

Summary of Ethiopia's Updated Nationally Determined Contribution (NDC)

Introduction

The Government of Ethiopia has submitted its Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC) on 10th June 2015, which was later converted to Ethiopia's 1st NDC, when Ethiopia ratified the Paris Agreement (PA) on 9th March 2017. As per the decision 1/CP.21 of the Conference of Parties to the UNFCCC, which requests parties to update their NDCs every five years, pursuant to Article 4, paragraph 9, of the Paris Agreement, Ethiopia has undertaken economy-wide analysis and comprehensive stakeholder engagement to update its NDC.

This report is a brief summary of Ethiopia's enhanced NDC. The final technical report which has been built on Ethiopia's first NDC, the Climate Resilient Green Economy (CRGE) strategy, 10-year Development Plan (2020/21-2029/30) as well as Ethiopia's long-term ambition of realizing a carbon-neutral economy, will be communicated soon.

This report will provide a robust and transparent evidence base for the steps and methodology used to determine and prioritize mitigation and adaptation contributions, determine resources required for the implementation of the enhanced NDC as well as for strengthening MRV and M&E systems.

As far as the mitigation contribution is concerned, Ethiopia is committing to reduce economy-wide greenhouse gas emissions (GHG) by 220.59 MtCO₂ eq in 2030 as compared to the 2010 BAU scenario. In determining mitigation contributions, updating the BAU scenario; preparing GHG emission pathways to 2030 (national and sectoral); setting 2025 and 2030 targets; prioritising mitigation interventions and indicator selection, disaggregating conditional and unconditional contributions, and reviewing the role of carbon markets in the enhanced NDC were undertaken.



In determining adaptation contributions, a review of Ethiopia's adaptation policy, institutional landscape, and their respective challenges; setting a 2018 baseline and 2030 targets; prioritisation of around 45 adaptation interventions and the selection of accompanying indicators as well as disaggregating conditional and unconditional contributions were carried out.

The estimated resource required for implementing the mitigation and adaptation interventions is US\$294,724,780,000, of which the Government of Ethiopia is committed to financing approximately 20% (US\$58,944,976,000) as unconditional, whilst 80% (US\$235,779,904,000) will be conditional.

The summary of the detailed technical report, which is to be communicated soon, are presented below:

Mitigation

The preparation of an updated BAU, GHG emission pathways, as well as both conditional and unconditional emission pathways, were undertaken using the Green Economy Model (GEM). The GEM has been used to develop GHG emission projections aligned with the 10-Year Development Plan (2020/21-2029/30) and will be used for Ethiopia's Low Emission Development Strategy 2050.

The results of the analysis show that Ethiopia's revised BAU emissions in 2030 will be 412.1 Mt CO₂ eq. This represents an increment of 12.1 Mt CO₂ eq over the BAU baseline projections in 2030 presented in the 1st NDC. The emissions in the base year 2010 are about 112 Mt CO₂ eq lower in the 1st NDC. These changes are notably due to methodological improvements in inventory/GHG sources, global warming potentials, and country-specific parameters ("Tier2") for livestock and biomass.

The impact of policy interventions proposed under the unconditional scenario will result in absolute emission levels of 360.85 Mt CO₂ eq in 2030, which represents a reduction against the revised BAU of 12.4 % (-51.1 Mt CO₂ eq) in the same year. The combined impact of policy scenarios proposed under the conditional scenario decreases



absolute emission levels to 242.8 Mt CO₂ eq, which represents the reduction of 41.1 % (-169.3 Mt CO₂ eq) in comparison with the revised BAU; this scenario is conditional on international support.

