



Using the Global Stocktake to increase national climate policy ambition and improve implementation

TECHNICAL REPORT

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Report prepared for

The independent Global Stocktake (iGST)

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Executive summary

This report aims to support the independent Global Stocktake (iGST)—the cooperative efforts of a consortium of civil society actors to advance the Global Stocktake (GST), the formal process for periodically assessing collective progress in achieving the long-term goals of the Paris Agreement.

The project's main objectives are to

1. Investigate how greater climate ambition might play out in five countries selected on the basis of their widely varying circumstances and their importance to achievement of Paris Agreement goals.
2. Obtain insights on ongoing climate change actions at the national level in these countries.
3. Assess national climate action in the context of the GST in the United Nations Framework Convention on Climate Change (UNFCCC).
4. Gain insights into the interplay of national-level climate actions (climate ambition) and international climate politics under the UNFCCC as well as related challenges and opportunities.

The report reflects case studies of Ethiopia, Ghana, Norway, Saudi Arabia, and South Africa, each of which is committed to undertaking climate actions to support global climate goals. The studies led to the following findings:

- Government has a central role in designing and implementing ambitious climate change actions. In four of the five countries (the exception being Ethiopia), the private sector has a substantial role in realizing climate ambition.
- Citizens' knowledgeableness about climate change varies among the countries.
- Key barriers to realization of climate ambition include socioeconomic challenges and lack of the following:
 - Policy coherence
 - Technology development
 - Skills transfer (except in Norway)
 - Access to climate finance
 - Access to technologies
 - Capacity development
- Ambition could be increased by:
 - Increasing the capacity of institutions of higher learning on climate change issues
 - Utilizing international partnerships to support opportunities for technology development and transfer and continuous upskilling
 - Increasing regional cooperation
 - Enhancing the role of the private sector
 - Increasing financial support for development of just-transition strategies to shift to low-carbon technologies.
- Civil society could better contribute to domestic actions that enhance national-level climate ambition with:
 - Public-private sector partnerships for building on existing energy access and energy efficiency projects
 - International cooperation in leveraging financial and technical resources
 - Platforms for sharing lessons on the Just Transition, the design and implementation of carbon taxes, and the private sector benefits of realizing climate ambition.

All countries assessed in this report not only are committed to implementing ambitious climate actions, including those in nationally determined contributions (NDCs), but also are willing to do more if the enabling environment is provided. This environment needs to be tailored to the circumstances and needs

of each country. It should reflect each country's climate focus, be sensitive to the role of the private sector and key economic sectors in driving climate ambition, and be responsive to the barriers to and facilitators of climate ambition.

1. Introduction

The Paris Agreement, adopted in December 2015, aims to rapidly phase out GHG emissions to attain net-zero emissions by the second half of the century, while promoting sustainable development and poverty eradication (UNFCCC 2015). The backbone of the Paris Agreement is nationally determined contributions (NDCs) representing efforts by each country to reduce national emissions and adapt to climate change impacts. Initial NDCs have been submitted by 194 country parties to the Paris Agreement; 13 parties had submitted their second NDCs as of December 22, 2021 (UNFCCC 2021).

A key principle of the Paris Agreement is that no country should backslide in its stated NDC targets. That is, each country should ensure that each successive NDC represents an increase in emissions reduction and reflects the party's highest possible ambition. The manner in which countries implement their NDCs and improve them over time will determine whether the long-term temperature goal of the Paris Agreement is achieved. This situation presents decision-makers at national and international levels with urgent and unprecedented challenges.

Climate action, despite accelerating since 2015, falls far short of the unprecedented transformation needed to limit impacts of climate change. In developing countries, the most critical limiters of ambition are access to or availability of finance, political will, and engaged citizens (UNDP and UNFCCC 2019). This report assesses domestic forces that influence climate action at the national level and the ways that they shape international governance of climate change under the UNFCCC, specifically, the Global Stocktake (GST) under the Paris Agreement.

The GST is arguably the most innovative outcome of the Paris Agreement. Its overall task is to “take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals” (UNFCCC 2015: Article 14.1). It considers mitigation and adaptation, along with their means of implementation and support, in the context of equity and the best available science, and it serves as an ambition-raising mechanism for the Paris Agreement. The first GST began at the end of 2021 and will culminate in 2023. Starting in 2023, the GST will occur every five years in three stages: (1) collection of information, (2) technical assessment of submitted information, and (3) consideration of outputs.

The GST will inform NDCs but will not review their adequacy. Nor will it consider whether the temperature goal of the Paris Agreement is adequate or should be changed. The task of the GST is not to redefine the purpose of the agreement, but rather to ascertain whether its implementation is achieving that purpose.

Governments alone will not succeed in achieving this purpose—hence the importance of understanding the opportunities for civil society to enhance domestic actions and international cooperation on climate actions.

This report describes the approach of the study (Section 2), the relationship between climate ambition and the UNFCCC (Section 3), key barriers to and facilitators of increased ambition (Section 4), and key assessment criteria underlying the analysis of sections 3 and 4 (Section 5). Section 6 presents options, including the independent Global Stocktake (iGST), for civil society to enhance the GST and its outputs. Section 7 links exchanges with the case study countries to international climate change negotiations.

2. Approach

2.1. Study objectives

This project aims to support the iGST, an initiative led by the ClimateWorks Foundation. The iGST seeks to help analysts and advocates use the GST under the Paris Agreement as an opportunity to ratchet up real-world progress in tackling climate change.

This work has four objectives:

Objective 1: Investigate how greater climate ambition might play out in specific locations.

Gather insights on on-going domestic climate actions that support climate ambition in five case study countries reflecting varying views and actions linked to climate ambition.

Objective 2: Obtain insights on on-going climate change actions at the national level.

Gain an understanding of the politics informing countries' engagement with the GST negotiations under the UNFCCC.

Objective 3: Assess the relationship between national climate action and the GST.

Identify options, including the iGST, for civil society to enhance the GST and its outputs through identification of ways to unlock climate ambition at the domestic level and to further understand barriers to achieving existing commitments and options for enhancing those commitments.

Objective 4: Gain insights into the interplay of national-level climate actions (climate ambition) and international climate politics under the UNFCCC as well as related challenges and opportunities.

