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NDC Transparency Meta-study

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1 EXECUTIVE SUMMARY

Transparency is at the center of efforts to monitor and evaluate the extent to which countries are making progress in implementing their Nationally Determined Contributions (NDCs) under the Paris Agreement, while ensuring that the implemented mitigation policies, measures and actions are socially fair and sustainable.

In addition, within the Paris Agreement process itself, transparency, operationalized through the Enhanced Transparency Framework (ETF), plays a crucial role in enabling the build-up of trust in each other's efforts and the learning of lessons for better implementation, also through the Global Stocktake (GST) currently taking place.

Within this setting, CIDSE – an international network of Catholic social justice organizations – has launched the NDC Transparency Initiative to investigate, on the basis of country case studies, the extent to which countries' NDCs are linked to national policies and measures and to local climate action on the ground, as well as the extent to which NDCs are currently able to support energy access and renewable energy diffusion.

This meta-study brings together and compares the results from six of the cases studies – in Brazil, Burkina Faso, Colombia, Georgia, Israel and Switzerland, which were carried out in 2021-2023 by research teams from local partner organizations in the respective countries. The meta-study aims to

(i) compare the findings of the country studies in a systematic way, focusing on transparency in target setting, transparency in monitoring and evaluation, and best practice examples of climate action in the energy sector;
(ii) derive recommendations for national and international advocacy and knowledge exchange on how to improve transparency along these three dimensions, including recommendations for the NDC, ETF and GST processes;
(iii) elaborate recommendations on how to improve the existing or future case studies.

To achieve these goals, we developed a traffic light indicator system as a means to score each case study along the three dimensions target setting, monitoring and evaluation, and local climate action. In addition, further qualitative and individual lessons from each of the case studies – which did not necessary fit in our indicator system – were integrated in the assessment. The assessment was mainly based on the information contained in the case study reports but, for specific indicators, we drew information from the NDCs themselves and from countries' latest biennial (update) reports (BR/BURs).

Our analysis suggests that while substantial progress has been made regarding transparent target setting, more work needs to be done in most countries in terms of (i) translating those targets into national policies and laws and ultimately into actual action, (ii) building up a coordinated and comprehensive system to monitor and evaluate the achievements of the policies and measures introduced to address climate change mitigation, and (iii) connecting local initiatives to the overarching goals.

In a setting in which meeting the NDC targets is not mandatory internationally, **translating those targets into policies and laws is necessary to signal commitment at the national level** and to specify how those targets will be met. However, for those countries that only under Paris have adopted comprehensive mitigation targets, **the move from individual projects** (under the Clean Development Mechanism) **or from sectoral or subsectoral approaches** (under the Nationally Appropriate Mitigation Actions (NAMAs)) **towards mainstreaming and coherent policy-making requires new capacities and takes time**.

The necessary transparency can only be achieved if coordinated, consistent and comprehensive monitoring, reporting and verification (MRV) systems are in place both nationally and internationally. But there are barriers to this aim. A critical one relates to how the **responsibilities for addressing climate change tend to be divided** within government. Frequently, it is the Ministry of the Environment that is responsible for MRV, but it is the sectoral ministries that implement and finance the policies and measures to reduce emissions. In many countries, **insufficient inter-agency coordination** impairs the establishment of an accessible, centralized and consistent registry of progress in implementation.

Secondly, a strong reliance on external consultants for preparing transparency reports as well the lack of experience with comprehensive reporting, particularly in countries that did not have comprehensive emission reduction targets before Paris, illustrate the **need for better technical and institutional capacities** for tracking and reporting progress. Nonetheless, some of the case studies report meaningful efforts to set up more comprehensive MRV processes and show clear improvements over time.

Throughout a majority of cases we see a need to improve the **quality of reporting**. For example, while most BR/BURs present *ex-ante estimates* of policies and measures' effect on GHG emissions (which can vary substantially when prepared by different organizations), most BURs fail so far in reporting the *actual* GHG effect of policies and measures. Rather, most progress reporting – also in national monitoring systems – focuses on intermediate output measures but fails to translate them into GHG outcomes. Such translation will be required under the ETF.

A central question for the **ETF process** will therefore be whether non-Annex I countries are able to quickly transition from the project-centered reporting that they know from the past towards an improved reporting at the policy level.

Locally, we see that in many contexts there is a need to improve awareness of the NDC target and therefore to **improve the connection between local action and NDC targets**. Most local projects analyzed in the case studies do not seem to have clear GHG targets from the outset. There is a need for more **financial support** for community-led projects, as well as for improved **participation and co-benefits** for the local population in the case of large projects. In the particular case of low-income countries, where rather than mitigation projects with development co-benefits we see development projects with mitigation co-benefits, the awareness about the mitigation component is particularly important.

Finally, the role of **political will and strong mitigation targets** to start with, as well as of **continuity and policy coherence** cannot be understated, as they are critical pre-conditions for establishing an enabling environment in the first place.

In summary, our **recommendations for governments and civil society** are:

- Governments should improve the clarity of assumptions behind their NDC targets, and refrain from opaquely backtracking from their previously assumed commitments.
- More financial and technical support should be provided to help countries translate their plans and strategies into actual action.
- Governments need to establish sectoral and national MRV systems that are designed to fulfil the requirements of the ETF, and that are coordinated with each other.
- Governments, local authorities and civil society need to improve the connections between local projects and the national mitigation targets and strategies. Not just governmental initiatives need to report, but also private-led and community-led actions need to be incentivized to report to centralized MRV systems.
- In low-income countries, governments and civil society should work to improve local awareness and mainstreaming of mitigation in development plans and projects. While

in these contexts development should be at the center, mitigation should not be forgotten.
- In middle-income and high-income countries, governments should increase support to community-led climate initiatives, which are critical for motivating and engaging the population, and for improving the co-benefits of climate action.
- Governments should monitor and report not just the GHG effects of large-scale projects, but also their positive and negative effects on local populations.

Our specific **recommendations for the GST, ETF and NDC processes** are:

- The GST process should help to shed light on where – in comparable settings – we have so far only seen process-related improvements (such as institutions and MRV systems being set up) as compared to where we are already seeing actual GHG reductions and help to elucidate the drivers of actual progress on GHG outcomes, so that the pace of progress can be increased.
- The GST process should help to create a more systematic understanding of the contexts in which community-led initiatives for mitigation are flourishing, and the drivers of such success.
- Within the NDC process, it is important to periodically assess whether parties are complying with the commitment that each new NDC represents a progression beyond the previous one.
- Within the ETF process, once the first round of BTRs under the Paris Agreement is produced, the capacity of governments to assess the GHG impacts of their policies and measures should be evaluated in order to assess where more technical support is needed.

2 INTRODUCTION

a. International context

The 2015 Paris Agreement under the UN Framework Convention on Climate Change (UNFCCC) sets ambitious targets for global climate change mitigation, aiming to limit global warming to well below 2°C, and preferably to below 1.5°C, as well as to achieve a balance between emissions and removals of greenhouse gas (GHG) emissions by mid-century.[1] These global goals can only be achieved if countries adopt sufficiently ambitious emission reduction targets as part of their Nationally Determined Contributions (NDCs), and if they implement the necessary policies and measures that enable national and local action to reduce emissions and meet those targets.

At the same time, the deep transformation of energy systems required to meet the mitigation challenge needs to be implemented in a climate-just way that does not compromise – but ideally improves – the ability of local communities to access energy services, particularly in countries of the Global South and in poor and marginalized communities. Energy-related climate mitigation efforts should therefore be aligned with Sustainable Development Goal (SDG) 7, which calls for "affordable, reliable, sustainable and modern energy for all" by 2030.[2]

Transparency is at the center of efforts to monitor and evaluate the extent to which countries are making progress in implementing their NDCs and meeting the Paris Agreement's global goals, while ensuring that the implemented policies, measures and actions are socially fair and sustainable. In practical terms, transparency is necessary to help countries identify gaps in their climate change policies, to encourage them to meet their NDC targets, to help them learn from each other's efforts, and to build trust so that Parties are willing and motivated to increase ambition over time.

In addition, within the Paris Agreement, several key implementation processes rely on transparency in order to be effective: the NDC process itself, the Enhanced Transparency Framework (ETF), as well as the Global Stocktake (GST) currently taking place. Under the ETF, Parties shall submit their first Biennial Transparency Reports (BTRs) under the Paris Agreement by 31 December 2024. The modalities, procedures and guidelines for those reports were agreed in December 2018 at the first Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA1) in Katowice. They emphasize that reporting needs to follow the principles of transparency, accuracy, completeness, consistency and comparability.[3] Under the NDC process, it has been agreed that from the second NDC onwards, Parties are required to provide the necessary information to ensure the NDC's clarity, transparency and understanding.[4] Finally, the first Global Stocktake, to be finalized in 2023, aims to assess the collective progress toward meeting the Paris Agreement's goals and therefore inform Parties' future efforts to update and enhance their actions and support. The assessment will cover the state of GHG emissions, the overall effect of the NDCs, the state of adaptation efforts and the means of implementation and support provided to help developing countries meet their goals.[5]

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[1] UN, 2015a. Paris Agreement, Article 2. New York: United Nations.
[2] UN, 2015b. Transforming Our World: The 2030 Agenda for Sustainable Development. New York: United Nations.
[3] UNFCCC, 2019a. Decision 18/CMA.1. Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement. Bonn: UNFCCC Secretariat.
[4] UNFCCC, 2019b. Decision 4/CMA.1. Further guidance in relation to the mitigation section of decision 1/CP.21. Bonn: UNFCCC Secretariat.
[5] https://unfccc.int/topics/global-stocktake/components-of-the-global-stocktake.

The content of the biennial reports[6] is one of the central sources of information for the Global Stocktake.

b. The NDC Transparency Initiative and objective of the meta-study

Within this setting, CIDSE – an international network of Catholic social justice organizations – has launched the NDC Transparency Initiative, which aims to investigate, on the basis of individual country case studies, the extent to which countries' NDCs are linked to national policies and measures and to local climate action on the ground, as well as the extent to which NDCs are currently able to support energy access and renewable energy diffusion. The results of this initiative will be used to improve the capacity of the participating organizations to monitor and evaluate the local implementation of the NDCs, as well as to support knowledge exchange, dialogue and advocacy opportunities at the national and international level, including in the relevant UNFCCC processes.

The six cases studies – in Brazil, Burkina Faso, Colombia, Georgia, Israel and Switzerland – were carried out in 2021-2023 by research teams from local partner organizations in the respective countries.[7] These case studies form the basis of this meta-study, which aims to

(iv) compare the findings of the different country studies in a systematic way, focusing on transparency in target setting, transparency in monitoring and evaluation, as well as best practice examples of climate action in the energy sector;
(v) based on this comparison, derive recommendations for national and international advocacy and knowledge exchange on how to improve transparency along these three dimensions, including specific recommendations for the NDC, ETF and GST processes under the UNFCCC;
(vi) elaborate recommendations on how to improve the existing or future case studies.

In the next section, we present the methodology used to carry out this meta-study, while Section 4 discusses some of the particularities of the individual case studies. In Section 5 we summarize and compare our findings regarding transparency in target setting, transparency of monitoring and evaluation and local climate action across the six case studies. A discussion of the findings follows in Section 6, focusing first on suggestions for improvement of the individual case studies reports or for the preparation of future case studies, and then on overarching conclusions with regards to transparency and climate action. Section 8, finally, presents our recommendations for the NDC, ETF and GST processes under the UNFCCC. An Appendix offers more detail about the indicators used in the assessment of transparency and local action.

[6] Under the UNFCCC's measuring, reporting and verification system, all country Parties periodically prepare national communications about their progress in implementing the Convention. In addition, developed country Parties are required to submit GHG inventories and Biennial Reports (BRs) in a process called International Assessment and Review (IAR), while developing country Parties submit Biennial Update Reports (BURs) under a process called International Consultation and Analysis (ICA). Under the Paris Agreement, the IAR and ICA processes are transitioning to the Enhanced Transparency Framework (ETF), under which all parties are required to submit Biennial Transparency Reports (BTRs). Given that most countries have not yet prepared their first BTRs, the BRs and BURs under the Convention are central for the preparation of the first Global Stocktake.
[7] Appendix A lists the case study reports in detail.

