projects abroad. To this end, both countries have concluded bilateral agreements or treaties with partner countries that establish a cooperation framework and state the requirements for recognition of the ITMOs by the treaty Parties. These agreements thus establish a legal basis for commercial contracts between buyers and sellers of emission reductions.

As of June 2023, Japan has signed bilateral agreements under the joint crediting mechanism (JCM)⁴⁶ with 25 countries.⁴⁷ Switzerland has existing bilateral climate agreements with several partner countries, including Ghana, Peru, Senegal and Vanuatu.⁴⁸ In each case, the agreement states the obligation for Parties to apply corresponding adjustments to their NDC accounting and highlights this as a fundamental principle governing the agreement.

In this context, and to support JCM partner countries in complying with the guidance under Article 6, paragraph 2, of the Paris Agreement, Japan has been running the Mutual Learning Program for Enhanced Transparency.⁴⁹ This programme is a peer-to-peer programme where two countries work as a pair in developing draft reports and reviewing each other's reports for seven months, and aims to increase understanding of the guidance, including the concept of corresponding adjustment methodologies and how to apply them to avoid double counting. As such, it provides the opportunity for participating countries to actively engage with each other, share knowledge and openly discuss corresponding adjustment methodologies, enabling them to better explore why the domestic arrangements relating to ITMO authorization and transparent tracking are essential for participating in carbon markets.

45 See the annex to decision 2/CMA.3 ("Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement"). Available at https://unfccc.int/sites/default/files/resource/cma2021_10_add1_adv.pdf#page=11.

46 The JCM is a bilateral mechanism that Japan implements with partner countries for the purposes of diffusing leading low-carbon technologies and products and using generated emission reductions from JCM projects to achieve its emission reduction target. For more information, see <https://www.jcm.go.jp/about>.

47 The JCM partner countries are Azerbaijan, Bangladesh, Cambodia, Chile, Costa Rica, Ethiopia, Georgia, Indonesia, Kenya, the Lao People's Democratic Republic, Maldives, Mexico, Mongolia, Myanmar, Palau, Papua New Guinea, the Philippines, the Republic of Moldova, Saudi Arabia, Senegal, Sri Lanka, Thailand, Tunisia, Uzbekistan and Viet Nam.

48 For information on the agreements, see <https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/climate--international-affairs/staatsvertraege-umsetzung-klimauebereinkommen-von-paris-artikel6.html>.

49 For further information, see <https://www.iges.or.jp/en/projects/transparency>.

3.8 Supporting accession to political and economic communities and organizations

There are number of multilateral organizations and communities worldwide where countries join forces with the aim of addressing issues of common interest. Frequently, member countries of these organizations must meet reporting requirements for participation in order to gain benefits such as a reduction of trade barriers or access to regional funds. The European Union (EU) and the Organisation for Economic Co-operation and Development (OECD) are examples of multilateral organizations with both requirements and benefits for member countries. Environmental regulation and enforcement are priorities for these communities.

To join these organizations, countries often need to meet requirements related to the environment that may include conditions regarding monitoring and reporting on climate change. A country with an established MRV system might already comply with several accession requirements and might be able to use its MRV system as a source of information to meet additional requirements.

Before joining the EU, a country must comply with the environmental and climate-related requirements, among others, that apply to all EU member States. Georgia, a country that aims to become a member of the EU, must satisfy specific obligations to comply with EU legislation. Box 17 indicates these obligations and provides an example of how strengthening its climate related MRV system can help a country meet the requirements for accession to a multilateral community.

Another example where climate reporting and accession to a multilateral economic or political organization can be mutually beneficial is Colombia's process of joining the OECD, which started in 2013 and culminated in the country officially becoming an OECD member in 2020 (box 18). The example of Colombia highlights the value of a robust and sustainable MRV system as a source of information for national and international decision makers.