Illustrate how domestic climate actions interact with possible GST modalities in the context of international climate negotiations.

2.2. Selection of countries for case studies

The UNFCCC negotiations are carried out by regional groups. Some of these groups are defined by geographical proximity/geographical region (e.g., the African Group and the European Union), similar vulnerability to climate change (e.g., AOSIS), similar national economic situation (e.g., LDCs), or similar political interests (e.g., the LMDC). Many developing countries belong to more than one of these groups.

To obtain diverse views on the GST, we chose to study five countries—Ethiopia, Ghana, Norway, Saudi Arabia, and South Africa—selected on the basis of their widely varying circumstances and their importance to achievement of Paris Agreement goals as well as their membership in more than one regional group. Table 1 shows the rationale for the selection of these countries.

Table 1. Case Study Countries and Rationale for Their Selection

Country	Selection rationale
Ethiopia	Ethiopia is influential in the LDC Group and a vocal member of the African Group. Its negotiating team actively participates in key UNFCCC negotiations. In recent years, Ethiopia has increasingly demonstrated high-level engagement in domestic climate change actions.
Ghana	Ghana is one of the most active countries in implementing climate change measures. It has linked implementation of SDGs with a green-growth economy and climate change measures. The country punches above its weight in responding to UNFCCC reporting requirements. It has long been part of regional efforts in the REDD+ mechanism, and it plays a critical role in the African Group.
Norway	Norway is part of the influential UMBRELLA Group and is familiar with the approach taken to the UNFCCC by key negotiators, including Australia, New Zealand, and the United States. In addition to having insights into the thinking of key players in the negotiations, Norway has its own impact on the negotiations.
Saudi Arabia	Saudi Arabia is a member of the Like-Minded Group of Developing Countries (LMDC) Group. The LMDC has become an influential group with members like China and India. Saudi Arabia is also a member of the Arab Group, which has long made important contributions to the UNFCCC. Despite historically being adamantly opposed to mitigation commitments, Saudi Arabia and other Gulf countries have in recent years undertaken large-scale mitigation actions.
South Africa	One of the more influential countries in the African group, South Africa is also a member of the BASIC Group, which includes Brazil, China, and India. South Africa has access to and leverage with other key negotiation influencers, including the EU and the Umbrella Group. South Africa has long supported binding commitments under the Paris Agreement.

2.3. Approach to case study country consultations

Consultations with countries were conducted through e-mail exchanges and were hosted remotely through communication platforms like Microsoft Teams, Skype, and Zoom. Discussions were held with case study countries' UNFCCC negotiators and in-country decision makers or implementers of climate-relevant policy.

The consultations were based on a dozen questions aimed at assessing the relationship between climate ambition and the UNFCCC and at understanding the relationship between climate ambition and the GST.

1. Where is the country's climate ambition focused?
2. What are the institutional arrangements of the country's climate change policy?
3. What is the role of the subnational level of governance in climate action, and how is it linked to climate action at the national level of governance?

4. What is the role of the private sector in supporting climate ambition?
5. What is the level of awareness of climate change issues by the country's citizens?
6. What political philosophy drives the country: fear that climate change commitments will be unrealized or fear that climate ambition is too low? Does political risk translate to failure to deliver on commitments or to low ambition?
7. Which sectors can in the next 5 to 10 years increase climate ambition?
8. What is the scope of climate policies and programs?
9. What are the drivers of and challenges to climate ambition?
10. What are the barriers to delivering on commitments?
11. What are the options for enhancing existing commitments or facilitating increased ambition?
12. What is needed to increase ambition in terms of innovation or capacity building?

Responses to these questions, supplemented by desktop reviews, informed the analysis presented in this report.

3. Assessing the relationship between climate ambition and the UNFCCC

Understanding how the UNFCCC, specifically, the GST, influences domestic climate action begins with understanding how certain domestic factors influence national-level climate action ambition. Those factors are

- **Focus of ambition**—climate targets and timeframes and key climate policies
- **Government coordination**—institutional arrangements that enable planning and implementation of climate change responses
- **Role of the government**—impact of subnational government and its linkages with national government
- **Role of the private sector**—in achieving the planned climate ambition
- **Level of awareness of climate change**—by the country's citizens
- **Political philosophy**—regarding ambition of the climate pledges and targets
- **Political risk**—of pursuing or not pursuing mitigation and adaptation

Ambition is a very common term in public debates, but it is not mentioned in Article 14 or in any of the Paris Agreement's long-term goals. In a decision in 19/CMA.1, ambition is mentioned only in a preambular paragraph (not an operative one), recognizing that the GST "is crucial for enhancing the collective ambition of action and support towards achieving the purpose and long-term goals of the Paris Agreement." Ambition is thus applicable to both action and support (Winkler and Marquard 2021).

3.1. Ethiopia

3.1.1. Focus of ambition

The main vehicle for climate change measures in Ethiopia is a 20-year strategy approved in 2011: the Climate-Resilient Green Economy (CRGE) Strategy (Federal Democratic Republic of Ethiopia 2011). This strategy is focused on mitigation and takes a sectoral approach. The country's ambition is to use the transition to a green economy to become a middle-income country.

Ethiopia uses the NDC to achieve goals contained in the CRGE Strategy. In its updated NDC, submitted in July 2021, Ethiopia committed to a 68.8% emissions reduction target by 2030 from the Business-As-

Usual (BAU) scenario conditional on international support (Federal Democratic Republic of Ethiopia 2021). Even without such support, the country committed to a 14% reduction in BAU emissions. Ethiopia considers it important to be ambitious so that the global community can understand what is needed in terms of support.

Adaptation measures are addressed in the country's National Adaptation Programme of Action (NAPA) (2007) and National Adaptation Plan (NAP) (2019). These documents set targets at a sector level and align them with the country's five-year development cycle. They detail institutional arrangements and pilot efforts.

3.1.2. Government coordination

The overall development direction of Ethiopia is set by the government. Therefore, the government has a central role in designing and implementing climate change measures. Ethiopia has established an inter-ministerial committee that meets every four to six months to receive updates and to agree on climate change measures. To increase ownership of those measures, the committee must endorse any documents submitted by Ethiopia to the UNFCCC.

The political leadership of Ethiopia is fully engaged with climate change issues. However, government ministers change often. Getting new ministers to fully own climate change measures takes time.