3 DATA AND METHODS

This NDC transparency meta-study was conducted on the basis of a desk-comparison of the six country case study reports listed above, focusing on the countries' performance along three dimensions: transparency in target setting, monitoring and evaluation, and local action.

Transparency in **target setting** refers to clarity with respect to how the international commitments in the NDCs are being implemented nationally and locally. Specifically, the goals are (i) to find out the extent to which countries' NDC targets are being translated into national laws, policies and strategies, (ii) to analyze the extent to which those targets and policy measures provide an enabling environment for ambitious climate action including at the local level, and (iii) to identify, across the case studies, aspects that promote or hinder this process.

Transparency in **monitoring and evaluation** refers to the performance of existing monitoring, reporting and evaluation mechanisms at the international and national levels, including countries' own national monitoring and evaluation systems, as well as their national communications, Biennial Reports (BRs) or Biennial Update Reports (BURs) under the UNFCCC, or their Biennial Transparency Reports (BTRs) under the Paris Agreement. Concretely, the goals are (i) to assess whether countries consistently monitor and evaluate their progress in implementing their NDCs, by looking at the comprehensiveness, consistency and quality of national communications and other reporting tools, (ii) to identify barriers that may hamper national monitoring efforts as well as factors that either improve consistency or lead to inconsistencies in reporting, and (iii) to evaluate the extent to which national and local implementation measures are taken up in international reporting documents (BRs, BURs or BTRs).

The assessment of **local action** refers to selected best practice examples of government-funded energy production projects and aims to (i) identify predominant aspects of best practice in local NDC implementation among the country case studies, as well as to (ii) assess how social justice aspects have been considered in the energy production projects.

The six country case studies – from Brazil, Burkina Faso, Colombia, Georgia, Israel and Switzerland – were prepared by different country teams on the basis of the same terms of reference. A central assumption of our methodology is, therefore, that the studies are comparable along the three dimensions described above. Because this meta-study aims not only to compare and assess countries' performance on the three dimensions, but also to offer suggestions for improvement of the case studies, the analysis is based mainly on the content of the case study reports. This means that, in order to identify possible gaps in the case study reports, we first refrained from looking for information about the individual countries' climate policy and transparency performance from other sources.

In order to get a complete picture on very specific aspects relating to the NDCs and to transparency in monitoring and evaluation, we then added an analysis of the NDCs themselves and of each country's latest international monitoring report (BUR or BR). Whenever we use such external sources of information to complement the analysis, this is explained explicitly.

To allow a systematic comparison of the case studies, a traffic light indicator system was developed as a means to score each case study along the three mentioned dimensions, as summarized in Table 1. The indicators were selected on the basis of both the goals for each dimension outlined above, as well as of the actual content of the case studies. For each indicator, scores range from 0 (red – worst score) to 2 (green – best score). Further information on the reasoning behind the indicators' scores is available in Appendix B.

Table 1 Indicators used to evaluate the three dimensions.

DIMENSION	INDICATOR	DESCRIPTION	SCORE
Transparency in target setting	Availability of GHG target in the NDC	Yes, national and sectoral targets	2
		Yes, only national-level target	1
		Yes, only for some sector(s), or no GHG targets	0
	Type of GHG target in the NDC	Baseline target (reductions compared to emissions in 1990/2005)	2
		Trajectory target (emissions in 2030 will be X $MtCO_2$)	1
		Business as usual target (reductions compared to BAU in 2030)	0
		Intensity target (tCO_2/GDP)	0
	Availability of neccesary information to understand the target in the NDC	Yes, the necessary information is available in the NDC	2
		No, the necessary information is not available in the NDC	0
	Translation of NDC target into national laws and policies	NDC target referred to in national laws	2
		NDC target referred to in national policies or strategy documents (but not in a law)	1
		NDC target has not been translated into any national laws or policies	0
	Enabling environment for ambitious climate action - policy instruments adopted to implement NDC	The case study suggests that there is a well-developed policy support system for implementing the NDC in the energy sector	2
		The case study suggests that there is some policy support for implementing the NDC	1
		The study suggests that most mitigation-related policies are not directly in response to the NDC, or that there are few effective mitigation policies	0
Transparency in monitoring and evaluation (of each commited climate measure)	Information on emission pathways and projections, and/or GHG inventory in the BUR/BR	Detailed information of both emission pathway/projection and GHG inventory is available	2
		Non-detailed information for both aspects (or either one of them) is available	1
		Information on both aspects is not available	0
	Information on enabling environment for climate action: policies and measures described in the BUR/BR	Detailed information for most or all measures is available	2
		Non-detailed information, or only for some measures, is available	1
		Information is not available	0
	Information on achievement or progress in implementation of reported policies and measures in the BUR/BR	Detailed information for most or all measures is available (including GHG emission reductions)	2
		Non-detailed information, or only for some measures, is available	1
		Information is not available	0
	Information on individual projects or climate actions/initiatives in the BUR/BR	Detailed information is available (such as GHG emission reductions)	2
		Non-detailed information is available	1
		Information is not available	0
	Availability of national-level monitoring/evaluation report	Yearly monitoring/evaluation report (for some or all measures)	1.5-2
		Irregular monitoring/evaluation report (for some or all measures)	1
		No monitoring/evaluation report	0
	Content of monitoring/evaluation report	Detailed monitoring/evaluation report (e.g., activities, general assessment, expected emission reductions, impacts, lessons learned; for some or all measures)	2
		Non-detailed monitoring/evaluation report (including only some of the above aspects for some or all measures)	1
		Only general outlook in monitoring/evaluation report	0
	Format and length of monitoring/evaluation report	Standardized format and same length for each climate measure	2
		Semi-standardized format and length for each climate measure	1
		No unification of format and length for each climate measure	0
	Accessibility of monitoring/evaluation report	Available online in the official government website in English or another major UN languages	2
		Available online, but only in national language	1
		Not available online	0
	Evidence of independent evaluation. Is there a separate body evaluating the reported achievements?	Yes, there is a national separate body to evaluate the reported achievements, and it has been done regularly	2
		Yes, there is a national separate body to evaluate the reported achievements, but it has been done irregularly	1
		No, there is not a national separate body to evaluate the reported achievements	0
Local action	Availability of governmental support for local climate actions	NDC-related support from the government (including for small-scale projects) is available	2
		NDC-related support from the government is available, but not for small-scale projects	1
		Non-related support from the government or external agencies (such as foreign aid) is available	0
		No support from any sources is available or has been used in analyzed local actions	0
	Contribution of local climate actions to the country's emission target	Reduction goals (for the local climate actions) are defined clearly	2
		Reduction goals (for the local climate actions) are not defined clearly, but something is mentioned regarding their mitigation contribution	1
		The contribution to the national emission target is not mentioned.	0
	Existence of local community participation or consultation processes in decision-making of climate actions	Local community participation is mandatory	2
		Local community participation is voluntary and encouraged	1
		Local community participation is voluntary but not actively encouraged	1
		Participation is not planned or allowed	0
	Continuity and comprehensiveness of local consultation process for climate actions	Comprehensive and continuous consultation process	2
		Either comprehensive or continuous consultation process	1
		Neither comprehensive nor continuous consultation process	0
	Co-benefits of local climate actions	Several local co-benefits (such as job creation, health improvements, pollution reduction, energy access for vulnerable groups) are considered	2
		A couple of local co-benefit(s) are considered	1
		No local co-benefits are considered	0

Note: See Appendix B for a detailed explanation of the indicators.

The assessment of our traffic light indicators was based on the information contained in the case study reports (and, for specific indicators, on the NDCs and the biennial reports). If information regarding a specific indicator was unclear or unavailable for a specific country, the indicator was marked in grey, and a recommendation for improvement of the case study was added to Section 6.

In addition to the traffic light scheme, for each of the three dimensions studied (target setting, monitoring and evaluation, and local action), we sought to identify particularly positive and particularly negative lessons learned from each of the case studies that are interesting for the analysis even though they may not fit into our traffic light indicator scheme. These lessons are discussed in the relevant parts of the assessment in Section 5 below.

Once the six case studies were evaluated on this basis, the comparative results across the cases and the narrative component of the case study reports were used to identify general aspects that promote or hinder transparency in target setting, barriers that may hamper national monitoring efforts, and factors that either contribute to improve consistency or lead to inconsistencies in reporting. This is the basis for the general conclusions, lessons learned and recommendations from this meta-study.

4 REMARKS ON THE COUNTRY CASE STUDIES

The individual case studies were all developed with the same general methodology, which is desk research of existing document and interviews or surveys for the assessment of local action. Some of the case studies also have framing meetings and interview sessions for collecting information to evaluate transparency in target setting and monitoring/evaluation. However, the level of detail, main focus and structure of the case studies differs considerably.

The case studies for Burkina Faso, Israel, and Switzerland have clearly separated sections for each research question (target setting, monitoring/evaluation, and local action). Especially in the Swiss case, each climate measure was evaluated separately regarding its transparency in monitoring and evaluation. However, most of the other case studies lack this level of detail. In the case of Burkina Faso, for example, it is unclear whether the policies and measures investigated were specifically introduced in order to implement the NDC.

The Colombian case study consists of two reports, one of them focusing more strongly on domestic-level monitoring and evaluation, and the other one on progress in the renewable energy sector. While quite detailed, the study lacks a clear and systematic overview of the policy measures introduced to address climate change mitigation – nonetheless, information on such policy measures is found in different parts of the reports. The Brazilian report does not characterize the NDC in detail, and has very few details on monitoring and evaluation, particularly at the international level. Instead of analyzing local actions, it focuses on governmental initiatives to address climate change (which is taken up in the same manner in this meta-study). Lastly, the Georgian case study does not have sufficient information on either mitigation policies and measures or on monitoring and evaluation efforts. In this case study, the analysis of policy documents is based on thematic coding of the documents, rather than on an assessment of whether and how they help to implement the NDC.

5 OVERVIEW AND DISCUSSION OF COUNTRY CASE STUDIES

In this section, we describe and compare the main findings regarding the three dimensions of transparency in target setting, transparency in monitoring and evaluation and local action for

each of the six countries. But first, we introduce some of the particular complexities of some of the countries' climate policy environment, as described by the case study reports.

Brazil's case study points towards a disconnect between the country's NDC targets and the broader structure and recent development of its energy system, even despite the fact that Brazil's energy plans have incorporated the NDC targets from 2016 onwards. The NDC targets for the energy sector are criticized for being insufficiently ambitious, as they have partly been met already by 2020. Moreover, the nature of these targets – focusing on the share of renewables, the share of biofuels and energy efficiency gains –, allow the Brazilian government to keep expanding **fossil fuel** exploration, use and exports: Brazilian is among the 10 largest oil producers in the world, aspect that is not addressed by the NDC at all. The country still subsidizes coal use for electricity generation, and plans to end these subsidies by 2027 are opposed by a strong coal lobby. In addition, there is insufficient focus on a transition plan for the people working in this industry. Finally, the country has recently approved incentives for natural gas power plants as a way to increase energy security, which goes against the NDC goals.

The case study also highlights the country's continued reliance on **hydroelectricity** with its negative social impacts (displacement) and methane emissions. Furthermore, the **biofuels** policy, a central pillar of the country's clean energy strategy, is closely related to the land use and deforestation dynamics in the country. The case study emphasizes the fact that the agricultural sector was responsible for 28% and the land-use sector for 44% of the country's GHG emissions in 2019; therefore, it criticizes the characterization of biofuels as clean, as this omits negative indirect effects over the whole production chain.