Box 17: Georgia: Linking a national measurement, reporting and verification system to European Union accession⁵⁰

In July 2016, Georgia reached a milestone in its process to become an EU member State when the EU–Georgia Association Agreement entered into force by EU decision 2014/494/EU. This legal mechanism seeking the economic and political integration of both parties calls for Georgia to harmonize a variety of national standards with EU requirements, including those related to the environment and climate change, including by:

- Operationalizing its Climate Change Council, which is responsible for coordinating climate policy;
- Implementing its NDC and its climate action commitments under the Energy Community;⁵¹
- Formulating and adopting a NAP and a long-term low-emission development strategy;
- Enhancing its transparency framework for climate action through its MRV system for climate policies, measures and emissions, in line with the Katowice Rulebook and the Paris Agreement;

⁵⁰ Georgia's first and second BURs (available at <https://unfccc.int/documents/180641> and <https://unfccc.int/documents/196360> respectively), the EU–Georgia Association Agreement Implementation Agenda 2017–2020 (available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22017D2445&rid=10>), and Georgia's 2030 Climate Change Strategy (2021) (available at <https://mepa.gov.ge/En/Files/ViewFile/50123>).

⁵¹ Georgia has been a member of the Energy Community (<https://energy-community.org/aboutus/whoweare.html>) since 2017, which requires it to formulate a National Energy Efficiency Action Plan and National Renewable Energy Action Plan. Both plans consist of mitigation activities that promote energy efficiency and the development of renewable energy sources.

- Enhancing the forest management body, and finalizing the national forest inventory and maintaining its databases;
- Ensuring public access to environmental information and public participation in decision-making for all interested stakeholders;
- Mainstreaming climate action in sectoral policies and measures, and strengthening the capacity of different authorities to implement climate actions;
- Preparing the national energy and climate plan and initiating its implementation.

The Climate Change Division of the Ministry of Environmental Protection and Agriculture has prepared the national GHG inventory for many years, a process that has provided a myriad of lessons learned and valuable inputs to the shared environmental information system. The Climate Change Unit is building on this experience in developing additional capacities for

transparency to respond to the reporting requirements of the EU as well as those under the Convention and the Paris Agreement.

The improvement of transparency arrangements in Georgia has been accelerated by developing the national MRV system in parallel with the EU accession process. The requirements relating to public participation and access to environmental information help raise awareness among sectoral stakeholders, civil society and the private sector. Other policy mainstreaming requirements ensure ambitious target-setting and the accountability of government institutions. The work with ministries led by the Climate Change Council will benefit from improvements to the transparency framework through inputs to the strategic planning of national climate actions. The EU accession process has opened avenues for collaboration, coordination and ambition-raising that will accelerate climate action in the years to come.

Box 18: Colombia: Complying with statistical information requirements for Organisation for Economic Co-operation and Development membership through collaboration on measurement, reporting and verification⁵²

Colombia initiated its process of joining the OECD in 2013 and agreed on an initial memorandum with the OECD that defined 250 instruments the country should use to create the conditions needed to join the Organization. One area of improvement was the need to strengthen statistical information for decision-making (e.g. regarding green growth and environmental targets in the various sectors of the economy), in response to which Colombia enhanced its national statistics system under the authority of the National Administrative Department of Statistics.

One specific requirement relating to statistical information was establishing a registry for emissions and transfer of pollutants, which members must report to the OECD. While the scope of this registry of emissions does not coincide perfectly with that of the GHG inventory, there is a large amount of overlap. As

the National Administrative Department of Statistics consolidates its structures for the registry of emissions, consultation has taken place with the Institute of Hydrology, Meteorology and Environmental Studies (the government entity responsible for the GHG inventory); the Department may strengthen the registry of emissions using the experience the Institute has gained through preparation of the GHG inventory. Through this collaboration, Colombia has established a national climate MRV system that also supports its compliance with OECD requirements. Furthermore, the two entities are engaged in dialogue to determine the extent to which the two emissions accounting processes can be integrated to achieve efficiencies and build the national statistics system up from existing structures.

⁵² For further information, see <https://www.oecd.org/colombia/colombia-accession-to-the-oecd.htm>.

3.9 Strengthening gender mainstreaming

The preamble to the Paris Agreement places the consideration of both gender equality and the empowerment of women squarely in the frame of all climate action, and its operative provisions reinforce the mandate for Parties to consider gender when taking action on climate change. As such, many countries have responded by including gender considerations in their NDCs, particularly when it comes to adaptation.