A technical committee in each ministry facilitates implementation of the CRGE Strategy with an eye toward coordination and toward measurement, reporting, and verification (MRV).

3.1.3. Role of subnational government

Ethiopia has established a robust MRV framework to track progress on its overall mitigation goal across sectors. This framework provides baseline information on sector-specific goals for each region of the country. Currently, this framework is generating the required data.

3.1.4. Role of the private sector

In Ethiopia, the private sector plays a passive role in climate action. Private sector investments in that action are primarily from the West. To mobilize the domestic private sector and involve it in climate change investments, the government is making efforts to provide an enabling environment that includes microfinance and tax-free purchase of machinery to incentivize mechanization.

3.1.5. Level of awareness of climate change

Raising awareness of climate change is part of Ethiopia's plan to create a green economy. An assessment of the implementation of the CRGE Strategy highlighted ways in which awareness is supported. Current ways include the following:

- Regular education and awareness creation programs are undertaken by the Forum of Environment.
- Print and electronic media—such as EBC FM 97.1 radio and *Akirma* magazine—cover climate-related events.
- Environmental advocacy activities are undertaken. They include capacity building, training, network building, policy discussions, public meetings, research, publications, and incentive and acknowledgment schemes.

- Green economy awareness campaigns targeted 14.9 million people through training, seminars, and electronic and print media channels (The World Bank, Pegasys Group, and Ethio Resource Group 2020).

3.2. Ghana

3.2.1. Focus of ambition

Ghana's NDC, submitted in 2015, reflected 31 programs to be implemented in 7 priority economic sectors between 2020 and 2030 (Republic of Ghana 2015). Of these programs, 20 are mitigation-focused, and 11 are adaptation-focused. The updated NDC, submitted in November 2021, covers 19 policy areas and encompasses 47 programs, 34 focused on mitigation and 13, on adaptation (MESTI 2021).

One implementation challenge is that not all NDC commitments are aligned with flagship policies. These policies attract public investment because they are often linked to political agendas.

3.2.2. Government coordination

Institutions will be a major driving force for successful implementation of climate ambition. A 2017 U.S. Environmental Protection Agency country report on institutional arrangements for the implementation of Ghana's NDCs revealed the following:

1. Integrating the NDCs into the existing public administration structure is ultimately the most practical way to ensure implementation.
2. NDCs are being reflected in development plans.
3. Relevant institutions with legal mandates do not require re-chartering but rather a new focus on NDCs (Environmental Protection Agency 2017).

The Ministry of Environment, Science, Technology, and Innovation (MESTI) coordinates Ghana's climate change activities. The Environmental Agency, a wing of the Ministry of Environment, has an inter-ministerial advisory group, the Climate Change Implementation Committee, that oversees climate change policy. This group is made up of representatives from government ministries. A coordination committee with an economic management team is the subcommittee of the cabinet for financial decisions on climate change.

3.2.3. Role of subnational government

The subnational government can play a larger role in informing NDC planning and implementation. Local government, with support from the Ministry of Local Government and Rural Development, is key to implementation of NDCs at the city, town, community, and landscape levels. The involvement of district assembly decentralized structures and enclave development authorities like the Savannah Accelerated Development Authority (SADA) are also essential to NDC implementation. Unknown are how active Ghana's subnational level of governance is in implementing climate measures and what options exist to scale up local-level climate measures.

3.2.4. Role of the private sector

The private sector is feeling the adverse impacts of climate change, particularly on the primary exports of cocoa and timber. Ways to leverage private sector investments to climate-proof social and physical infrastructure, such as low-emissions electricity generation and renewable energy use to promote energy

access and increase energy efficiency, need to be enhanced. The government is expected to play a strategic role in getting the policy and business environment right for the private sector to come in with its investments, creativity, and technology.

3.2.5. Level of awareness of climate change

Education and training programs have been promoted by an array of international organizations and by the University of Ghana under the Building Capacity for Climate Change Challenge (B4C) program.

The government of Ghana does not directly hold training programs for green skills development. However, the EPA and MESTI, in collaboration with the UNFCCC and the UNDP, have elaborated a 10-year Climate Change Learning Strategy to mainstream climate change and a green economy in national education plans. This strategy is expected to be translated into primary and secondary education curricula.

Although climate change awareness campaigns have been widely promoted and dialogue has been fostered, especially in relation to end-consumers, the country has yet to translate these campaigns into efficiency standards and guidelines for the use of low-carbon technologies (EPA 2017).

3.3. Norway

3.3.1. Focus of ambition

Domestically, Norway's climate ambition has a mitigation focus. This focus is reflected in Norway's updated and enhanced NDC: an emissions reduction of at least 50% and as high as 55% compared with 1990 emissions levels by 2030. Norway's climate target for 2030 is established by law in the Norwegian Climate Change Act (Norway Ministry of Climate and Environment 2021). Norway seeks to realize its enhanced ambition through its long-term low-emission strategy for 2050 and through climate action cooperation with the European Union (Norway Ministry of Climate and Environment 2020).

3.3.2. Government coordination

The Ministry of Climate and Environment has overarching cross-sectoral responsibility for climate action coordination and implementation. The Ministry of Finance is responsible for climate-friendly tax schemes, and other ministries are responsible for climate policies in their respective sectors. According to the Climate Change Act, the government shall each year submit to Parliament updates on progress in achieving the country's climate targets.

3.3.3. Role of subnational government

In Norway, national-level climate ambition is linked to local-level policies. All government agencies and local and regional authorities carry responsibility for climate change adaptation within their field. The Norwegian Environment Agency supports the Ministry of Climate and Environment in climate change adaptation and is the coordinating agency for that work. The county governor follows up on the government's policy at the regional and local levels. The county municipalities also play an important role regarding guidance for and coordination of municipal and regional plans (Norway Ministry of Climate and Environment 2018).

3.3.4. Role of the private sector

The private sector in Norway has a substantial role in implementing climate ambition. Process, waste, transport, finance, agriculture, petroleum, and other industry sectors have developed roadmaps for a low-emission transition. These roadmaps describe how different industries can achieve zero emissions by 2050 while maintaining growth and jobs in Norway. Although not legally binding, the roadmaps signal a strong commitment to a low-emissions trajectory.