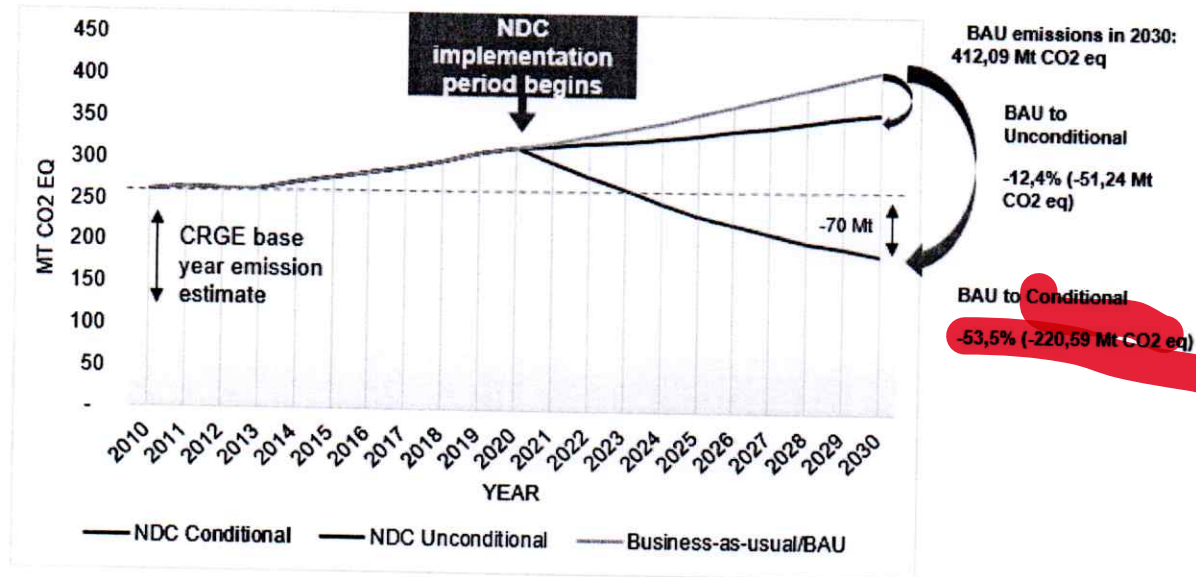


Figure 1: NDC GHG emission pathways

The methodological improvements has led to significantly higher emissions in the base year, and hence in all scenarios. In addition, the quantitative emission reduction target is lower under this updated NDC. The emissions reduction target including both unconditional and conditional interventions is 53.5%. When considering that the unconditional reduction is 12.4%, the reduction to be attributed to the international support is 41.1%. It is important to recognize that this NDC update represents a progression in ambition due to:

- Higher robustness of GHG emissions pathways and targets through improvements in methodology, relating to more accurately capturing historical emissions from greater alignment with national GHG inventories and improved consistency with IPCC-2006 guidelines.
- Higher robustness of GHG emissions pathways, directly taking into account the 10-year Development Plan as well as Ethiopia's Low Emission Development



Strategy 2050. This increases the reliability of forecasts, making them more aligned with Ethiopia's development goals and ambitions.

- For the first time, Ethiopia proposes an absolute emission reduction in the conditional scenario compared to historical base year emissions (2010) (the previous version kept the projected conditional pathway in line with base year emissions).
- Clear demarcation between unconditional and conditional mitigation interventions, with a meaningful domestic contribution.
- Commitment to exploring further ambition increases during the NDC commitment period. This includes potentially enhancing Ethiopia's NDC ambition through reducing emissions currently outside the scope of this NDC (for instance for GHGs not covered by the current NDC (e.g., HFCs in the context of the Kigali Amendment to the Montreal Protocol) where GoE initiatives on sustainable cooling are already underway and further mitigation potential exists). These ambitions may be formally included in subsequent updates to this latest NDC.
- Better adaptability of the model to potential future changes of emission sources or mitigation actions
- An enhanced ability to track progress on mitigation actions with improved MRV /M&E.

The following table presents the emission projections, as well as mitigation potentials by scenario, sector, and conditionality:



Table1: Sectoral emissions in the BAU/NDC Reference scenario and mitigation potentials by sector and conditionality in 2025 and 2030.

Sector	Baseline/NDC Reference emission projection (Mt CO ₂ eq)		Unconditional mitigation potential (Mt CO ₂ eq)		Conditional mitigation potential (Mt CO ₂ eq)	
	2025	2030	2025	2030	2025	2030
Industry	9,16	14,7	-0.15	-0.72	1.68	-0.13
Energy	163.5	183.6	20.37	44.37	67.68	117
Land	-1.02	-0.27	3.34	3.61	9.25	17.11
Livestock	168.78	193	0.87	1.99	13.04	28.41
Managed Soils	7.46	9.67	0.02	0.05	0.06	0.16
Waste	10.28	11.36	0.89	1.94	3.39	6.54
TOTAL	358.2	412.1	25.34	51.24	95.10	169.35

exclLU: 359.18, 412.33, 22.0, 47.63, 85.85, 151.98 (and more see ETH.py)

Emissions from **livestock and energy** are the most important drivers of overall emissions in Ethiopia. Taken together, **both sectors represent 91.4% of total BAU emissions in Ethiopia in 2030**. It is important to note that the energy sector accounts for emissions from biomass energy use, which is the single largest driver of energy-related emissions. The widespread use of biomass for energy services, in particular cooking, is an important source of emissions for which international GHG accounting rules lack clear direction and potentially lead to underrepresenting related emissions (Brack, 2017). Given the importance of biomass energy in Ethiopia and other low-income countries, it will be important to work towards clearer international guidance for how to account for these types of emissions, linking explicitly emissions from biomass use and land-related emissions.