At the national level, tracking progress on gender issues within a country's adaptation monitoring and overall transparency framework is useful for exposing inequalities and improving understanding of why changes happen for different vulnerable groups. It is also crucial for tracking the performance of partners and holding stakeholders accountable for meeting gender-related goals that have been identified in the development of a climate project or action.

Frequently, gender gaps are identified in planning, but overlooked in monitoring. When the gender outcomes of a project or plan – both results for different groups of people and changes at the institutional level – are monitored, it is possible to determine the extent to which that project or plan is contributing to transformative change, and to make adjustments if it is not meeting its targets. In other words,

monitoring progress on gender issues goes beyond counting the number of women in a project or affected by it. Rather, it assesses benefits to different vulnerable groups as well as changes in empowerment using variables such as well-being and decision-making authority. Most important, gathering this information consistently allows countries to include gender considerations in their NDCs and other policy plans and to take them into account effectively, including by integrating gender-responsive targets into monitoring and evaluation systems and establishing gender-responsive climate change transparency frameworks.⁵³

Parties are increasingly recognizing gender integration as a means to enhance the ambition and effectiveness of their climate action. Most Parties (75 per cent) provided information related to gender in their NDCs and some (39 per cent) affirmed that they will take gender into account in implementing them. Of the Parties that referenced gender in their previous NDCs, some (20 per cent) elaborated more on the topic in their new or updated NDCs. Some (38 per cent) included information on how gender had been or was planned to be mainstreamed in NDC implementation.⁵⁴ Box 19 presents examples of countries that are implementing gender-responsive monitoring and evaluation frameworks.

53 Gender Toolkit, WFP, Rome, 2019. See <https://docs.wfp.org/api/documents/WFP-0000063662/download/>.

54 FCCC/PA/CMA/2022/4. Available at <https://unfccc.int/documents/619180>.

Box 19: Antigua and Barbuda, Cabo Verde and the Federated States of Micronesia: Developing gender-responsive nationally determined contributions and transparency systems

Antigua and Barbuda has set several gender-responsive targets in its updated NDC,⁵⁵ including a gender-responsive transition of its workforce based on extensive gender assessments that were conducted when updating the NDC. Indeed, the NDC sets a target on supporting an inclusive, gender-responsive approach to the energy transition with a special focus on women fully

participating in the new economy, while also providing support for those men working within the power and transportation sectors as the transition advances, in recognition of the fact that a just transition in the energy sector could result in job losses for these men without adequate planning for capacity-building or transfer of skills.

55 Available at <https://unfccc.int/documents/497048>.

Monitoring and evaluating gender-disaggregated data will enable the Party to respond to the needs of everyone involved in the transition in the energy sector.

Similarly, Cabo Verde includes gender-responsive indicators and targets in its updated NDC,⁵⁶ as well as gender markers in its State budget to measure the

impact of public funds allocated to promote gender equality.

The Federated States of Micronesia has developed a gender action plan and gender indicators as part of its NC3.

⁵⁶ Available at <https://unfccc.int/documents/497420>.

3.10 Raising awareness among stakeholders

Climate change is a complex global problem that requires the collective effort of all of society. Raising awareness among a broad set of stakeholders is crucial for developing an enabling environment for climate action. There are many ways to raise awareness about the climate crisis, such as seminars, conferences, workshops, training sessions, reports, and other documents and events that highlight the latest scientific findings and possible scalable solutions. Much of this information, which forms a foundation for climate action, can be sourced from national transparency systems. Information derived from national GHG inventories can be used to raise awareness of the sources of emissions in a particular country, while information derived from MEL systems can help with understanding where vulnerabilities lie and which solutions are being proposed to address adaptation.

Increased awareness can also improve regional cooperation and increase the political support for sectoral transformations towards low carbon and just transitions, leveraging existing in-country technical and financial resources.

The case studies from India (box 20) and Peru (box 21) on engaging with the private sector, from Zimbabwe (box 22) on engaging with non-government actors, and from Colombia (box 23) on engaging stakeholders at the subnational level highlight how governments have made use of their transparency systems to involve the private sector, subnational stakeholders and non-State actors.