3.3.5. Level of awareness of climate change

Sustainable development and climate change issues have long been embedded in the Norwegian education system. The Norwegian Association of Local and Regional Authorities supports municipalities and county authorities in their work and conducts various capacity-building and support activities related to climate change adaptation. The Norwegian Energy Agency (Enova) is responsible for public information in the field of energy efficiency. Norway has established 10 science centers in different regions of the country.

3.4. Saudi Arabia

3.4.1. Focus of ambition

Saudi Arabia directly links its climate ambition with its sustainable development by taking the Circular Carbon Economy (CCE) approach to comprehensive, resilient, sustainable, and climate-friendly energy systems. Its Vision 2030 strategy aims to reduce the country's dependence on oil, to diversify its economy, and to create employment opportunities (Vision 2030 Saudi Arabia 2017). Saudi Arabia's updated NDC (submitted in October 2021) specifies an annual reduction of 278 million tons of CO₂e by 2030 (Kingdom of Saudi Arabia 2021). Implementation of the NDC is not contingent on international financial support.

The move away from an oil-based economy has been slow and has been made politically difficult by the country's all-powerful oil industry. Nevertheless, in early 2019, the government announced an updated Vision 2030 renewable energy generation target of 27.3 GW by 2023 and 57.8 GW by 2030. It has begun to expand renewable electricity generation through its National Renewable Energy Program (Kingdom of Saudi Arabia 2019).

The country's Vision 2030 strategy sets qualitative objectives to increase the use of public transport and to improve the efficiency of railways.

3.4.2. Government coordination

The Ministry of Energy spearheads climate change action and is supported by other agencies in the government. It works through and receives direction from the cabinet.

3.4.3. Role of subnational government

Public and private sector actors, rather than local governments, prepare and manage climate responses.

3.4.4. Role of the private sector

The government of Saudi Arabia is looking to use incentive programs to enhance the contribution of the private sector. The National Transformation Program, which is designed to help implement Vision 2030, seeks private sector investment in non-oil sectors such as tourism, banking and financial services,

construction, manufactured products, and mining. Sectors such as health, education, aviation, and energy may be privatized in full or in part (Wogan, Carey, and Cooke 2019).

3.4.5. Level of awareness of climate change

Understanding of climate change issues is generally good in Saudi Arabia. Climate change awareness workshops have engaged faculty and students on these issues. But local governments could play a bigger role in increasing public awareness of climate change (Saghir 2022). Better use of social media, television, and newspapers could be made to disseminate information about climate change to the Saudi people (Khalid A Al-Mutairi et al. 2019).

3.5. South Africa

3.5.1. Focus of ambition

South Africa's climate change response is guided in part by Section 24 of the Constitution of the Republic of South Africa (1996), National Development Plan 2030 (NDP) (2011), and the National Climate Change Response Policy (NCCRP) (DEA 2011). NDP 2030 defines the country's development pathway and is closely aligned with SDGs. The NCCRP provides a clear framework for the mainstreaming of climate-resilient development; all government sectors must ensure that all policies, strategies, legislation, regulations, and plans are in alignment with the NCCRP (DEA 2011).

The cornerstone of South Africa's climate change response is the country's NDC. The country's first NDC covered adaptation and mitigation as well as finance and investment requirements and was based on equity (RSA 2016). Its updated NDC (submitted in September 2021) included the country's first adaptation communication and contained a section on international support requirements (RSA 2021). According to that NDC, South Africa's GHG emissions will be in the 398–510 Mt CO₂e range in 2025 and in the 350–420Mt CO₂e range in 2030. The upper end of the target range in 2025 has been reduced by 17%, and the upper end of the target range in 2030, by 32%. South Africa plans to submit its second NDC in 2025.

3.5.2. Government coordination

The Department of Forestry, Fisheries and Environment (DFFE) is the focal point for climate change action in South Africa. The Inter-Ministerial Committee on Climate Change (IMCCC) coordinates and aligns climate change action with national policies and legislation. The National Committee on Climate Change (NCCC) advises and consults with the DFFE through the Deputy Director for Climate Change and Air Quality Management on national matters relating to implementation of National Climate Change Response Policy (NCCRP) and UNFCCC commitments. The Presidential Commission on Climate Change (PCC), approved in September 2020 by the Cabinet of South Africa, coordinates and oversees the country's just transition to a low-carbon and climate-resilient future.

3.5.3. Role of subnational government

The NCCRP required each of South Africa's nine provinces to develop a climate change response strategy. The strategy is expected to reflect the province's climate risks and impacts and to integrate NCCRP principles. Provincial climate-change-response policies and strategies are aligned with national policies and framed within the NCCRP and guided by the NDP. Because the NCCRP makes integrated planning a national priority, climate change considerations and responses are a part of all relevant provincial and local planning regimes.

3.5.4. Role of the private sector

South Africa has a diversified private sector with large firms and SMEs engaged in manufacturing, services, and commerce. The National Business Initiative (NBI), a platform for the private sector, has an Environmental Sustainability Program focused on climate change, energy, and water initiatives to create thought leadership, build capacity, and foster collective action. The program helps businesses understand climate change risks and opportunities.

Private finance plays a significant role in supporting South Africa's response to climate change. Companies have made unilateral investments in energy efficiency, cogeneration, and their own renewable energy to reduce energy costs, and they have used national government and industry association programs and incentives to invest in lower-carbon technologies (DEA 2016). But the extent to which private finance has supported the country's transition to the envisaged lower-carbon and climate-resilient economy is unknown (DEA 2016).

3.5.5. Level of awareness of climate change

Government-initiated climate change awareness and action programs exist at national, provincial, and local levels. The private sector and NGOs are also engaged in such programs. Internationally funded climate change awareness and action programs in the country are seeding social learning approaches at the landscape level and in response to critical issues and development priorities.

The media most engaged in promoting climate change awareness are television, newspapers, and magazines. Social media and community radio are currently underdeveloped in terms of climate change education and public awareness.

3.6. Notable differences in the approaches of case study countries

The analysis uncovered the following differences in the approaches of the five case study countries to climate change action:

- South Africa's approach is distinguished by its focus on a just transition.
- Saudi Arabia's approach highlights the link between national climate change responses and sustainable development, with a focus on policies and programs rather than on sectors.
- Ethiopia and Ghana focus on government-led activities.
- Norway places considerable emphasis on the role of the private sector.