Burkina Faso's case study exemplifies the deep interlinkages between climate policy and broader developing objectives existing in low-income countries, particularly in the energy sector. While the case study identifies a large policy framework *related* to climate change objectives, most of this framework aims to address more general development objectives. At the same time, the achievement of those objectives – such as improving rural electrification, which is still very low at 24.6% in 2020, or lowering the country's strong dependence on imported fossil fuels – can very well contribute to mitigation objectives, by building a clean energy infrastructure based on renewable technologies such as solar power. This puts into question this study's focus on social co-benefits of climate action. In the Burkinabe case, the policies and initiatives studied rather suggest a focus on climate co-benefits of development action.

The case study also illustrates the challenges faced by countries that did not have mitigation commitments under the old Kyoto Protocol regime and that therefore are only now starting to establish the institutional and monitoring, reporting and evaluation (MRV) capacities needed to comply with the Paris Agreement's requirements.

The case study of **Israel** illustrates a context in which climate policy-making has been rather fragmentary, with insufficient coordination between governments and across ministries. This is partly due to the fact that Israel has in recent years faced problems of governability amid repeated failures to establish a stable government, which has led to difficulties in policy-making and implementation. In addition, the case study report criticizes the country's NDC as lacking ambition, and its governments as "not committed to fulfilling the decisions and international commitments" (p. 4). While the energy sector – in particular electricity generation – is the main source of GHGs, the country's renewable energy targets are rather moderate and remain unmet. Israel has discovered substantial gas reserves in its territorial waters, which has contributed to a considerable reduction of GHG emissions from previously coal-reliant electricity generation, while at the same time preventing further progress towards renewables. Further barriers to the development of renewables are the transmission network, which has been designed to support centralized generation; as well as the widespread existence (particularly in Arab

villages) of buildings without the required permits or with land ownership disputes, which disqualifies them from building a solar system.

More generally, despite being an affluent country with an average national income comparable to those of some Western European countries, Israel has a very unequal society, in which the Palestinian population suffers from institutional and political discrimination and as a result is particularly affected by poverty and energy poverty.

a. Transparency in target setting

Brazil

Brazil has so far submitted an INDC in 2016, and as well as two updated NDCs in 2020 and 2022, respectively. Its NDC has an economy-wide absolute emission reduction target. However, even though the original INDC specifies mitigation targets in certain sectors (including, for example, targets for biofuel use, renewable energy and energy efficiency), the two updated NDCs fail to include either sectoral targets or sectoral measures. For this reason, Brazil gets a yellow score on the first indicator regarding availability of a GHG target in the NDC.

The mitigation target is expressed as a baseline target (37% GHG emission reductions compared to 2005 levels by 2025, as well as 50% reduction by 2030), which we deem to have a high transparency and therefore receives a green score.[8] However, the transparency of the target has decreased over time. While the original INDC included the reduction target, plus an estimate of the emissions level in the base year (2005), as well as the estimate of the emissions level in 2025 and 2030, the first updated NDC refers to the already published Third National Communication to the UNFCCC as the source of information about the emissions level in the base year (which is, according to a report prepared by the Instituto Talanoa, higher than the baseline proposed in the original INDC).[9] It does not provide this baseline emissions level in explicit numbers. The second update of the NDC refers to the National Inventory Report as the source of information about the base-year emissions level, and states that the National Inventory Report will be updated in the future. Therefore, the baseline emissions level is as yet unavailable and it is not possible to precisely calculate the actual emissions that will result under the NDC. The Instituto Talanoa estimates, however, that these will still be higher than under the target pledged in the original NDC. Due to this lack of coherence over time as well as the increasingly opaque references to the baseline emissions level, Brazil is rated red on the third indicator about the availability of necessary information in the NDC.

The case study report mainly focuses on progress made with respect to the specific energy and electricity matrix targets that Brazil proposed in its INDC. Brazil aims to achieve 45% of renewable energy in the energy mix by 2030, 18% of sustainable biofuels by 2030, and 10% of efficiency gains in the electricity sector by 2030. All Ten-Year Energy Plans prepared between 2016 and 2020 incorporate these energy milestones in their analysis. However, according to our own research, the overall GHG target has so far not been inscribed in a Brazilian law or policy. For this reason, the country gets a yellow score in terms of translation of the NDC target into national policy documents.

Brazil has already implemented several policy measures to tackle climate change, including regulatory (such as a mini reform of the electricity sector), public procurement (such as energy

[8] For more information on how we score the various NDC target types, see the Appendix.
[9] Unterstell N. & Martins N., 2022. NDC: Analysis of the 2022 update submitted by the Government of Brazil. Instituto Talanoa, Rio de Janeiro, Brasil. Available at https://www.politicaporinteiro.org/wp-content/uploads/2022/04/Brazils-NDC-2022-analysis_V0.pdf.

contracting auctions), economic (such as green incentives), and procedural (such as national biofuel policy and national policy on climate change) measures. However, the policy support available is not yet comprehensive enough. In addition, the case study report highlights the fact that given the historically high share of renewable (hydroelectric) energy in Brazil's matrix, the energy targets are unambitious and conceal the remaining subsidization of coal-fired power plants, the fact that Brazil is a large fossil fuel exporter, as well as more recent efforts to increase domestic reliance on natural gas. For this reason, the enabling environment for ambitious climate action is rated as yellow.

A strength of the Brazilian institutional framework is the fact that it has established a body – the Interministerial Committee on Climate Change and Green Growth – to coordinate climate policy across sectoral authorities, as well as a forum to consult with civil society – the Brazilian Forum on Climate Change, instituted in 2017. However, the case study highlights as an important weakness in transparency of target setting the "complete absence of government communication with civil society for the updating process of the Brazilian NDC" (p. 28), which mirrors the historical lack of civil society participation in the planning of energy expansion in Brazil. Moreover, the report criticizes both the Brazilian Forum on Climate Change as disfunctional, and the insufficient coordination between energy planning, emission reductions, NDC compliance, and climate justice.

Burkina Faso

Burkina Faso also has a quantitative national GHG target in its NDC, under which the country plans to reduce emissions by about 19.6% unconditionally and an additional 9.82% conditionally by 2030 compared to a business-as-usual future scenario. This GHG target is disaggregated into sectoral targets for the land-use, energy, transport and waste sectors. In addition, the NDC refers to adaptation actions with the potential to lead to additional GHG emission reductions. The country gets a green score for the availability of both national and sectoral targets, but a red score on the type of target. The country's NDC clearly presents the percentage change in emissions to be achieved by 2025, 2030 and 2050 under the unconditional and conditional scenarios, as well as the amount of emissions to be reduced, both for the overall target and for each of the sectors addressed. Together, this information allows the calculation of the absolute level of GHG emissions to be achieved in 2025, 2030 and 2050, so that the country gets a green score on the availability of necessary information in the NDC.

The case study report lists several laws, plans, and policies that are implementing the NDC targets in each of the above sectors, including the National environmental strategy, the NAMA framework, the General regulation of the energy sector, the Law on sustainable development, the National climate adaptation plan, the National renewable energy plan 2015-2030, and the National policy on sustainable development. However, according to the Climate Laws of the World Database,[10] beyond the National Adaptation Plan for Climate Change, the country has not enacted any policies or laws specifically related to climate change since 2015. The 2015 Action Plan on Renewable Energy (PANER), adopted under the framework of the Sustainable Energy for All (SE4All) initiative, does not mention the Paris Agreement or the NDC, and only tangentially refers to climate change. The 2014 Law on Sustainable Development does not mention climate change, the Paris Agreement or the NDC. Therefore, it is highly unlikely that the NDC target has been inscribed in any policy document or law, which gives Burkina Faso a red score on the indicator about the translation of the target.

Based on government reports and statistics, the case study report seeks to assess the status of implementation of these policies and laws, however, the described implementation indicators do not always match the stated policy objectives. The analysis indicates that the country

[10] https://climate-laws.org.

has implemented some economic incentives, such as tax exemptions for solar equipment, but otherwise there seem to be very few policy instruments in place aimed at implementing the NDC mitigation targets. For this reason, the country gets a red score on enabling environment.

Colombia

Colombia has announced a business-as-usual GHG target (emission reductions by 51% by 2030 compared to a business-as-usual scenario), but its NDC also expresses this target in specific emissions levels (by 2030, Colombia's emissions will reach a maximum of 169.44 $MtCO_2eq$), which has a relatively high level of target transparency according to our assessment scheme (yellow score). In addition, the NDC includes a black carbon target and a deforestation reduction target – so it has both national-level and sectoral targets (green score on availability of target). The country also states that its emissions will peak between 2027 and 2030, and aims to achieve carbon neutrality by 2050. The NDC clearly describes the methodology used to estimate the reference emissions and to account for the reductions (green score on information available in NDC).

Colombia's NDC has been translated into several laws, plans, and policies such as the 2018 Climate change law, Colombia's long-term climate strategy E2050, the Colombian low carbon development strategy (ECDBC), the Sectoral action plans for climate change mitigation (SAPs), and the Integrated sectoral climate change management plans (PIGCCS). Accordingly, Colombia has recently made positive progress particularly in translating its long-term carbon neutrality target into law and in establishing long-term mitigation pathways, particularly in the energy and mining and to some extent also in the transport sector (green score on translation of the target).

However, while the case study report describes specific strategic lines being implemented to reach the sectoral mitigation goals, relatively few strong policy instruments have been adopted in Colombia, and most of the measures described are procedural in nature (such as "reinforcing the national energy efficiency program", "identifying options to optimize the electricity dispatch", or "obtaining information about fugitive emissions"), so that they are unlikely to directly lead to effective GHG emission reductions. The few stronger measures identified include a national carbon tax, financial incentives for clean energy, auctions for energy investments, a resolution to regulate fugitive emissions, as well as a fund to support the renovation of the freight vehicle fleet, which has already led to the disintegration of over 20'000 old vehicles. The report also mentions a voluntary agreement with various large businesses to achieve carbon neutrality and to compensate for their GHG emissions, as well as to report yearly on the achieved reductions and compensations. It also describes laws and regulations aimed at offering incentives for changing to electric vehicles, but it is unclear the extent to which these measures are already in place. Nonetheless, the case study report explains that it has not been possible to assess the extent to which progress has been made in implementing most of these actions, and concludes that more measures are needed, including faster implementation and stronger investment in low-carbon technologies. For this reason, the country earns a yellow score on the enabling environment for climate action.

One positive lesson to be highlighted in the Colombian case is the political will to implement a comprehensive, long-term strategy, even though the process towards this is slow. Colombia has a net-zero target and is developing the legal and institutional framework towards meeting it. According to the Climate Action Tracker, it is one of the few countries in the world with an "acceptable" net-zero target design. In terms of negative lessons, it can be highlighted that despite this generally positive environment, political realities may still lead to undesirable developments. For example, the case study report describes that the pandemic recovery package supported not only renewable energy, but also coal energy and new fracking projects.

Georgia

Georgia has both national and sectoral GHG targets (green score on target availability). The economy-wide unconditional target is a 35% reduction by 2030 compared to its domestic total GHG emissions in 1990, while the conditional target subject to external support amounts to a reduction of 50-57% compared to 1990 levels. Because the targets are expressed as a reduction compared to a baseline in the past, the score is green for the type of target. Nonetheless, given that Georgia's GHG emissions suffered a deep fall from the early 1990s onwards due to its economic transition towards a market economy, the proposed targets still represent an increase in emissions compared to 2015 levels.

Regarding availability of information on the target, Georgia earns a yellow score. Its NDC graphically depicts its base-year emissions level to be around 45'000 $GgCO_2eq$. With this information, it is possible to approximately calculate the emissions level to be reached by 2030 under the conditional and the unconditional targets. However, the NDC states that the 1990 emissions level may be recalculated in case of methodological improvements, so that some level of uncertainty with respect to the target level remains. The reference levels for the sectoral targets are not completely clear. In addition, there is some, but not very detailed, information about the assumptions and methodological approaches used for accounting for emissions and removals.