Box 20: India: Engaging with the private sector to understand the potential impacts of corporate climate action

Non-State actors and the private sector have a key role in the success of the Paris Agreement. In India, one of the world's largest industrial nations, corporate climate action can bring the country much closer to meeting its national targets.

An analysis published in 2021 by WRI India and the Confederation of Indian Industry⁵⁷ used the ICAT

Non-State and Subnational Action Guide⁵⁸ to estimate the aggregate impact of the climate initiatives and to understand how the impact of these initiatives relates to the national GHG emission projections (through to 2030) of 50 Indian companies. These companies collectively contribute approximately 35 per cent of India's total industrial emissions and therefore constitute a significant subset of Indian industry. The study relied

⁵⁷ Available at <https://www.wri.org/research/potential-impact-corporate-climate-action-india>

⁵⁸ Available at <https://climateactiontransparency.org/our-work/icat-toolbox/assessment-guides/non-state-and-subnational-action/>.

on voluntary corporate disclosures; these were analysed in relation to a reference scenario in which no initiatives beyond existing national policy mandates were adopted.

The key findings were that:

- These 50 Indian companies could reduce their GHG emissions by 13.04 per cent by 2030 through their existing voluntary climate commitments, relative to their emissions under a reference scenario;
- The existing voluntary climate commitments of these companies could lead to a reduction of 1.74–1.95 per cent in India’s aggregate GHG emissions in 2030 over and above national emission projections that consider existing climate policies;
- Heavy industries such as metal, pulp and paper, and cement production drove over 90 per cent of the overall emission reductions, despite their less ambitious emission reduction targets, on average, compared with those of other industries.

The ICAT Non-State and Subnational Action Guide provides a systematic approach for aggregating the impacts of non-State and subnational actions to better inform climate policy formulation and implementation. This guidance can be particularly relevant to assessing non-state and sub-national impacts because many businesses set climate targets and commit to climate initiatives, but the impacts of these initiatives are not always aggregated and integrated into national transparency systems.

This example demonstrates the benefits of engaging the private sector throughout the transparency process. By doing so, countries can tap into the potential available in their industry sectors to cut emissions and achieve national targets. Recognizing that corporate mitigation efforts can have a substantial impact on national GHG trajectories, which can be more or less important depending on the sector, countries can develop customized and inclusive climate policies and take measures to encourage greater climate action, ultimately scaling up ambition.

Box 21: Peru: Encouraging private sector engagement through the Carbon Footprint Tool

Private sector engagement in climate action and transparency in Peru has brought a number of benefits to both the private and the public sector. The Government of Peru developed the Carbon Footprint Tool⁵⁹ as an official but voluntary tool for recognizing the efforts of public and private organizations to reduce their GHG emissions.

The Platform comprises a public registry of committed companies and institutions, an emission calculator that uses the ISO 14064 standard, a system to publicly recognize transparency and ambition, a list of national projects with carbon credits, and a directory of accredited verification companies. The tool enables companies and institutions to measure and report their emissions and mitigation actions online by:

- Calculating their carbon footprint;
- Having their carbon footprint verified by an accredited organization;
- Demonstrating their reductions in subsequent reports;
- Acquiring carbon credits to neutralize their emissions.

Peru’s cement industry represents a valuable opportunity for developing low-emission transformation strategies and improving the national transparency system because, first, the industry is responsible for emitting approximately 4.2 Mt CO₂ equivalent⁶⁰ annually (72.54 per cent of all emissions in the industrial processes and product use sector)

59 See (in Spanish) <https://huellacarbonoperu.minam.gob.pe/huellaperu/#/inicio>.

60 See (in Spanish) https://unfccc.int/sites/default/files/resource/INGEI_2016_Junio-2021_Final.pdf.

and second, three national companies represent approximately 95 per cent of the market.

One of those companies, UNACEM, started implementing climate change mitigation measures in the early 2000s and has consistently measured its carbon footprint since 2013. The company has been using the Carbon Footprint Platform and has now committed to reducing its emissions by 30 per cent compared to the BAU level by 2030 and to achieving carbon neutrality by 2050.⁶¹ UNACEM reported its most recent emissions and mitigation actions through the Carbon Footprint Tool.