4. National climate ambition: Key barriers and facilitators

Each case study country appears capable of effectively participating in the forthcoming GST under the UNFCCC. However, those countries that have communicated quantitative, rather than qualitative, information to the UNFCCC are likely to have a more meaningful engagement with the GST. An example of critical quantitative information is Norway's GHG emissions reduction target.

Consultations and reviews of publicly available information suggest that the action least clear in case study countries' GST input is adaptation. That is, most of that input regards mitigation. Yet adaptation is within the scope of the GST.

To maximize ambition during the GST, it is necessary to understand (1) the sectors that can best support a country's ambition in the next 5 to 10 years, (2) the barriers to realizing that ambition, and (3) the facilitators of increased ambition.

4.1. Ethiopia

4.1.1. Key sectors to support climate ambition

Ethiopia's National Adaptation Plan (NAP) has identified 18 major adaptation options that will be implemented at all levels in the country and across different development sectors. Two key examples include agriculture-led industrialization and development of adaptive industry systems (e.g., through proper positioning of industrial parks).

Agriculture-led industrialization

Ethiopia's agriculture development-led industrialization (ADLI) strategy was initiated in 1994. The NAP included the objective of enhancing food security through improved agricultural productivity in a climate-smart manner. The Growth and Transformation Plan 2 (GTP II) (2016–2020) has mainstreamed the country's Climate-Resilient Green Economy (CRGE) Strategy to modernize agriculture, industrialization, transformation, and foreign trade development.

Industrial parks development

Proper positioning of industrial parks will enhance climate-smart production systems and products. The aim is to "green" the parks' operations, for example, by improving management of electronics waste, liquid waste, and solid waste and by increasing the efficiency of logistics for delivery of raw materials and industrial products.

4.1.2. Barriers to realizing climate ambition

Ethiopia has implemented many climate measures but has no systems to report on the measures' progress, impacts, lessons, and needs.

The country's NDC was created by consultants, a not entirely a bad approach but one that comes with three disadvantages:

1. Inability to adapt international approaches to suit national circumstances—In the context of Ethiopia, there are questions about the country's potential to enhance climate change responses through biodiversity management and sustainable use of natural resources.
2. Lack of ownership—Consultant work does not aim to empower (involve and capacitate) the responsible ministry. Consequently, the outputs are not easily translated to support-related activities that are not directly linked with the project.
3. Inability to include critical but under-represented communities in stakeholder engagements—Consequently, the impact of policies and plans on such communities may not be fully appreciated, and the communities' role in supporting implementation may be undermined (Bass, Wang, Ferede, and Fikreyesus 2013).

4.1.3. Facilitators of increased climate ambition

Ethiopia has 45 “big” universities and more than 100 research centers across various sectors. There is a need to increase the capacity of these institutions to engage with climate change issues through curricula and research.

Customized technologies are needed to translate lessons about what works.

4.2. Ghana

4.2.1. Key sectors to support climate ambition

Ghana has developed 19 policy actions in 10 priority areas to achieve its NDC goals in the next decade. The 19 policy actions have given rise to 13 adaptation and 34 mitigation programs (referred to as “measures”) that have the potential to maximize the synergies between adaptation and economic diversification, resulting in mitigation co-benefits, particularly in the agriculture and health sectors. These 19 policy actions are outlined in Ghana’s updated NDC in Annex 2 in the Adaptation and Mitigation Contribution Table (MESTI 2021).

4.2.2. Barriers to realizing climate ambition

In 2019, the Ministry of Environment, Science, Technology, and Innovation released a multi-sectoral NDC implementation plan that identified barriers to climate action (MESTI 2019). Two of these barriers are lack of access to finance and lack of policy coherence and institutional coordination. Capital and resource constraints are significant barriers to effective climate governance. Inconsistent policies and weak coordination at both the national and subnational levels of government are key barriers to implementing the NDC.

4.2.3. Facilitators of increased climate ambition

Technology deployment, capacity development, and civil society participation are catalysts for implementing the 47 measures to deliver Ghana’s updated NDC. Ghana has committed to promote rapid technology deployment and to support the transfer of suitable emerging technologies. Capacity development will be integrated into the overall implementation of the NDC and will include “continuous staff training, deliberate involvement of academic institutions in the training programme, research and evidence gathering to inform the regular update of nationally determined contribution and participation in the global stocktake” (MESTI 2021). Ghana will strengthen the involvement of civil society organizations in climate action and ensure information flow from the national level to the community level.

4.3. Norway

4.3.1. Key sectors to support climate ambition

The energy and transport sectors are critical for realizing Norway’s climate ambition.

Electricity generation in Norway is almost exclusively renewable. As a result, the emissions intensity of the country’s electricity is very low. The country has levied a carbon tax on offshore drilling since 1991, and it has adopted additional energy and CO₂ taxes since 1999. The level of taxation is highest for oil

extraction-related activities. According to the country's Seventh National Communication under the United Nations Convention Framework on Climate Change, "Norway is developing more renewable power production capacity than it has done for over 25 years. While wind power currently accounts for only a relatively modest share of production capacity but is now dominating investments. Hydropower accounts for 96 % of Norwegian power supply, and the resource base for production depends on the precipitation level in a given year" (Norway Ministry of Climate and Environment 2018).

Decarbonization of Norway's transport system is one of the three main goals of its National Transport Plan (NTP) 2018–2029. Electric vehicle incentives have been established and with legislation, all new passenger cars and light vans are expected to be zero-emissions vehicles by 2025. The tax system is the main instrument for limiting CO₂ emissions from the transport sector, including domestic air traffic (Norway Ministry of Climate and Environment 2018).

4.3.2. Barriers to climate ambition

Policy incoherence is a barrier to Norway's climate ambition. A policy to cut emissions in one area might raise emissions in another area, e.g., the petroleum sector. In addition, climate policies are not integrated into sectoral policies.

Exports are a key driver of emissions, making it difficult for Norway to obtain a balance among climate policies, carbon taxes for the petroleum industry, that industry's commitment to emissions reduction, and investment in renewables.

Transitioning to a low-emissions society while keeping the economy going is also a challenge. Industries play a critical role in implementing climate policies, yet Norway has maintained incentives for the petroleum sector.