Delimitating conditional and unconditional actions represents a considerable increase in ambition in comparison to Ethiopia's first NDC. Applying abatement cost analyses to 2030 faces the considerable challenge of uncertainties in costs and resource availability. An important strategic consideration is that almost all types of actions are not single investments (e.g., a power plant or landfill) but sector-wide and programmatic, comprising many different individual activities to be implemented with respective domestic and potentially international investments. Therefore, demarcating conditional and unconditional contributions demonstrate a meaningful domestic contribution that represents an increase in ambition to the previously submitted version of the first NDC without excluding actions from international support.

The recommended solution to the uncertainty on costs and domestic resource availability is the definition of strategic guardrails to finance the costs of the mitigation interventions presented in the updated first NDC. Considering Ethiopia's marginal historical responsibility, LDC status, domestic resource availability, and sustainable development priorities, the following general approach is recommended:

- 20% unconditional contributions
- 80% conditional contributions

This demarcation has been assessed for its applicability for each intervention, with exceptions for those interventions with a low probability of implementation without international support because of high costs or marginal mitigation co-benefits including non-monetary barriers. These exemptions result in an overall level of conditionality that is lower than the general benchmark of 20%. The results of applying these strategic guardrails for conditionality to each type of mitigation intervention leads to an overall result of 12.4 % reduction from the BAU due to the unconditional contribution and up to 41.1 % reduction from the BAU when considering also the conditional contribution. Importantly, no intervention type will be categorized as fully unconditional to preserve eligibility for international support from international climate finance and other means of implementation. It is also important to clarify that this domestic contribution does



not need to be achieved prior to drawing on international support but as an overall goal to be achieved by 2030.

Engaging in carbon markets to achieve NDC goals and increase ambition

Ethiopia has expressed a strong desire to continue to participate in carbon market opportunities offered through the Paris Agreement. Ethiopia's first NDC included an indication of interest to participate in PA carbon markets based on environmental integrity and robust accounting. Ethiopia has gained experience in participating in a few carbon market initiatives (such as the Kyoto Protocol's Clean Development Mechanism, voluntary carbon standards as well as emerging bilateral approaches e.g. through cooperation with Japan) and it is looking to develop its domestic market.

Ethiopia, therefore, wishes to express a strong interest in voluntary cooperation in emerging international carbon markets governed by Article 6 of the Paris Agreement. Ethiopia sees carbon markets as instruments to increase mitigation ambition and places high importance on environmental integrity through robust accounting as well as the promotion of sustainable development. Ethiopia, therefore, invites interested Parties to explore engaging in cooperative approaches.

Adaptation

In line with global best practice and widely adopted guidance on NDC enhancement (WRI and UNDP, 2019), twelve discrete steps to the preparation of the adaptation action were undertaken as follows.

- Updating or adding information on adaptation indicators, targets, impacts, and vulnerabilities
- Updating or adding information on national, sub-national, and sectoral long-term planning and goals
- Updating or adding current and near-term planning and action
- Updating or adding monitoring, evaluation, and learning systems and plans



- Updating or adding information on gaps and barriers (policy, institutional arrangements, resource mobilization, training, and capacity building)
- Updating or adding information on progress and achieved results
- Adding actions or measures to strengthen implementation (policy, institutional arrangements, resource mobilization, training, and capacity building and technology)
- Ensuring alignment with the UNFCCC Adaptation Communication
- Providing accurate information to enhance clarity, transparency, and understanding
- Establishing linkages with mitigation through mitigation co-benefits
- Establishing linkages with other frameworks e.g., SDGs, Sendai Framework for Disaster Risk Reduction etc.
- Increasing stakeholder ownership through wide stakeholder consultations

This was followed by prioritisation of adaptation interventions and setting a 2018 baseline and 2030 targets. The result of this combined processes and approaches has identified around 45 adaptation interventions and accompanying indicators with the consideration of 20% unconditional and 80% conditional contributions, which will be presented in the final NDC Update report.

MRV and M&E

The MRV and M&E framework for Ethiopia's updated NDC will work towards full alignment with Articles 4 (Mitigation), 6 (Market Approaches), Article 7 (Adaptation), and 13 (Enhanced Transparency Framework) under the Paris Agreement. Article 13 specifies elements of reporting in Biennial Update Reports (BTRs), although there is a differentiation between industrialized and developing countries, with further flexibility for LDCs. While LDCs like Ethiopia can report "at their discretion"; Ethiopia is working towards meeting its international commitments to demonstrate a high degree of climate ambition and leadership.



Moreover, the NDC, MRV, and M&E Framework is fully integrated with the 10-year Development plan targets and indicators for each sector.

Means of Implementation

Resources required to implement the NDC actions over the next 10 years stand at:

- **Adaptation US\$13,395,880,000**
- **Mitigation US\$281,329,880,000**

Of this total (US\$294,724,780,000) the Government of Ethiopia is committed to finance approximately 20% (US\$58,944,976,000) as unconditional, whilst 80% (US\$235,779,904,000) will be conditional on receiving international supports.