According to the case study report, Georgia's NDC has been translated into laws and regulatory measures in the country, most notably in its National Climate Action Plan, but also in the Law of Georgia on promoting the renewable energy, the Law of Georgia on energy efficiency of buildings, and the Agricultural and rural development strategy (green score on translation of the target).

However, the actual policy measures included in these documents are not detailed in the report. While the National Climate Action Plan is mentioned a few times because it "serves the execution of the NDC's mitigation pledges, [and] should be stressed as an essential mechanism for NDC implementation" (p. 23), no further information about what it proposes is available. The report mentions that the country is also preparing a National Climate and Energy Plan and a Low Emission Development plan to comply with the NDC target.

The Climate Change Laws of the World database, in addition, shows that Georgia adopted "Georgia's 2030 Climate Strategy and Action Plan" in 2021.[11] This policy document (not a law) seems to translate the NDC target into more specific sectoral targets. In addition, the 2016 "Law on Protection of Ambient Air" charges state departments to implement a national climate change program to fulfil the commitments under the Paris Agreement. Also here, no further details on concrete policy measures are available. In summary, there is insufficient information available to assess the enabling environment for ambitious climate action.

A positive lesson from the Georgian case study is the progress being made regarding ownership of and participation in the target setting process. The case study report highlights the fact that the process of translating the NDC commitment to the national level was relatively state-owned, with the Ministry of Environmental Protection and Agriculture driving the process, while the German Development Agency (GIZ) played a more facilitative role than initially anticipated. In addition, a larger number of stakeholders were involved in the NDC development process, which was an improvement in comparison to the process leading to the preparation of the INDC.

[11] It is unclear whether this is the same as the National Climate Action Plan referred to in the case study report.

In terms of negative lessons, the case study suggests that the NDC targets are still only fragmentarily reflected in its strategy documents, and that the NDC should also be included in the sectoral, gender and educational policies. On the other hand, the country's renewable energy goal (35% by 2030) is not reflected in the NDC document, implying a lack of policy integration.

Israel

Israel has baseline and trajectory GHG emission targets – to reduce its emissions by 27% until 2030 and by 85% till 2050 compared to 2015. The country's trajectory target is to emit 58 $MtCO_2eq$ in 2030 and 12 $MtCO_2eq$ in 2050. The case study also presents long-term sectoral targets for electricity generation, transport, industry, and the waste sectors. The country therefore gets a green score for both availability and type of target. In addition, the NDC clearly establishes not only the percentage reductions to be achieved by 2030 and 2050, but also the absolute level of emissions to be achieved under the targets in each sector. It also describes the methodological assumptions used to calculate emissions in relatively good detail. This results in a green score on availability of information in the NDC.

As several of the other countries studied, Israel has already translated the NDC targets into its laws and policies, such as the Governmental Decision 465 – excluding using coal in electricity production till 2026 and increasing RE to 20% in 2025 and 30% in 2030 –, the Regulatory standard for green buildings, the National strategy for waste management and Governmental Decision 171, as well as in the strategies related to transport such as reducing the private car share, and promoting electric taxis. While these are not real "laws" (a Climate Law proposal is currently being debated in the Knesset), governmental decisions seem to carry a similar level of legal force, earning Israel a green score on target translation.

In addition, the case study suggests that there is a well-developed policy support system for NDC implementation (green score), including many strong instruments: The country has implemented public procurement efforts (such as loans to local communities, industries, and businesses) and economic measures (such as subsidies for EV charging stations, support for roof replacement, and support for implementing a climate resilience program), as well as some regulations (standards for green buildings, production quotas for solar) to stabilize GHG emissions.

In terms of positive lessons, the case study describes that more specific sectoral milestones and goals (such as for electricity, transportation, waste, etc.) are being discussed in the country, indicating an ongoing process of implementation. However, the report also highlights that Israel does not have a real framework for climate governance, but rather several separate bodies playing a role in climate action, with insufficient coordination among them. As a result, the plans, policies, actions and commitments are not continuous, not always implemented, and fail to reflect a deep understanding of climate change and its impacts. More importantly, subsequent governments seem to continuously backtrack from previously agreed plans and stop their implementation, in order to start new planning processes.

Switzerland

Switzerland has defined both national and sectoral targets, but the sectoral targets are only described in the UNFCCC biennial report but not in the NDC, and they relate only to the period up to 2020 (yellow score). The country aims to reduce GHG emissions by at least 50% by 2030 compared to 1990 (baseline target, which earns a green score). The case study makes clear that the NDC includes sufficient information to understand the target, including details on the assumptions and methodological approaches to estimate emissions (green score).

Moreover, the NDC has been translated into national laws and policies (green score), including the CO_2 Act, Energy Act, Forest Act, Agricultural Act, and Environmental Protection Act. In

particular, the CO_2 Act has the specific aim of meeting the NDC target, however, its implementation was halted when it was rejected in a referendum in 2021. Since then, Switzerland's government is working on a new set of policy measures to enable the full implementation of its NDC.

There is a well-developed policy support system for NDC implementation, especially strong instruments like regulatory measures (such as CO_2 emissions standards for newly registered vehicles and negotiated reduction commitments for solid waste incineration plants) and economic incentives (such as an emissions trading system for large emitting installations, a CO_2 levy on heating and process fuels, feed-in tariffs for photovoltaic energy, and a market premium for large-scale hydropower). However, these policy measures are still insufficient (yellow score). There are ongoing efforts to adopt additional policy measures for meeting Switzerland's GHG emissions goals.

Comparison and discussion

The summary of each indicator's score for each country is shown in Table 2. Concerning the first two indicators (availability of GHG target and type of target), all countries have at least a national GHG target. These are mostly baseline-type targets (compared to emissions levels in the past), which usually ensure a high degree of transparency. Only Burkina Faso has just a business-as-usual target, which is quite common among low-income countries with more uncertainty about the future development of the economy. Colombia uses a combination of a business-as-usual and a trajectory target. Some countries, such as Burkina Faso, Colombia, Georgia, and Israel, have also adopted sectoral GHG reduction targets. Switzerland's sectoral targets are not inscribed in its NDC, and Brazil noted sectoral targets in its INDC, but not in its two updated NDCs. While our assessment tool assumes that both trajectory targets and baseline targets are the ones that imply the highest transparency (because they allow to clearly calculate the level of emissions that would result from implementing the target, without relying on assumptions regarding future counterfactual developments), the case of Brazil highlights that also past baselines can be manipulated in order to make targets look better than they are.

Regarding the fourth indicator (translation of NDC targets into national laws and policies), most countries were ranked positively (green), meaning that the case studies report that they have translated their NDC targets into national laws (and policies). The two exceptions are Brazil, where the study only states that the NDC milestone is included in its energy plans, but does not report anything related to national laws, and Burkina Faso, where our research indicates that the NDC target has not yet been adopted in legal or policy documents, even though several policies do contribute to mitigation.

For the last indicator on adoption of specific policies and measures to implement the targets and create an enabling environment for mitigation, the landscape across the case studies is more mixed. While both Switzerland and Israel have quite comprehensive policy systems in support of mitigation, at least for the Swiss case it is clear that the existing policy mix is insufficient to meet the NDC goals. Both Brazil and Colombia have made substantial progress in implementing mitigation policies and measures, but both case studies highlight that these efforts are not yet comprehensive enough. In addition, the Brazilian target is criticized as unambitious in that it allows the country to continue producing, exporting and subsidizing fossil fuels. Burkina Faso still has an incipient mix of policies and measures to implement mitigation, and for Georgia the information in the case study – and in external sources consulted by us – is insufficient to comprehensively evaluate this aspect.

Finally, in several countries, particularly Burkina Faso, Colombia and Georgia, it seems that most of the efforts at implementing the NDC targets are so far procedural ones, in the sense that they are aimed at establishing the necessary policy, monitoring and evaluation

frameworks, but not yet at reducing emissions. This means that actual results in terms of emission reductions may still take time to materialize.

Table 2 Score summary of transparency in target setting.

Indicators	Brazil	Burkina Faso	Colombia	Georgia	Israel	Switzerland
Availability of GHG target	1	2	2	2	2	1
Type of GHG target	2	0	1	2	2	2
Availability of necessary information in the NDC	0	2	2	1	2	2
Translation of NDC target into national laws and policies	1	0	2	2	2	2
Enabling environment for ambitious climate action	1	0	1	N/A	2	1

Note: N/A means the information is not available for scoring.

Barriers and challenges

The comparison of the case studies and particularly their details about the process in which the NDCs were prepared and are being implemented point out to specific aspects that negatively affect the transparency of the targets and hinder their translation into national policy documents and their effective implementation:

Politics, continuity and policy coherence: The cases of the referendum rejecting the Swiss CO_2 Act, of new Brazilian governments (particularly by the right-wing Bolsonaro) updating the NDC target in a way that opaquely reduces its level of ambition, of Israel's discontinuous policy across subsequent governments, and – more positively – of the recent Colombian effort to adopt not only a long-term target, but to also ingrain it into law to create a clear long-term path for governments and the economy, highlight the central role of politics and political continuity for ensuring implementation of ambitious climate commitments. A willing government, but also an electorate willing to adopt the necessary (sometimes painful) measures are fundamental for achieving mitigation.

Coordination: Related to the above, but also to the managerial and administrative cultures of countries, ensuring that plans and processes are not just prepared but also implemented is a next critical step. Here, the Georgian case study in particular highlights the ability of local governments of creating sound and comprehensive development plans, without having the time (or resources) to implement them; when a new government is elected after four years, the old plan is shelved and a new one started. In the end, nothing is achieved. The Israeli case study's timeline of government climate policy initiatives that are cancelled again before new planning processes are started is another example. The Israeli case study also emphasizes the fact that, while the Ministry for Environmental Protection is in charge of setting the GHG targets and monitoring the progress towards their implementation, it lacks the authority to regulate the main emission sources. This is the job of the respective sectoral ministries, whose main objective, however, is not to reduce emissions, but to ensure energy access, adequate transportation services, etc. Setting clear long-term paths (as in Colombia), promoting coordination and seeking consensus across ministries and ideally also across political parties to stick to existing plans are crucial conditions for implementation. Better participation of all sectoral authorities

and relevant stakeholders in implementing and discussing climate-related measures – such as through Brazil's Interministerial Committee on Climate Change and Green Growth as well as the Brazilian Forum on Climate Change aimed at involving civil society (which, however, do not seem to be working as well in practice as in theory foreseen) – is necessary to improve coherence.

Slow policy processes, differences in capacity and past experience: Turning targets into strategies, which are then translated into concrete laws including actual implementation measures, which need to be further regulated in subsequent processes that establish capable implementing authorities, sufficient budgets, and monitoring and reporting systems, takes a long time. Countries that already had a functioning climate policy framework under the Kyoto Protocol are better able to quickly build upon that framework and improve it to meet the Paris Agreement's requirements. But countries that only under Paris adopted mitigation targets, and which have so far been reliant on external support for initiating any kind of mitigation action, clearly have lower capacities and therefore tend to be further behind in establishing the necessary institutions and frameworks.

Weak targets to start with: The Brazil case study highlights the fact that weak targets fail to create the incentives for change, and that those weak targets are frequently the result of strong lobbying by powerful economic stakeholders.

b. Transparency of monitoring and evaluation

To evaluate transparency in monitoring and evaluation processes at national and international level, we combined evidence from the case studies with a direct assessment of each country's latest Bilateral (Update) Report under the UNFCCC. In most cases, these reports refer to climate efforts that predate the Paris Agreement and the NDCs, this is, they relate to country's mitigation targets and efforts up to 2020.

Brazil

Brazil's fourth and latest BUR was submitted in 2020. It provides detailed estimates of GHG emissions for 1994, 2002, 2010, 2012, 2015, and 2016 by type of gas and by sector, with a detailed methodology section. However, future emission pathways and projections are missing from the current BUR. Details on the NDC are provided in BUR3. Because the relevant information is incomplete, it gets a yellow score on information about emissions pathways and inventories.