4.3.3. Facilitators of increased climate ambition

Norway seeks to realize its climate ambition through (1) climate cooperation with the European Union; (2) programs to support technology innovation, thereby enhancing the contribution of the private sector, and in particular the emissions-intensive product process industry, to climate action; and (3) an extensive system for social protection and institutionalization of dialogue between the government on the one hand and trade unions and labor organizations on the other, thereby stabilizing the economy and work life in periods of transition.

4.4. Saudi Arabia

4.4.1. Key sectors to support climate ambition

Saudi Arabia focuses its climate action not on sectors but rather on policies and programs that span various sectors (e.g., transport, health, energy, buildings, and industry). To move its economy away from heavy reliance on income generated from a single resource and to generate mitigation co-benefits, the country is turning to (1) energy efficiency measures and initiatives, (2) renewable energy investments and programs, (3) carbon capture and utilization/storage, (4) increased natural gas use, and (5) methane recovery and flare minimization (Kingdom of Saudi Arabia 2015).

Saudi Arabia differentiates measures with mitigation co-benefits (e.g., water and wastewater management, urban planning, marine protection, and reduced desertification) from those that are entirely aimed at adaptation and resilience (e.g., integrated coastal zone management planning or ICZM, early warning

systems or EWS, and integrated water management planning). Adaptation measures can also contribute to economic diversification.

4.4.2. Barriers to climate ambition

Effective governance of climate change in Saudi Arabia faces fundamental challenges, among them:

- Lack of quantitative data, consistency, and certainty
- Absence of a national climate action plan
- Nonexistent institutional architecture to address mitigation and adaptation
- Heavy involvement of the Ministry of Energy, Industry, and Mineral Resources and the energy industry in addressing climate-related matters
- Fragmentation of climate-related policies and efforts (climate change and economic development matters are still viewed separately) (Al-Sarihi 2019).

4.4.3. Facilitators of increased climate ambition

Facilitators of climate ambition include:

- Support for climate change research and coordination of data collection, monitoring, and verification
- Development of a climate action plan that sets out targets, strategies, policies, and regulations and assigns clear duties and responsibilities for emissions reductions and climate resilience
- Integration of climate change into sectoral planning and development using existing arrangements and institutional architecture established to deliver economic diversification ambitions
- Development of a strong and independent climate change committee to ensure consistent policy delivery across ministries and sectors and to eliminate policy fragmentation (Al-Sarihi 2019).

To reduce the carbon footprint of development, Saudi Arabia could develop a long-term strategy for renewable energy that leads to net CO₂ emissions in the power sector by 2050, a phaseout of fossil fuel cars by 2035, adoption of mandatory energy efficiency policies to reduce industrial energy use, and economic diversification (Climate Transparency 2020a).

4.5. South Africa

4.5.1. Key sectors to support climate ambition

South Africa's first NDC covered energy, waste, IPPU (industrial processes and product use), and AFOLU (agriculture, forestry, and other land use). The National Climate Change Adaptation Strategy (NCCAS), which serves as the country's National Adaptation Plan (NAP), presents South Africa's vision of climate change adaptation and climate resilience. Priority sectors in the NCCAS include biodiversity and ecosystems, water, health, energy, settlements (coastal, urban, rural), disaster risk reduction, transport infrastructure, mining, fisheries, forestry, and agriculture. The NCCAS identifies interventions to meet adaptation goals. The interventions address both highly vulnerable sectors as well as geographic areas.

4.5.2. Barriers to climate ambition

South Africa's high climate ambition is reflected by its myriad policies that support climate action in all sectors. However, these policies are not yet informed by techno-economic feasibility. Without finance and

capital investment, the actions are beyond a cost South Africa can afford. The country is limited by finance and socio-economic factors in realizing its climate ambition.

4.5.3. Facilitators of increased climate ambition

International finance is needed to support implementation of South Africa's climate responses, as the country's updated NDC makes clear: "The basis for South Africa's updated NDC is the assumption that support will be provided for the implementation of the targets and goals specified (in the NDC), for mitigation, adaptation and loss and damage. South Africa expects developed countries to continue to provide and mobilize climate finance and to support country-driven strategies, consistent with Article 9" (RSA 2021).

South Africa has abundant renewable energy resources, and the economics of renewable energy technologies over the last decade are very favorable to low-carbon development in the country. However, a well-resourced just transition strategy is needed to maximize benefits and minimize adverse impacts on communities, workers, and the economy. This strategy must shift away from coal and invest in energy efficiency and a range of green transport measures, including electric and hybrid vehicles, mode shifting, and the enhanced provision of safe and affordable public transport (RSA 2021).

Implementation the country's NCCAS adaptation interventions will rely heavily on promotion of research and development in the application, localization, transfer, and adoption of technology within key climate-sensitive sectors for the period 2021–2030.

5. Summary of key assessment criteria

Table 2 highlights similarities and differences among the case study countries with respect to assessment criteria. The countries' NDCs tend to be mitigation-focused and vary in the extent to which adaptation sectors and actions are prioritized. Key sectors driving ambition also vary. Ethiopia, Ghana, and South Africa prioritize sectors that support adaptation—for example, the agriculture and forestry and water sectors. In Saudi Arabia, the focus is on policies and programs that span sectors that are linked but at different levels of growth. In Norway, the primary focus is on the transport and energy sectors.

The private sector plays a significant role in supporting the response to climate change in Norway, Saudi Arabia, and South Africa; there are opportunities to enhance the role and participation of the private sector in supporting climate ambition in Ethiopia and Ghana.

For all the case study countries, lack of policy coherence and technology development are barriers to realizing climate ambition. All but Norway face additional barriers, including insufficient skills transfer, lack of access to climate finance and technologies, and lack of capacity development.