The Carbon Footprint Tool, being a centralized and standardized system that enhances transparency,

streamlines emission reporting for companies. The system is made more robust by incorporating relevant ISO standards and information from the private sector and by fostering engagement and accountability through public recognition. The institutional arrangements behind the Tool also set a solid basis for collaboration and the scaling up of reporting initiatives in other sectors, and they complement the national ETF and the Monitoring System for the Adaptation and Mitigation Measures. The increased cooperation and trust among stakeholders fostered through the Tool by enabling increased transparency, engagement and collaboration encourages voluntary commitments from companies to facilitate sectoral transformation and accountability.

61 See (in Spanish) https://unacem.pe/wp-content/uploads/ri/RI-2021-UNACEM-f_ESP.pdf.

Box 22: Zimbabwe: Engaging with non-governmental actors to foster academia and youth skills⁶²

In 2020 Zimbabwe developed its National Climate Change Learning Strategy,⁶³ which underscores the importance of promoting sound formal and informal education and capacity and skills development. The Strategy includes actions that require strategic planning and institutional transformation aligned with the country's NDC and NAP, which will be beneficial for Zimbabwe when it begins to prepare its first BTR under the Paris Agreement.

One of the actions under the Strategy is the development of a novel approach concerning how, while building on existing capacities, academia can better contribute to Zimbabwe's transparency efforts, the #Academia4Transparency.⁶⁴ The action was conceptualized by the Transparency Team of the Food and Agriculture Organization of the United Nations (FAO) under the Capacity-building Initiative for

Transparency in the agriculture, forestry and other land-use sector, in collaboration with the Marondera University of Agricultural Sciences and Technology. While the main objective of the action was to highlight academia's role in overcoming the country's challenges related to transparency, the approach was recognized as an informal education pathway to enhance the capacity of both educators and students through supporting the implementation of the National Climate Change Learning Strategy. Sixty-eight educational programmes (both bachelors and masters level science courses) were identified during development of the action, covering topics including climate change impacts, adaptation, mitigation, finance, public awareness, policy and national strategies, with most of them focusing on climate science, meteorology, disaster risk management and development in relation to those topics.

62 Available at <https://www.fao.org/documents/card/en/c/CC4671EN>.

63 Available at <https://unclearn.org/wp-content/uploads/2021/03/NCCLS.pdf>.

64 For information on #Academia4Transparency, see <https://www.fao.org/documents/card/en/c/CC4671EN>.

An initial assessment found that the international political context and the fundamentals of the ETF were not widely known among the participants of these programmes. To address this, a series of workshops were delivered to raise awareness and provide basic knowledge on the ETF. A blended course was offered to students and educators, which consisted of the FAO e-learning course “Preparing a greenhouse gas inventory under the enhanced transparency framework”⁶⁵ followed by a discussion session with an expert. The blended learning modality was found to be useful, and it was agreed that it could be incorporated into relevant university curricula. In addition, both students and educators highlighted the importance of providing more

information on how the course can deliver additional benefits, as students tend to naturally choose learning pathways and dissertations that can offer future job opportunities.

The #Academia4Transparency initiative proposes to invest in the next generation: cohorts of skilled young graduates will develop relevant knowledge that can offer them employment prospects, while alleviating the high staff turnover in the government and strengthening domestic expertise on transparency.

⁶⁵ For information about the course, see <https://elearning.fao.org/course/view.php?id=618>.

Box 23: Colombia: Quantifying the contributions of subnational and non-State actors to greenhouse gas emission reductions⁶⁶

When Colombia ratified the Paris Agreement in 2018, the country established an NDC to reduce GHG emissions by 20 per cent by 2030 compared with the ‘business as usual’ scenario. In 2020, the country updated its goal, increasing its ambition to a 51 per cent reduction in emissions by 2030.