Regarding information about the enabling environment, this is, the policies and measures introduced by the government to meet the country's mitigation target, only the National Policy on Climate Change (PNMC, consisting of a law and its implementing regulation) is discussed in the BUR, including its goals and some details on instruments (such as fiscal/tax measures, and economic/financial measures related to mitigation and adaptation to climate change). No information on other policies or legal documents is provided (yellow score). Regarding implementation and GHG effects of those measures, only the *expected* reduction of GHG emissions to be achieved under the country's voluntary mitigation commitment is reported. No progress or achievement is discussed (red score).

In contrast, the BUR reports in a quite detailed manner on more specific mitigation actions that have been implemented so far, for example, through the country's Nationally Appropriate Mitigation Actions (NAMAs). These include, for example, an action plan for the prevention and control of deforestation in the Legal Amazon, a sustainable steel industry plan, alternative energy sources, increasing hydropower supply, and increasing the use of biofuels (green score). The reported information includes, for example, objectives, estimated CO_2 reduction,

assumptions, steps taken and outcomes. Generally, however, while there is an ex-ante estimation of the emissions reductions to be achieved, the progress indicators and the related outcomes reported are usually more indirect – they relate for example to areas of land protected, or numbers of projects supported, numbers of contracts with charcoal producers, number of people trained, additional hydroelectric and renewable energy capacity, and similar.

While the Brazilian case study does not report about national monitoring mechanisms directly, it provides its own assessment of the availability of information (reported by the government) regarding the implementation, effects, relation to the NDC and civil society participation within 13 selected government initiatives for climate change mitigation. This analysis makes clear that for most of the initiatives, at least some irregular reporting takes place (yellow score on availability of monitoring/evaluation reports at national level).

In addition, for most (8 out of 13) of those initiatives, the study concludes that some information is available about the activities undertaken under the respective initiative, or lessons learned, or next steps, while for 2 out of the 13 initiatives the study finds complete information about all activities, as well as lessons learned and next steps. In terms of effects, the study reports that partial improvements in environmental, energy or social aspects were reported by 7 out of the 13 initiatives studied, while only 1 initiative reports achievements in terms of carbon emissions, renewable energy improvements, as well as other environmental, energy and social improvements (yellow score on content of the reports). Most of the initiatives, in addition, focus the reporting on energy-related aspects, rather than on environmental ones.

The information in the case study is not sufficient to assess the format and length, or the accessibility of the monitoring and evaluation reports. While the country has public consultation sessions regarding the actions and implementation of a few of the climate initiatives discussed in the case study, the existence of formal independent evaluation processes is unclear.

The overall impression is of a lack of a centralized and coordinated system for monitoring, reporting and evaluating the policies' effects on greenhouse gas emissions.

Burkina Faso

The Burkina Faso case study offers some information about reporting under the UNFCCC, listing the inventory reports, national communications, biennial update reports and verification reports that have so far been produced for the country, and assessing their weaknesses and opportunities. As explained above, progress on the NDC has not yet been included in these reports. Among the main weaknesses and threats, the case study finds that fewer reports than required under the UNFCCC framework have been produced, that data availability is challenging, and that external consultants are responsible for producing these reports.

Our own analysis of the latest BUR (submitted in 2021) shows that the GHG emission inventory for 1995 and 2015 by type of gas and by sector are available, with a detailed methodology section. In addition, the country's emissions pathway till 2030 is simulated based on reference and mitigation scenarios with climate actions implemented (green score).

The country's main policies, plans, and strategies on climate change are listed but not discussed in detail in the BUR. They include the water policy and strategies, the national forest policy, the national environmental policy, the national policy for sustainable development, the national sanitation policy and strategy, among others (yellow score). While the emission pathway with climate actions is simulated, no progress or achievement of individual policies and measures is discussed (red score).

The BUR includes a summary of specific mitigation actions – such as renewable energy and energy efficiency promotion, and vehicle import limitation (by age) – in detail, including the information on the amount of aimed GHG emission reductions and co-benefits (green score).

Regarding domestic-level monitoring and evaluation, the case study includes a table assessing the status of implementation of some (11) national-level documents and policies related to the NDC objectives. This table makes clear that for most of these policies and measures (7 out of 11), at least some irregular reporting of progress is available (yellow score). The reporting does offer information on the outcomes of these initiatives, however, its quality seems to be insufficient to assess progress towards the NDC: the information on implementation includes generic indicators about, for example, the number of communities benefitting from REDD+ projects in the forest sector, the number of applications for implementation of the law on the energy sector (without specifying what type of applications they are), the number of villages being transformed into eco-villages, or the number of rural electrification projects completed. It is therefore unclear whether it is possible to translate this information into actual effects on GHG emissions (yellow score).

The case study report does not offer details on the format and length of the monitoring reports, or on their accessibility. More broadly and positively, however, the case study report notes that Burkina Faso's national MRV system for the UNFCCC is under construction, that it already has a functional online MRV platform (to which the link is provided), and that a draft decree on MRV is being signed.[12]

A further positive lesson is the participatory nature of the processes for generating the country's climate transparency reports. Even though external consultants are in charge of preparing the reports, they are assessed and pre-validated by a technical committee composed of governmental and non-governmental experts. In addition, the draft reports are reviewed and validated at a national workshop with government, civil society and donors.

A specific challenge identified in the Burkinabe case seems to be the separate systems for monitoring the progress achieved in the different climate-related policies, which apparently leads to overlaps in reporting. We identified such overlaps in the reporting of the achievements of the energy sector policy (POSEN), of the NAMA for solar photovoltaic panels, and of the 2019–2023 energy sector strategy, which all include the construction of solar power plants.

Colombia

The Colombian case study refers to monitoring of NDC progress both in the latest biennial update report, as well as in national reporting systems.

Our own analysis of the BUR indicates that it includes the GHG emissions inventory for 1990 to 2018 by type of gas and by sector, as well as the corresponding methodology section. The emission pathways till 2030 are simulated based on reference and mitigation scenarios (green score). The BUR discusses in detail the evolution of public policy on climate change mitigation during 2018-2021. This includes, for example, the national policy of sustainable buildings, adoption of the comprehensive sectoral climate change management plan of the mining-energy sector, etc. The case study report explains that the information on the energy sector is quite detailed, listing the adopted or planned measures for each strategic line, as well as the expected emission reductions. For the transport sector, in contrast, the BUR simply mentions the strategic lines, without any detailed information on progress (green score on reporting about enabling environment). In terms of the effects of these policies and measures, however, the BUR does not offer information about which of those measures have been implemented, and how many reductions have been achieved (red score).

In terms of individual actions on mitigation, the BUR reports a summary of mitigation actions and strategic lines (such as renewable energy and energy efficiency promotion, or

[12] This online platform shows the initiatives being implemented in the country and offers indicators about the expected GHG impact of some of them.

diversification of electricity mix) in detail. The reported information includes, for example, objectives, and estimated GHG emission reductions (green score).

At the national level, the first monitoring and evaluation report for the energy sector was published in 2022, but there is no report for the transportation sector yet (yellow score on availability of monitoring report). The existing monitoring report states that implementation of the energy sector strategy, up to 2021, is at 40%, but it does not provide details on how this number is related to the specific strategic lines or individual actions within them. The case study details that those advances relate to the implementation of laws and resolutions to promote emission reductions in the sector, to an update in the emissions measurement methodology, and to the establishment of voluntary agreements with industry, but that they are not yet related to actual emission reductions (yellow score on content).

In addition, the case study lists, for each strategic line adopted in the energy sector, the foreseen GHG impact, the planned actions and the advances reported in the BUR, in other national-level documents, and in the first national MRV report of the sector, highlighting the differences between these different reports.[13] It concludes that for none of the strategic lines or actions, sufficient information is easily available to determine progress.

More generally, the case study notes that the ministries use different channels of communication and different formats to report on advances in their respective plans, so that there is no standardized format or exclusive channel for reporting on GHG reductions (red score on format and length). However, national-level documents are supposed to be available online and are mandated by law to be accessible to the citizens (green score on accessibility). The case study does not provide information about the existence of independent evaluation systems.

Despite the progress that Colombia has made recently on setting up monitoring systems, insufficient coordination between sectoral institutions seems to be hampering its ability to monitor its energy projects and measure their contribution to the NDC. For example, the case study highlights the need for the sectoral climate change plans and their MRV systems to integrate with the recently established National Registry for GHG Emission Reductions and with the national inventory system.

Georgia

The Georgian case study does not provide information about the progress of reporting under the UNFCCC. Rather, it only describes how the reporting process under the Paris Agreement will look like, and comments on the previous reliance on external consultants for the preparation of the national communications and BURs. Even though the Ministry of Environmental Protection and Agriculture had a supervisory role and appointed the director of the report, all of the data collection and processing was carried out externally, which leads to lack of ownership, continuity and local capacity creation.

Beyond these general remarks, the case study describes Georgia's MRV system as weak (view that is confirmed by stakeholders interviewed for the report), and notes that GHG emissions statistics at the national and municipal levels are scarce. However, it notes that the country is working on developing a new MRV roadmap that will help with the national-level legal and institutional setup needed for a reporting scheme. This information is not sufficient to make a systematic assessment of the national-level monitoring systems.

[13] These differences relate to, for example, the estimation of expected GHG reductions, and to the progress achieved in each of the strategic lines.

Our own analysis of the latest BUR shows that the GHG emissions inventories for 1990-2015 by type of gas and by sector are available, but that emission pathways and projections are missing (yellow score).

The state policies towards climate change are briefly summarized in the BUR, such as the sustainable urban transport strategy and the national forest policy implementation (yellow score), but nothing is mentioned regarding the achievement and progress of those policies and measures (red score). In contrast, the BUR reports a summary of mitigation actions (such as hydropower development, improvements in renewable energy and energy efficiency, as well as in mobility and railways) in detail. The reported information includes, for example, objectives, budgets, goals, progress indicators, methods and assumptions, estimated GHG emission reduction, and estimated outcomes (green score)."

Israel

Israel's case study lists the national communications, biennial update reports and inventory reports that the country has managed and failed to submit to the UNFCCC. It also states that the country has so far not submitted a long-term strategy.

Our own analysis of the latest BUR indicates that it reports on the GHG emissions inventory for 1996-2020 by type of gas and by sector, as well as on its methodology. The BUR also discusses the NDC target and the National Action Plan on Climate Change 2022-2026 to demonstrate the reduction pathway, but there is not much detail on the calculations supporting that pathway (green score).

Some policy instruments – such as governmental grants for energy efficiency and approval of the planning and building regulations – are discussed in the BUR, but not in detail (red score). Nothing is mentioned regarding the achievement and progress of those policies and measures (red score).

The BUR reports the summary of mitigation actions (such as phasing down coal-fired electricity generation, improving renewable energy generation and energy efficiency, as well as improved GHG intensity of vehicles) in detail, including the information on the amount of aimed GHG emission reduction (green score).

With respect to national-level MRV governance, the Israeli case study notes that the country has already established a national MRV system under the Ministry of Environmental Protection, which conducts annual follow-up of GHG emissions in cooperation with the other government ministries and professionals, assures the data quality on the basis of UNFCCC guidelines, and prepares and publishes the MRV reports required at international and national level. However, the "annual" inter-ministerial report on implementation of GHG reduction measures has been published 3 times since 2016 (thus, its publication is not annual but irregular – yellow score on availability of reports). The latest of these reports, in 2021, found out that Israel did not achieve its goals for 2020. These reports are available on the Ministry of Environment's website, and published only in Hebrew (yellow on accessibility of reports). In addition, the country has established a voluntary GHG registry in which organizations and companies are invited to report their annual GHG emissions. The registry includes data for the years 2010-2017 on the number of reporting entities (65 in the latest year), their total emissions, as well as their share of national emissions. Further reporting systems include a pollutant release and transfer register; which includes GHGs, a state audit report published in 2021, which concluded that Israeli mitigation actions in the energy, transportation and waste sectors are "between zero to backwardness", and that its renewable energy target is low in comparison to other OECD countries; and the Electricity Authority reports on renewable energy. Overall, the report assesses the main strengths and weaknesses of all of these reporting systems, and finds that most of them (7 out of 10) are either of medium quality (because of irregularity, insufficient

details, or being non-mandatory), weak or non-existent (yellow on content of reports). In terms of independent evaluation, the case study mentions a body called the State Audit Institution, whose mission is to strengthen the transparency of activities, and who produced an audit report on Israeli climate action in 2021 (yellow score).