Table 2. Summary of key assessment criteria

COUNTRY	Focus of ambition	Role of private sector	Key sectors driving climate ambition	Barriers	Facilitators
Ethiopia	<p>Mitigation-focused, sectoral approach with long-term goal of carbon neutrality</p> <p>Uses NDC to achieve a set goal in 20-year CRGES (2011)</p>	Passive and on a small scale	Agriculture-led industrialization and adaptive industry systems development (e.g., through proper positioning of industrial parks and efficient supply of raw materials)	Requires technology and systems to report progress, impacts, lessons, and needs to GST system	<p>Institutions of higher learning</p> <p>Customized technologies (e.g., technologies linked to MRV systems)</p>
Ghana	Economy-wide mitigation, with 19 policy actions in 10 priority areas for a total of 13 adaptation and 34 mitigation programs	Invested but not leveraged to climate-proof social and physical infrastructure	<p>Energy</p> <p>Forestry</p> <p>Transport</p> <p>Agriculture</p> <p>Water (particularly infrastructure in urban areas)</p>	<p>Finance-access challenges</p> <p>Policy incoherence (including misalignment of NDC commitments and flagship policies)</p> <p>Poor institutional coordination</p>	Technological development and international partnerships to utilize opportunities for that development in priority NDC sectors

COUNTRY	Focus of ambition	Role of private sector	Key sectors driving climate ambition	Barriers	Facilitators
Norway	Economy-wide (including LULUCF) mitigation Climate cooperation with the European Union	Substantial: roadmaps for a low-emission transition developed by various industry sectors	Energy (electricity generation almost exclusively renewable) Transport	Policy incoherence complicated by exports (a key driver of emissions) Difficulty of transitioning to a low-emissions society while keeping the economy going	Regional cooperation with European Union Enhanced role for private sector Reduced emissions in the industry sector Social security measures
Saudi Arabia	Mitigation through the lens of sustainable development Renewable energy Transport	Substantial: climate change activities supported by incentive programs from government	All sectors	Finance-access challenges and small scale of finance available for climate measures Unclear definition of climate finance Industries' resistance to technology change Lack of access to technology	State-of-the-art technologies Long-term renewable energy strategy Fossil fuel car phaseout Economic diversification

COUNTRY	Focus of ambition	Role of private sector	Key sectors driving climate ambition	Barriers	Facilitators
South Africa	Economy-wide (including LULUCF) mitigation through the lens of equity	Significant	Energy IPPU AFOLU Waste Biodiversity Water Health Settlements Transport Mining Fisheries, forestry, and agriculture	Finance-access challenges Socio-economic factors	International finance Well-resourced just transition strategy Increased investment in energy efficiency and green transport measures R&D in application, localization, transfer, and adoption of technology within key climate-sensitive sectors

6. Opportunities for civil society to enhance the GST

To be effective, the GST requires broad participation by non-state actors as well as state actors. The strengths of civil society in enhancing national climate-change response are well documented. They include expertise in advocacy work, international networks, capacity to leverage resources (technical and financial), and convening power.

The focal areas of civil society climate activities in the three African countries included in this study are similar but very different than those in Norway and Saudi Arabia. In all five countries, however, sufficient political will exists to embrace contributions by civil society to realization of national climate ambition. The iGST and other opportunities for civil society to enhance that ambition are described below.

6.1. Ethiopia

Opportunity 1: Operationalize the national MRV with effective data collection, analysis, and reporting.

Opportunity 2: Track linked environmental, social, and economic problems to inform solutions that enable holistic sustainable development pathways.

In the context of the iGST, the Global Green Growth Institute (GGGI) could help the Ethiopian government address barriers to and facilitators of the national MRV system. Since 2010, the GGGI has been working in Ethiopia to support the government's efforts to develop and implement its Climate Resilient Green Economy Strategy, which aims to make Ethiopia a climate-resilient middle-income economy with a zero net increase in carbon emissions by 2030.

6.2. Ghana

Opportunity 1: Enhance public-private sector partnerships by developing programs that build on existing energy access and energy efficiency projects. The iGST can leverage its broad network of international experts and facilitate collaboration with the Ghana Environmental Protection Agency (EPA).

Opportunity 2: Work with the ministries of Energy and Petroleum and Environment, Science, Technology, and Innovation to leverage financial and technical resources through international cooperation to adopt natural gas thermal power generation technologies, which can increase the current baseline efficiency of power plants, thereby increasing economy-wide decarbonization.

Opportunity 3: Enhance the use of regionally downscaled climate models to reduce the impacts of climate change in the cocoa and forestry industries. The iGST can look at how to enhance cost-effective collaborations with regional and international universities and research centers that aim to up-skill the staff at the Ghana EPA, an agency of the Ministry of Environment, Science, Technology, and Innovation.

Opportunity 4: Support the EPA in updating BAU GHG emission projections to improve confidence in emissions accounting, particularly in the mineral and metal industries, for which data gaps are large.

Opportunity 5: Link SDG messaging and activities with scaled-up climate measures.

6.3. Saudi Arabia

Opportunity 1: Promote throughout the Gulf region actions Saudi Arabia is undertaking under its National Renewable Energy Program. For example, highlight the scale of needed financial and technological investments and capture implementation lessons. (Civil society cannot in any obvious way contribute to Saudi Arabia’s main avenue for realizing climate ambition: economic diversification.)

6.4. Norway

Opportunity 1: Share lessons from Norway’s just transition efforts and carbon tax design and implementation. Highlight benefits for the private sector of climate action.

6.5. South Africa

Opportunity 1: Continue to support the Presidential Commission on Climate Change in realizing a just transition that extends beyond a just energy transition. Build on studies on socializing the concept of a just transition by working directly with at-risk communities on real-life demonstration activities.

Opportunity 2: Accelerate power (electricity) sector decarbonization by contributing to the analysis of options available to South Africa. Specifically, share with relevant national bodies lessons from other countries’ power sector decarbonization efforts.

7. Insights on international climate change negotiations

In the context of UNFCCC negotiations, case study countries are similar in two respects: their view of the significance of the GST to the global response to climate change (high) and their desire for clarity on processes to ensure that the GST yields the objectives for which it was established.

Representatives of the three developing countries in the study affirmed their need for support to undertake additional climate action. They also affirmed the need for that support to be tailored to their unique national circumstances. For example, Ethiopia has a relatively underdeveloped private sector. Therefore, support that aims to leverage resources of the domestic private sector may be ineffective.

Representatives of all case study countries expressed willingness to learn other countries’ approaches to implementing high-impact climate programs.

Exchanges with the representatives revealed the following:

- Desire to increase national climate ambition

- Shared challenges in raising climate ambition, including the difficulty of monitoring the effectiveness of NDC implementation against both climate and social indicators
- Varying opportunities to engage the private sector in raising climate ambition
- Sufficient governance readiness to increase national climate ambition.