Recognizing that the challenge of reaching ambitious emission reduction goals also involves efforts from stakeholders such as local governments, city authorities and the private sector, Colombia implemented the ICAT Non-State and Subnational Action Guide to quantify the aggregate impact of mitigation actions carried out by private sector and city-level actors. The aims were to support the Ministry of Environment and Sustainable Development in decision-making at the regional and national level, help inform the updates to the NDC, and further the development of protocols for the MRV of actions. The project was carried out in parallel with and complementary to the process of

updating Colombia’s NDC. It was the first exercise of this type to be carried out in the country.

In response to the Ministry’s needs, the project focused its analysis on direct emissions and electricity consumption by companies in Colombia. For territories, the analysis was focused on the transport sector at the urban level. This involved modelling 25 private sector actions and 23 transport actions implemented in Colombian cities that could achieve a reduction of 3.5 Mt CO₂ in 2030. In addition, some hypothetical cases were evaluated to quantify what would happen if 14 regional capitals electrified 10 per cent of their public transport fleet and if the 100 most populated cities in the country increased their bicycling infrastructure. For these examples, an additional reduction of 231,000 t CO₂ would be achieved by 2030.

The project involved significant efforts in gathering information from different actors and harmonizing

⁶⁶ See <https://climateactiontransparency.org/quantifying-the-contributions-of-colombian-subnational-and-non-state-actors-to-the-reduction-of-ghg-emissions>.

information to present an aggregate result. These efforts resulted in some lessons learned and recommendations for future exercises that would improve protocols for registering mitigation actions in the country. Although this case study does not cover all the actions of non-

State and subnational actors that are being carried out in Colombia, the process was a key step in harmonizing the quantification of measures aimed at reducing GHG emissions in Colombia.

4. Conclusion

Countries recognize the need for an effective and progressive response to the urgent threat of climate change, and as part of this response, all Parties to the Convention and the Paris Agreement have been measuring and reporting on progress. This provides, particularly to those who are involved in the intergovernmental process, with reliable, transparent and comprehensive information on emissions, actions and support, so that everyone can understand current emission levels and the ambition of existing efforts, as well as progress at both the national and the international level. To realize the full benefits of these efforts, they must be centred on providing data and information that is accurate and reliable – and transparent.

In that context, transparency is a way for all Parties to see what actions are being planned and implemented. Transparency implies openness, communication and reciprocal accountability. Ensuring transparency in a non-punitive and non-intrusive manner builds mutual trust and shared confidence and promotes the effective implementation of the Convention and the Paris Agreement.

As shown in this technical paper, climate transparency has numerous national benefits that can support developing and developed country Parties in achieving the SDGs and the climate commitments in their NDCs. The country case studies presented in the paper demonstrate that robust, well-designed transparency systems and complementary reporting initiatives can provide a solid foundation for informed decision-making, improve coherence among various reporting efforts, increase political buy-in, enhance technical capacities, build knowledge, improve access to climate finance and carbon markets, support countries' accession to or membership of political and economic communities, raise awareness about the climate crisis and possible solutions among stakeholders, and strengthen gender-responsiveness.

The technical paper also demonstrates how transparency plays a vital role in supporting Parties in their transition towards net zero and climate-resilient development pathways. It provides relevant information for decision makers and other stakeholders on assessing the progress of and identifying opportunities for enhancing climate action and showcases examples in supporting countries in accessing resources and networks, as well as developing local capacities for advancing towards achieving their climate goals. Furthermore, the benefits of climate transparency are not limited to individual countries but have wider implications for the international processes of trust-building, scaling up of action, enhancement of ambition, and collaboration. The information generated through national climate reporting initiatives linked to the ETF, a framework that recognizes the importance of facilitating improved reporting and transparency over time, supports the assessment of collective progress under the global stocktake and contributes to enhancing the ambition of NDCs.

In the light of these benefits, countries may consider prioritizing the planning, development and implementation of robust systems for climate transparency, which will require investing in technical capacities, garnering support from political leaders and engaging all stakeholders, including those from civil society and the private sector.

In conclusion, climate transparency under the Convention and the Paris Agreement is a powerful framework for advancing climate action and sustainable development with the support and collaboration of national and international actors. The benefits of climate transparency are far-reaching and multi-faceted and have significant potential to drive transformative change at both the national and the international level.

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