A negative lesson that can be highlighted in the Israeli case is the lack of reporting on climate action from local actors.

Switzerland

The latest Biennial Report includes GHG emissions inventories for 1990-2020, as well as a simulation of emissions pathways affected by the implemented policies and measures until 2035 (green score).

The BR covers almost all measures in the country's CO_2 Act, but it does not report on all measures of the Energy Act (in particular, there are fewer details for renewable energy) (green score). However, it is not easy to evaluate progress on each climate measure, because this is reported on individual monitoring reports for each of the measures separately, which are primarily available online on the relevant governmental websites. Reporting on an estimate of mitigation impact is available (for both current achievement and future estimation), but not for all measures (yellow score).

The BR does not mention individual climate actions; it only discusses broader policies (red score)

At the national level, around half of the CO_2 Act measures have an annual and detailed monitoring report, while for the Energy Act, there is an annual monitoring report of the overall Act showing the overall trends of the energy sector. Monitoring reports for its individual measures are prepared only irregularly. Focusing on evaluation, almost all CO_2 Act measures have been evaluated at least once in the last ten years, and around half of the CO_2 Act measures have detailed evaluation reports (green scores on availability and on content of reporting).

There is still a need to improve the comparability and consistency of monitoring, reporting and evaluation of measures included in the CO_2 Act. The consistency of reporting on measures in the Energy Act is better (red score on format). All of the reports are available online on the official governmental websites, even though some of them do not link to the subpage on climate measures (green score on accessibility).

The case study does not offer information regarding independent evaluation at national level.

Comparison and discussion

The summary of each indicator's score of each country is shown in Table 3. The analysis of the BURs/BRs suggests that the area that needs more improvement is the one related to the enabling environment. While most countries report on some or all policy measures introduced to address climate change mitigation in some detail (with the exception of Israel, where they are only listed and not described), information on progress in implementation and particularly on the GHG effects of those measures is in most cases inexistent. This is different for individual projects and initiatives aimed at reducing emissions, though. Here, all non-Annex I countries have quite a detailed list and description of the measures, including in most cases performance indicators and outcomes (even though these outcomes are usually not measured in terms of emission reductions). This clarity seems to be derived from the NAMA system existing prior to Paris, where individual mitigation actions were proposed – usually with external support –, and a strong focus was made on how to monitor them. The Swiss case shows that this is different for Annex I countries, where the emphasis was laid on overall target achievement and on policies and measures by the government.

At national level, only for the Colombian and Swiss case studies we have (almost) complete information on monitoring and evaluation, while the other case studies do not report any (Georgia) or sufficient information. While the Swiss case has a rather positive rating overall, due to the well-developed and transparent monitoring systems, improvements in terms of a coherent format of the monitoring reports, as well as on the frequency of monitoring of individual measures (particularly for the Energy Act) are still possible.

Most of the other countries have some (rather irregular) monitoring and evaluation of climate-related measures, but for some of them (particularly Brazil and Burkina Faso), it is unclear whether this reporting is carried out in a specialized climate action report, or in general sectoral reports. The Israeli case study reports on quite a large number of monitoring systems, which however seem to be badly (or not at all) coordinated with each other. The Georgian case study lacks information on monitoring and evaluation. Typically, the information provided in these countries' reporting systems is still insufficient to allow an estimation of the achieved emission reductions. Overall, the analysis suggests that the necessary monitoring and reporting systems are still being implemented in most of the countries, and more work in this area is needed.

Table 3 Score summary of transparency in monitoring and evaluation of each measure.

Indicators	Brazil	Burkina Faso	Colombia	Georgia	Israel	Switzerland
Information on emission pathways and projections, and/or GHG inventory in the BUR/BR	1	2	2	1	1.5	2
Information on enabling environment: policies and measures introduced to meet the NDC target described in the BUR/BR	1	1	2	1	0.5	1.5
Information on achievement or progress in implementation of reported policies and measures in the BUR/BR	0.5	0.5	0.5	0	0	1
Information on individual projects or climate actions in the BUR/BR	2	2	2	2	2	0
Availability of national-level monitoring/evaluation report	1	1	1	N/A	1	1.5
Content of monitoring/evaluation report	1 – 1.5	1	1	N/A	1	1.5
Format and length of monitoring/evaluation report	N/A	N/A	0	N/A	N/A	0.5
Accessibility of monitoring/evaluation report	N/A	N/A	1.5	N/A	1	2
Evidence of independent evaluation.	N/A	1	N/A	N/A	1	N/A

Note: N/A means the information is not available for scoring.

Barriers and challenges

While some of the barriers identified above for the case of transparency in target setting (insufficient coordination across sectoral ministries, as well as slow policy processes) also apply to the monitoring and evaluation dimension, we have also specified two further barriers that are specific to this second dimension:

Lack of ownership of the process: Both the Burkina Faso and the Georgia case studies highlight the reliance on external consultants for the preparation of reporting documents under the UNFCCC as a weakness, which, as the Georgian study comments, leads to lack of ownership, continuity, consistency and local capacity creation. Several countries therefore report that they are in the process of building their own MRV capacities, but this takes time.

Focus of reporting on output rather than outcome indicators: Some of the case studies (particularly the one from Burkina Faso) suggest that national reporting efforts tend to focus on easy-to-measure output indicators (number of projects completed, number of villages or communities profiting from a specific intervention, number of applications for a specific support measure), which are however difficult to translate into actual emission reductions achieved, which is the substantive outcome sought. The same is observed in the reporting on NAMAs in the BURs. The impression is that reporting just becomes a managerial exercise that needs to be done in order to comply with a law (or donor requirement) or to show some (any!) results, rather than a way of measuring progress towards the underlying goals.

c. Local climate action

Brazil

The Brazilian case study lists and assesses 13 federal government initiatives (meaning plans, programs and policies) in the energy sector. The assessment comprises the analysis of online accessible government information in terms of accessibility of information about implementation, actual effects on NDC goals, degree of civil society participation in the creation of the policies, and whether the policies mention the NDC in any way. Because the analysis focuses on federal-level policies, there is no information on whether and how the NDC has been implemented in concrete local-level projects.

In terms of availability of governmental support for local climate actions, some of the initiatives analyzed directly provide such support, including for example the energy contracting auctions (which however, cover both renewable and non-renewable electricity contracts), the Green Debentures that provide incentives to finance infrastructure projects with environmental and social benefits, including renewable energy projects, as well as the “Mais Luz para a Amazonia” program, which aims to supply electricity to communities in remote regions in the Amazon (green score).

In terms of contribution of these actions to the country’s emission target, most (12 out of 13) of the initiatives have only partial or no information on any of their environmental or social effects. The case study report seems to have some inconsistencies here, as it first reports that only the Procel initiative indicates “improvements in terms of carbon emissions”, but then it states that the initiatives RenovaBio and Sirene “were the only ones where it was possible to identify effects in terms of reducing emissions” (p. 38) (yellow score on contribution to emissions target). It is also worth mentioning that only 5 out of 13 initiatives explicitly mention the NDC. However, according to the case study report, such mention is not related to more ambitious or more differentiated efforts in most of the cases.

Regarding social justice aspects, the case study highlights that these aspects are “notably neglected” in government documents assessing the initiatives, and that only the Procel

initiative reports on social improvements (red score on co-benefits). In addition, the case study highlights that 12 of the 13 initiatives have no mandatory processes of civil society participation in construction and implementation, and that "the vast majority of measures" do not even foresee such participation. Only one initiative has a legal obligation for social involvement (yellow score on community participation), but there is no evidence that such social involvement has taken place, even less that it is taking place in a comprehensive or continuous manner (red score on continuity and comprehensiveness of participation). In contrast, the case study shows that large companies, business associations and lobby groups have frequently been involved in the design of the initiatives, while it criticizes the insufficient dialogue with indigenous and traditional communities regarding energy expansion projects.

Burkina Faso

The case study report lists a large number of energy-related projects that have been implemented in Burkina Faso to provide solar power, biogas energy, and energy efficient lighting. It focuses on six of these projects to assess in more detail their costs, mitigation potential, accessibility, governance and social aspects.

The analysis makes clear that the Burkinabe government offers incentives to promote the use of, for example, off-grid solar (i.e., Value Added Tax (VAT) exemption for solar equipment and materials, including solar batteries, portable solar lamps, and solar stoves), has an environmental intervention fund that has already supported 300 microprojects for adaptation and mitigation, and offers investment subsidies for the installation of household biodigesters (green score on availability of support). Despite this support, however, the case study points out that the cost of the minimum solar kits for household electrification (which are substantially lower than those of biodigesters) is still above the capacity of vulnerable households.

So far, there are no systematic assessments of the contribution of local climate actions to the country's emissions reduction goal. Only the case study team's own estimation of emission reductions achieved by the six individual projects assessed is reported (approximately 341,345 tCO_2eq, which represents 0.37% of the overall expected GHG reductions in the NDC by 2025 and 10.7% of the expected GHG reductions from the energy sector) (yellow score on contribution to GHG target).

All of the six local actions analyzed have participatory design and implementation processes. They all involve the local authorities and communities in the establishment of the projects, establish a local site monitoring committee and a committee to follow up on the implementation of commitments. One of the projects, in addition, involves the beneficiaries during its operation. It seems, therefore, that local community participation is at least voluntary and encouraged – if not mandatory (green score), and that this engagement is continuous and comprehensive in that it involves not only authorities or interest groups, but also the community (green score).

Regarding co-benefits, the case study only focuses on the benefits of these local climate actions in terms of energy access for vulnerable groups and of local employment (yellow score).

One additional aspect that can be highlighted in this case study is the lack of awareness at the local level (among communities and local authorities) about the NDC. Accordingly, Burkina Faso does not yet have climate and energy plans or strategies at the local level, even though local governments are responsible for developing and implementing local energy production, distribution and efficiency plans. To improve this situation, some communes and regions are being supported to add climate change considerations to their local development plans.

Colombia

While Colombia has established auction systems to improve the share of renewable energy in its matrix, these schemes offer support for large-scale investments. In contrast, the case study

highlights that there is a lack of technical and economic support available for small-scale community energy initiatives (red score on support).

Moreover, among the central challenges to large-scale renewable energy investments, the case study describes the livelihood conditions of the local populations, which constitute a barrier to the acceptability of these projects, in particular when they require relocation of local communities and the occupation of ancestrally sacred lands. Better consultation and collaboration with local authorities and communities is therefore recommended.

The Colombian case study identified 114 alternative energy projects, and selected three of these to assess the extent to which social justice considerations and GHG contributions were being considered in their implementation. In terms of effects on GHG emissions, the expected effects are reported in the three cases. For example, the Solar Park Petalo de Cordoba has estimated that it will avoid the emissions of more than 6,000 tCO_2 per year (yellow score). In terms of community participation, some of the projects had a prior consultation session with the local communities before the project started. However, the case study makes clear that the legal requirement for such a consultation depends on the size of the project, and that the consultations do not necessarily lead to a transparent sharing of information regarding the project's finances and benefits with the communities (yellow score on participation). In addition, only two of the three projects have continuous channels of interaction with the communities; the third one only reacts to any concerns and problems that may arise (yellow score on continuity and comprehensiveness of participation).