The fact that even developing countries wish, despite the slow progress of the international negotiations, to increase their climate ambition should galvanize civil society to support calls for targeted and measurable support to those countries from developed countries. In doing so, civil society must understand and respond to the unique characteristics of each developing country. Climate actions that succeed in one country may not succeed in another country.

8. Conclusion

In recognition that national narratives combine climate objectives with other national objectives, climate ambition is increasingly constructed to include not just enhanced quantitative emission pledges but enhanced actions of diverse forms (Dubash 2020).

To obtain insights into ongoing climate actions at a national level, this study sought to better understand five countries' climate ambition—that is, to probe each country's focus of climate ambition, institutional arrangements for climate action, private sector role in that action, and citizens' level of climate awareness.

Because the GST seeks to understand the collective progress and efforts of all parties to the UNFCCC, the study further aimed to illuminate the relationship between climate ambition and the GST by identifying in each case study country the key sectors manifesting national climate ambition, the scope of large-scale climate programs, and barriers to and facilitators of climate ambition.

All the case study countries are committed to ambitious climate actions, some of which are indicated explicitly in NDCs, and they are willing to do more if the right environment is provided. In all these countries, national government plays the central role in enabling implementation of high-impact climate change programs and projects. The private sector has a substantial role in implementation in all but Ethiopia.

The key barriers to realizing climate ambition in all the countries assessed was policy incoherence and lack of technology development. Additional barriers for all but Norway are lack of skills transfer, lack of access to climate finance and to technologies, insufficient capacity development, and socio-economic factors.

Citizens' awareness of climate change varies among the assessed countries.

Informal discussions with representatives of the countries were frank and provided insights into the linkages between UNFCCC negotiations and national-level climate action. Critically, they revealed the following facilitators of increased ambition:

- Increased capacity of institutions of higher learning (not that of individuals) on climate change issues

- International partnerships to support opportunities for technology development and transfer as well as up-skilling
- Increased regional cooperation
- Enhanced private sector role
- Increased financial support for development of just-transition strategies.

Civil society can play a greater role in catalyzing and realizing national climate ambition with

- Support for enhancing public-private sector partnerships that build on existing projects to increase energy access and energy efficiency
- Support for leveraging financial and technical resources through international cooperation
- Platforms for sharing lessons on just transitions, carbon tax design and implementation, and the private sector benefits of realizing climate ambition.

Questions for Future Investigation

The study identified four questions critical to both the GST and national-level climate actions. First, what is the significance of Paris Agreement Article 6 (market mechanisms) in ratcheting up climate ambition, particularly in Ghana, Saudi Arabia, and South Africa? Second, how are equity and climate ambition coupled in climate ambition at the national level? Third, how have countries leveraged COVID-19 recovery packages for climate action? Fourth, how can gender inequalities exacerbated by climate change be reflected in climate ambition?

Appendix 1: Key climate change policies of the five case study countries

Title	Policy focus	Year
Ethiopia		
10-year development plan (2020/21–2029/30)	Adaptation, Mitigation	2020
The Growth and Transformation Plan (GTP) II	Adaptation	2016
National Disaster Risk Management Commission Establishment Council of Ministers Regulation No. 363/2015	Disaster Risk Management	2015
Proclamation no. 810/2013 on energy	Mitigation	2014
Proclamation creating the Ministry of Environment and Forestry	Mitigation	2013
National Policy and Strategy on Disaster Risk Management	Adaptation, Disaster Risk Management	2013
Climate-Resilient Green Economy (CRGE) Strategy	Adaptation, Mitigation	2011
Ethiopian Programme of Adaptation to Climate Change (EPACC)	Adaptation, Disaster Risk Management	2010
Proclamation to provide for the establishment of the Disaster Prevention and Preparedness Fund and its administration	Disaster Risk Management	2000
Environment Policy of Ethiopia	Adaptation	1997
The Electricity Proclamation (No. 86-1997)	Mitigation	1997
Disaster Prevention and Preparedness Commission Establishment Proclamation	Adaptation, Disaster Risk Management	1995
Ethiopia Energy Policy	Mitigation	1994
Ghana		
National Climate Change Policy (NCCP)	Adaptation, Mitigation	2013
National Climate Change Adaptation Strategy	Adaptation, Disaster Risk Management	2012
Ghana Shared Growth and Development Agenda; Agenda II, 2014-2017	Adaptation	2010
The National Energy Policy	Mitigation	2010
Strategic National Energy Plan (SNEP) 2006–2020	Mitigation	2006
Norway		
Norway's climate action plan (Meld. St. 13 2020–2021)	Mitigation	2021
Better growth, lower emissions Strategy	Mitigation	2017
National Transport Plan 2018–2029 (Meld. St. 33 2016–2017)	Mitigation	2017
White Paper on Climate Change Adaptation, Meld St. 33 (2012–2013)	Adaptation	2013
Climate Settlement, Innst. 390 S (2011–2012)	Mitigation	2012

Title	Policy focus	Year
Saudi Arabia		
Saudi Green Initiative	Adaptation, Mitigation	2021
Saudi Arabia's Vision 2030	Mitigation	2016
Royal Decree establishing King Abdullah City for Atomic and Renewable Energy 2010	Mitigation	2010
National Energy Efficiency Programme 2008	Mitigation	2008
South Africa		
National Climate Change Adaptation Strategy	Adaptation	2020
National Energy Efficiency Strategy	Mitigation	2019
Integrated Resource Plan	Mitigation	2019
National Greenhouse Gas Emissions Reporting Regulations	Mitigation	2017
Sectoral Cold Spell Management Plan	Adaptation, Disaster Risk Management	2015
National Climate Change and Health Adaptation Plan 2014–2019	Adaptation	2014
National Development Plan 2030	Adaptation, Disaster Risk Management, Loss and Damage, Mitigation	2012
National Climate Change Response Policy White Paper (NCCRP)	Adaptation, Disaster Risk Management, Mitigation	2011
Drought Management Plan	Adaptation, Disaster Risk Management	2005

Source: Climate Change Laws of the World database, Grantham Research Institute on Climate Change and the Environment and the Sabin Center for Climate Change Law. Available at climate-laws.org.

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