While some (but not all) of the projects seem to be successful in the sense that they have ensured community support and created some side benefits for the community, in most of the cases these side-benefits are mainly related to job creation (particularly during the construction phase), as well as some investments in education and/or health infrastructure. The projects do not necessarily contribute to local energy access – sometimes, because they are allowed to generate electricity, but not to distribute it (yellow score on co-benefits).

Georgia

The Georgian case study analyzed two local mitigation actions – the Lopota Hydropower Plant and the energy-efficient Kindergartens in Telavi municipality. In both cases, the expected CO_2 emissions that will be avoided annually are reported (yellow on contribution to GHG target). In terms of community participation, the hydropower project had an information campaign before the project started. However, the case study report highlights the severe lack of interaction between the central government and local communities, as well as with local governments, when it engages in such infrastructure projects, which leads to project cancellations, demonstrations and confrontations. For the specific case of Lopota, the case study describes the spread of rumors regarding exaggerated negative local effects, which led to distrust among the local population from the beginning. Nonetheless, discussions with the community led to a project revision to better meet the local needs. In contrast, in the case of the energy efficient Kindergartens, the role of local municipality is evident since they were actively involved in the project, which was funded by the EU. In sum, the existence of local participation is scored as yellow. However, the continuity and comprehensiveness of consultation is rated as red, because the case study highlights that civic participation is challenging due to the lack of interaction with communities and relevant stakeholders.

In terms of co-benefits, the interaction with the community within the Lopota project led to the development of a social program including for example improvements in drinking and irrigation water systems, as well as in some local infrastructures. The report states that most of these requests were agreed to by the company. Otherwise, most other co-benefits are related to local employment in construction. In the Kindergartens case, the co-benefits are related to the

creation of a sustainable energy supply chain, the reduction of energy costs, as well as to air quality improvements (yellow score).

Israel

The Israeli case study investigated three local climate initiatives that involved the marginalized Arab population. The case study offers evidence that the government offers support for local actions, such as in the first local case study that used low-interest loans from the Israeli lottery for rooftop PV installations on municipal buildings (green score). However, in the last case study about the solar communities, it is stated that no support from any organizations was provided. Rather, because the project took place in a Palestinian unrecognized village, it was initiated and financed by the local population itself.

Only the expectation of GHG emission reduction is mentioned in the case study, but not the actual GHG effects (yellow score).

Nothing is mentioned about the participation of the local community in the first two projects (however, local municipalities are actively involved). In the last case study, the local community in the villages did itself initiate the solar community project without support from any organizations, which suggests that local communities do take part in climate actions/activities (yellow score). It is unclear whether the projects initiated by the municipalities have continuous and comprehensive consultation processes with the local population.

Job creation, income, and increasing awareness of sustainability are mentioned as examples of co-benefits of local climate actions in the communities (yellow score).

Switzerland

The Swiss case study included the analysis of two local climate actions, a large-scale hydropower project and a small one. Governmental support for local actions is available, for example in the form of the feed-in remuneration at costs introduced in 2008, which was beneficial also for the small hydropower plant in Winterthur (green score).

In terms of the projects' contribution to GHG targets, the case study report only discusses the emissions during the planning and construction processes, so there is insufficient information to assess this aspect.

Thanks to the stable legal framework in Switzerland, individuals are allowed to express their opinions and voice their concerns regarding the local climate actions in their community. There are mandatory public commenting processes in place (green score), as well as annual information events for the population to ask questions and raise concerns (green score on continuous consultation).

Regarding co-benefits, some aspects are discussed in each case study, such as financial and social aspects. However, these are rated as weak co-benefits and some of them do not positively affect the communities (yellow score).

Comparison and discussion

The results of our analysis of local climate actions across the six case studies suggest quite large room for improvement. The aspect that received the best score throughout is governmental support for local climate actions, which seems to be available in most of the countries, except for Colombia where such finance is mostly available for large rather than for community initiatives, and for Georgia where such information was not available. However, across all countries, more work clearly needs to be done to link back local climate actions to the overall climate strategy and emissions targets. While in several of the cases there is an estimation of the GHG emission reductions expected to be generated by the projects, evidence of monitoring

or calculation of actual reductions was not available for any of them. This mirrors the information that is frequently reported in the BURs.

In terms of participation of the local communities in decision-making, as well as meaningful involvement of all relevant groups over time, only the Burkinabe and Swiss cases received the best score. While most countries seem to have some form of consultation in place for some of the projects, such consultation is often limited in terms of its reach or the depth of its engagement. As a result, conflicts and misunderstandings with the local communities are likely, and the co-benefits for them are in most cases limited to short-term employment. Paradoxically, some of the (large) energy projects analyzed are not even able to improve the energy access situation of local communities, since they provide electricity directly to the national grid.

A critical disconnect between the goals of climate change mitigation and local climate justice seems to be related to the scale of the projects. To achieve sufficient mitigation, large-scale clean energy projects, typically connected to the grid and driven either directly by the government or by external investors seem to be preferred in most cases. But these are the types of projects that engage the least with local populations and tend to provide the least co-benefits for the communities (however, the Burkinabe case seems to offer an alternative model with stronger emphasis on development and local engagement). At the other extreme, we see locally-driven, small-scale decentralized energy or energy efficiency projects, which in themselves make only small contributions to national climate targets (or do not even count their contribution), but are organically driven by the communities and their needs.

Arguably, both types of actions – large-scale mitigation, but also community-led projects that also help people get engaged in a tangible way with climate action – are needed. However, not all countries offer sufficient support for community-led action. And regarding the large projects, there is clearly a need for them to improve engagement with the local and particularly the vulnerable population population and to consider more seriously the co-benefits, also in terms of energy access, energy security and broader development needs that can be provided locally.

Table 4 Score summary of local action evaluation.

Indicators	Brazil	Burkina Faso	Colombia	Georgia	Israel	Switzerland
Availability of governmental support for local climate actions	2	2	0	N/A	1.5-2	2
Contribution of local climate actions to the country's emissions target	1	1	1	1	1	N/A
Existence of local community participation or consultation processes in decision-making of climate actions	1	1.5	1	1	1	2
Continuity and comprehensiveness of consultation process for local climate actions	0.5	2	1	0.5	N/A	2
Co-benefits of local climate actions	0	1	1	1	1	1

Note: N/A means the information is not available for scoring.

6 DISCUSSION OF CASE STUDIES' COMPLETENESS AND COMPARABILITY

Brazilian case study

The Brazilian case study focuses on federal-level policy initiatives, but does not have information on local-level climate action, nor a detailed description of the NDC itself. While, for example, it does not clearly describe the NDC target in numerical terms, it does highlight the fact that its level of ambition has been lowered in the updated NDC, and that it is not sufficiently ambitious. In addition, in the report it is unclear whether the country's targets for biofuels, renewables and energy efficiency are proposed in the NDC or only in national policy documents. In order to complement the information available in the case study report, particularly on transparency about target setting, it was therefore necessary to refer to the NDC itself and to external sources (such as the Climate Action Tracker).

The Brazilian case study does not include detailed information about the progress of reporting under the UNFCCC (e.g., the biennial reports), even though it mentions that Brazil has already prepared four BURs, the last one of which was submitted in 2020. Rather, it states that it is premature to assess monitoring and evaluation of the NDC because the first BTRs under the Paris Agreement are to be submitted by 2024. There is no real analysis of the transparency architecture within the country; instead, the report carries out an analysis of the information found on implementation and effects for individual initiatives.

Burkina Faso case study

Some more clarity would have been desirable in the Burkinabe case study. For example, the report does not clearly explain that the conditional 9.82% reduction target is meant to be in addition to the unconditional one, leading to a total reduction of 29.42% compared to BAU emissions; similarly, while the case study report mentions the existence of sectoral targets and of a mitigation contribution from adaptation, these are not clearly described; a large set of policies and measures are assessed in terms of their implementation, but the information about when these policies and measures were adopted is difficult to find – which makes it difficult to put their respective achievements into perspective.

Methodologically, the case study team not only relies on desk research, but incorporates the results of interviews and makes an own effort to estimate the emission reduction effects and costs of the analyzed local actions. However, some of the resulting information is difficult to find and to evaluate. For example, it is unclear how many interviews were carried out and specifically with whom. This makes it difficult to put into perspective statements such as "Among the people interviewed at the local level, 71.43% stated that they were not aware of the Determined Contribution" (p. 38). Similarly, the information about the local action's social aspects (such as level and type of community participation, co-benefits, etc.) could only be found in an appendix and was not discussed at all in the main part of the report.

Colombian case study

Here again, some more clarity and a clearer structure would have been desirable. For example, while the case study report mentions these two GHG targets, as well as goals related to natural protected areas and to afforestation, it fails to acknowledge that Colombia's NDC also expresses its GHG target in specific emissions levels.

Georgian case study

The methodology chosen by the case study team does not seem to be very effective in meeting the study's goals. The use of interviews and surveys seems appropriate to assess stakeholder expectations and/or preferences regarding NDC implementation, but less appropriate to

assess the implementation itself. For example, while the report lists which policy documents were mentioned by stakeholders as important for reflecting the country's climate-related commitments, it is unclear whether all of these policy documents exist or whether some of them are documents that should be prepared.

While the team did also carry out a document analysis of the most important policy documents, this analysis relied on qualitative coding (and counting) of sections of text that do refer to some of the objectives stated in the NDC, but did not offer a clear overview of the actual policy measures and actions being implemented to meet those objectives. Furthermore, the case study only reports on the results of this analysis for two policy documents, the Agriculture and Rural Development Strategy and the Law on Promoting Renewable Energy.

Recommendations for future case studies

In general, greater coherence in the methodology of the case studies, types of actions assessed, and criteria for the assessment would be desirable to allow a better comparison. Agreement on the broad TORs does not seem to be sufficient to ensure comparability. If several case studies are taking place at the same time, maybe an option would be to organize a kick-off workshop with all the teams in which specific indicators for each of the dimensions to be assessed are developed, while also explicitly telling the teams that they should feel free to investigate and write about further particularities about their country case. In this way, it can be ensured that a consistent assessment is made.

Several of the case studies were not able to assess the extent to which the NDCs or related actions have been included in reporting documents under the UNFCCC, simply because reporting under the Paris Agreement has not yet started for those countries. Ex ante agreement on what to do instead in those cases would have been helpful.

A general weakness of several studies (in particular the ones from Burkina Faso and Georgia), is that they are unclear about whether the "translation" of NDCs into national laws or policies means adopting (and establishing measures to implement) the actual NDC targets in those policy documents, or simply means that those policy documents have some relevance for emission reductions in the respective sectors. This suggests that clear guidelines on the meaning of "translating" NDCs into national policies should be established for future case studies.

7 CONCLUSIONS: ENABLING CONDITIONS FOR TRANSPARENCY

The analysis of the case studies along the three dimensions – target setting, monitoring and evaluation, and local action – suggests that while substantial progress has been made regarding transparent target setting, more work needs to be done in most countries in terms of (i) translating those targets into national policies and laws and ultimately into actual action, (ii) building up a coordinated and comprehensive system to monitor and evaluate the achievements of the policies and measures introduced to address climate change mitigation, and (iii) connecting local initiatives to the overarching goals.

Within the Paris Agreement's framework, in which meeting the NDC targets is not mandatory internationally, translating those targets into policies and laws is necessary to **signal commitment at the national level** and to specify how those targets will be met. However, for those countries that only under Paris have adopted comprehensive targets, the move from individual projects and investments – for example, those supported under the Clean Development Mechanism, or those initiated in the form of Nationally Appropriate Mitigation Actions (NAMAs) – towards mainstreaming and coherent policy-making requires new capacities and takes time.

Some of the barriers towards better reporting systems are well-known. A critical one relates to how the **responsibilities** for addressing climate change tend to be **divided** within government. Frequently, it is the Ministry of the Environment that is responsible for climate policy and for MRV, but it is the sectoral ministries – for energy, transport, agriculture and others – that implement and finance the policies and measures to reduce emissions. Even when there has been an effort to establish an overarching body – such as Brazil's Interministerial Committee on Climate Change and Green Growth – or to involve the sectoral ministries in climate policy planning – such as through Colombia's Integrated Sectoral Climate Change Management Plans –, insufficient coordination impairs the establishment of an accessible, centralized and consistent registry of progress in implementation.

Secondly, a strong reliance on external consultants for preparing transparency reports as well as the lack of experience with comprehensive reporting, particularly in those countries that only under the Paris Agreement have adopted a national-level mitigation commitment, illustrate the **need for better technical and institutional capacities** for tracking and reporting progress. Stronger financial and technical support is needed to improve those capacities. Nonetheless, some of the case studies – particularly those in Burkina Faso and Colombia and to some extent also in Georgia – report meaningful efforts to set up more comprehensive MRV processes and clear improvements over time.

Despite this progress, throughout the large majority of the cases we see a need to improve also the **quality of reporting**. The BURs are quite good in terms of presenting GHG emissions inventories, and listing policies and measures. But not all of them are good in projecting future GHG emissions pathways, which requires more information and modeling capacities.

Similarly, while most BURs make an effort to present ex-ante estimates of policies and measures' effect on GHG emissions, the Colombian case study has highlighted how those estimates vary substantially when prepared by different organizations. Most BURs fail so far in reporting the actual GHG effect of policies and measures ex-post. Rather, most reporting on progress to date – both in national and international monitoring systems – seems to focus on output measures but fails to translate them into GHG outcomes. Such translation will be required under the Paris Agreement's Enhanced Transparency Framework. However, particularly for the case of public policies, estimating GHG effects is a challenging exercise because these effects are frequently indirect (for example, a tax or subsidy does not reduce emissions itself, but establishes an incentive for the private sector to implement certain changes in their activities), and because of the potentially overlapping nature of public policies (e.g., when a carbon tax and a subsidy for clean energy technology affect the same activity).

Interestingly, BURs are quite good at describing the individual actions and projects implemented to mitigate climate change. This results from the pre-2020 NAMA process that existed in non-Annex I countries, which was often accompanied by external funding and clear reporting guidelines. However, also in this case, the performance indicators tend to be qualitative and stop short of estimating GHG effects.

On the other hand, the case study of Switzerland suggests that Annex I countries – after their substantial reporting experience under the Kyoto Protocol – already have good domestic MRV capacities, so that their Biennial Reports are quite good in presenting GHG emissions inventories, future emissions pathways, and also policies and measures. The BR also estimates the GHG effect of the policies and measures, though not of all of them. However, the BR does not report on individual projects and actions. This is not required under existing guidelines, as the focus is on the economy-wide trends in emissions.

A central question for the **ETF process** will therefore be whether non-Annex I countries are able to quickly transition from the project-centered reporting that they know from the past

towards an improved reporting at the policy level, and whether Annex I countries are willing to improve reporting on the connections between local actions and the NDC target. In both cases, the important benefits of comprehensive reporting (in terms of traceability of actions, trust-building among partners, and awareness of gaps) need to be balanced against the reporting burdens and the additional capacity needs.

Locally, we see that in many contexts there is a need to improve **awareness** of the NDC target and therefore to improve the connection between local action and NDC targets. This is evidenced by the fact that most local projects analyzed in the case studies do not seem to have clear GHG targets from the outset. There is a need for more **financial support** for community-led projects, as well as for improved **participation and co-benefits** for the local population in the case of large projects. In the particular case of low-income countries, where rather than mitigation projects with development co-benefits we see development projects with mitigation co-benefits, the awareness about the mitigation component is particularly critical.

Finally, the role of **political will and strong mitigation targets** to start with cannot be understated, as they are critical pre-conditions for establishing an enabling environment in the first place.

8 RECOMMENDATIONS FOR ENHANCED TRANSPARENCY

For target setting

While transparency in target setting is already quite high, in some contexts governments still need to improve the clarity of the assumptions behind those targets. In some cases, this may for example imply civil society engaging more strongly with national governments to prevent them from opaquely backtracking from their previously assumed commitments. In others, this requires more capacity building to improve the modeling capabilities of governments.

For target implementation

Governments and administrations need to move from plans to actions. Across the case studies, we have seen evidence of a very strong focus on plans and strategies, but insufficient effort in translating those plans and strategies into actual climate action. This is in some cases the result of entrenched bureaucratic systems and lack of continuity across administrations. In others, it is likely that more external financial and technical support is necessary for implementing the necessary actions, but the analyzed case studies do not provide sufficient information to reach clean conclusions in this respect.

For monitoring, reporting and verification

If we want the Paris Agreement to be successful, this is one of the areas where substantial improvements are needed. The Paris Agreement relies on transparency to assess progress and compels governments to do more. But the case studies have evidenced serious difficulties – even among middle-income countries – in establishing coordinated and coherent MRV systems.

Governments need to establish sectoral and national MRV systems that from the beginning on are geared towards fulfilling the requirements of the ETF, and that are well-coordinated with each other.

In addition, there is a need across the board to develop the capacities to connect local projects to the national mitigation targets and strategies. Not just governmental initiatives need to report, but also private-led (e.g., by firms) and community-led actions need to be incentivized to

report to centralized MRV systems. Wherever civil society is supporting such community-led actions, they should also support efforts to assess and report their climate impacts.

For local action

Particularly in low-income countries, governments need to work on improving local awareness of climate-related targets and mainstreaming of mitigation in development plans and projects need to be improved. While in these contexts development should be put at the center, mitigation should never be forgotten. While central governments should play a leading role in involving local authorities in climate-related planning, civil society can support awareness raising as well.

In middle-income and high-income countries, governments should allocate more support to community-led climate initiatives. Such initiatives may not have been prioritized so far because larger projects can more easily contribute to achieving their climate goals. However, community-led initiatives are critical for motivating and engaging the population, and for improving the co-benefits of climate action.

In addition, there needs to be some monitoring not just on the GHG effects of large-scale projects, but also on their positive and negative effects on local populations. As seen in the case studies, large infrastructure projects have the potential to disrupt local communities, for example by displacing them or affecting traditionally sacred lands. Appropriate channels for prior consultation and continuous exchange with the local communities and for adequate compensation need to be in place. While the focus of climate policy is on GHG monitoring, national MRV systems should include reporting on such effects on the local populations and vulnerable groups, as well as on the actions taken to improve them.

For the ETF, GST and NDC processes under the UNFCCC

The GST process should help to shed light on where – in comparable settings – we have so far only seen process-related improvements (such as institutions and MRV systems being set up) as compared to where we are already seeing actual GHG reductions, and help to elucidate the drivers of actual progress on GHG outcomes, so that the pace of progress can be increased.

In addition, the GST represents an opportunity to shed a more systematic understanding of the contexts in which community-led initiatives are flourishing, and the drivers of such success.

Once the first round of BTRs under the Paris Agreement is produced, the capacity of governments to assess the GHG impacts of their policies and measures should be evaluated in order to assess where more technical support is needed. An important question for future ETF discussions may relate to balancing the benefits of comprehensive reporting against the additional capacity needs to ensure quality of reporting.

Within the NDC process, it is important to periodically assess whether parties are complying with the commitment that each new NDC represents a progression beyond the previous one.

APPENDIX A: LIST OF CASE STUDY REPORTS

Brazil:

Cardoso A., Banegas Williams M., Camerra R.J., 2022. Brazil's energy matrix and the Paris Agreement: Between lack of ambition and the many challenges of NDC implementation. Brasilia: Institute of Socioeconomic Studies (INESC).

Burkina Faso:

Neya, T., 2023. Etude relative à la transparence et les effets des CDN sur le développement des systèmes décentralisés d'énergies renouvelables et leur accessibilité, Rapport final. Fevriér 2023.

Colombia:

Bonilla, N., 2022. Reducciones de gases de efecto invernadero en Colombia: Reporte de los sectores de minas y energía y de transporte, 2020-2022. Bogotá: Asociación Ambiente y Sociedad.

Tejada Guzmán, P.M., 2022. Energías renovables en Colombia: avances para la transición energética. Bogotá: Asociación Ambiente y Sociedad.

Georgia:

Salukvadze, G., Mikadze, E., Gugushvili, T., 2022. "Tracing the link between climate justice action and the NDCs" in Georgia. Tbilisi: Ivane Javakhishvili Tbilisi State University.

Israel:

Arraf, A., Zarii'nee, H., Eghbaria, R., Ben Nahum, Y., Hanson, M., 2023. Tracing the link between climate justice action and the NDCs in Israel. Shefa Mar and Tel Aviv: The Galilee Society and Heschel Sustainability Centre.

Switzerland:

Hazeleger, E., Knecht D., Salzmann S., 2021. Research-report on NDC & transparency. Luzern: Fastenaktion.

APPENDIX B: GLOSSARY OF INDICATORS ABOUT TRANSPARENCY IN TARGET SETTING

Type of GHG target:

- ***Baseline target:*** the target is expressed as a per cent reduction compared to emissions in a baseline year in the past, usually 1990. This type of target is considered to have a high level of transparency, because it makes it possible to ex ante calculate what emissions level will be reached in the target year.
- ***Trajectory target:*** the target is expressed as the absolute level of GHG emissions that will be achieved in 2030 (in $MtCO_2eq$ or a similar unit). This type of target has a high level of transparency, because it directly tells the emissions level that will be reached in the target year.
- ***Business as usual target:*** the target is expressed as a per cent reduction compared to future projected emissions in the target year (usually 2030) that would happen in a business-as-usual scenario without climate policy. This type of target is considered intransparent, because it relies on opaque assumptions regarding the future development of a country's economy.
- ***Intensity target:*** the target is expressed as a per cent reduction in the GHG emissions per unit of GDP. This type of target is considered intransparent, because the resulting level of emissions depends on how the country's economy will develop.

Availability of necessary information to understand the target in the NDC: While this indicator is related to UNFCCC discussions on information needed for clarity, transparency and understanding (CTU) of the NDCs, it is not only limited to that. The CTU guidance, for example, requires Parties to provide information on the reference or base years for the calculation oft he target, as well as on quantifiable information on the reference indicators and their values in the reference years. Complying with the CTU guidance may imply stating that the GHG emissions in the reference year may vary as inventory reports are updated in the future, which may allow parties to avoid complete transparency in the meaning of their targets.

Translation of NDC target into national laws and policies: We assume that "translating" the NDC target means inscribing this target directly in a policy document, or at least referring to the fulfillment of the NDC commitment explicitly. Policies that are implementing mitigation actions but without "aiming" to do that (because their aim is to ensure energy access, rather than ensure GHG emission reductions), are not translating the NDC target.

- ***NDC target referred to in the national laws:*** if the NDC target has been adopted in a law or a decree with the force of law, then we assume that the country is committing itself domestically to meeting it.
- ***NDC target referred to in national policies or strategy documents:*** such documents do not have the force of law, and therefore in this case the NDC target guides national policy, but this does not result in a domestic commitment.
- ***NDC target has not been translated into any national laws or policies:*** if this is the case, it suggests that the country has not started implementing its NDC target domestically.

Enabling environment: This aspect is assessed in a more qualitative manner, by assessing the amount, type and level of implementation of governmental policies and measures aimed at implementing the NDC target, as described by the case study report. We consider the following policy instrument types:

- ***Regulatory (or command and control) measures:*** standards, prohibitions, mandatory targets.
- ***Public procurement / investment:*** for example, planned government invests or tenders for renewable energy or other infrastructure
- ***Economic incentives:*** such as carbon taxes, subsidies, tax rebates, and an emissions trading system
- ***Information measures:*** including awareness raising, policy guidelines, and energy labelling, or similar
- ***Voluntary measures:*** voluntary agreements with industry
- ***Procedural measures:*** such as establishing a climate change committee, improving the MRV system, etc.

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