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ETHIOPIA

NDC HIGHLIGHTS

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NDC Highlights is a bimonthly newsletter of the Environment, Forest and Climate Change Commission, focusing on disseminating information and knowledge on the implementation of Ethiopia's NDC.



"Ethiopians' and the people of the Horn of Africa are already bearing the brunt of climate change"

H.E Professor Fekadu Beyene, Commissioner, EFCCC

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NEWS

Somali Regional State Hosted the Horn of Africa Climate Change Conference

A climate change conference with a theme "Climate change Adaptation and Resilience building -The perspective of Horn of Africa" was hosted by Somali regional state from 22-23 April at jigjiga city. The conference was aimed at figuring out the main climate change impacts on the horn of Africa region and create a common understanding of common challenges to design appropriate solutions and future actions.

In his opening remarks, His Excellency prof. Fekadu Beyene stated that "Ethiopians' and people of the Horn of Africa are already bearing the brunt of climate change as manifested in the form of recurrent drought, flooding, and locust invasions that subsequently affected, among others, livelihoods, energy access, agricultural productivity, and food security." [Source](#)

First Gender and Climate Change Community of Practice Workshop Conducted

A gender and climate change community of practice (CoP) was established in December 2020. The main objective of the CoP is to strengthen capacities that ensure gender responsive and socially inclusive climate action through coordination of knowledge and experiences among key actors and stakeholders. The first meeting of the CoP was conducted on April 26, 2020, to agree on the terms of reference of the CoP, develop a one-year action plan and share available [CDKN training resources on gender and socially inclusive climate compatible development](#).

In his opening remark, Ato Negus Lema, General Director, Climate Change and Biodiversity Division of EFCCC, emphasized on the importance of coordination between different sectors, directorates and development partners to ensure the integration of climate actions, gender equality and social inclusiveness.

The workshop was organized by the CRGE Facility in collaboration with the gender, children, and youth affairs directorates of EFCCC and MoF and with financial and technical support from CDKN and GGGI.

Ethiopia's MRV System and Implementation Status – part I

□ Benti Firdissa Dugassa, Director of National MRV system, EFCCC

The Paris Agreement established a global and harmonized measurement, reporting, and verification (MRV) provision for climate change mitigation. MRV is central to effectively implementing the Nationally Determined Contributions (NDCs) submitted under the Paris Agreement, which describe countries' mitigation and adaptation goals and policies. Measurement is needed to identify emissions trends, determine where to focus greenhouse gas (GHG) reduction efforts, track mitigation-related support, assess whether mitigation actions planned under NDCs or otherwise are proving effective, evaluate the impact of support received, and monitor progress achieved in reducing emissions. Reporting and verification on the other hand, are important for ensuring transparency, good governance, accountability, and credibility of results, and for building confidence that resources are being utilized effectively. There are three types of MRV:

MRV of GHG emissions refers to estimating, reporting, and verifying actual emissions over a defined period of time. This type of MRV can be performed at national level, or at sub-national level by organizations or facilities. For example, national GHG inventories include an account of emissions from a country for a particular period, are reported to UNFCCC, and undergo some form of review.

MRV of mitigation actions involves assessing (ex-ante or ex-post) GHG emissions reductions and/or sustainable development (non-GHG) effects of policies, projects, and actions, as well as monitoring their implementation progress. It also involves assessing progress toward mitigation goals. An example would be a national government estimating the GHG and job growth-related

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impacts of its home insulation subsidy program. While MRV of GHG emissions measures actual emissions, MRV of mitigation actions estimates the change in emissions and other non-GHG variables that result from those actions.

MRV of support focuses on monitoring the provision and receipt of financial flows, technical knowledge, and capacity building, and evaluating the results and impact of support. Developing countries tracking climate-specific finance received through bilateral or multi-lateral channels is an example of this kind of MRV.

Ethiopia's International Commitments

As part of its international obligation, the Government of Ethiopia (GoE) submitted its Initial National Communication (INC) to UNFCCC in 2001 for the years 1990 to 1995. Since the submission of the initial communication, the GoE has developed the Climate Resilient Green Economy (CRGE) Strategy that utilizes a sectoral approach in identifying and prioritizing more than 60 initiatives. The GoE has also developed policies, strategies and action plans, including Ethiopia's Growth and Transformation Plan (GTP), the National Adaptation Program of Action (NAPA), Nationally Appropriate Mitigation Action (NAMA), Ethiopia's Program of Adaptation to Climate Change (EPACC), REDD+ Forest reference Level, Energy Policy, Water Policy, Agricultural and Rural Development Policy Strategies (ARDPS), among others. These provide a legal basis for resource mobilization to address climate change adaptation and mitigation, including mainstreaming and integrating climate change issues into relevant government organs.

The Second National Communications (SNC) was prepared and submitted in 2015 for the years 1994 to 2013. The SNC is a follow-up to the INC and is built on the continued work under the Convention.

Domestic MRV

In order to enhance the transparency of the international reporting process, and as part of the CRGE Strategy, the Environment, Forest and Climate Change Commission (EFCCC) has planned to report its National Communications and Biennial Update Report more frequently, including the updated GHG National Inventory to the UNFCCC. For this, in the past three years EFCCC been working with relevant stakeholders, both government and non-government, to establish a sustainable and robust MRV system in the country.

National Measuring, Reporting and Verification (MRV) framework

Ethiopia, with an ambitious aim of a green economic growth, would need robust, accurate, and reliable data for green growth scenario planning and their evaluation. This would require development of an institutional structure, and a system which will facilitate the data collection, reporting, review, and aggregation from across the country. In 2016, the EFCCC with support from Global Green Growth Institute (GGGI) established an MRV framework to establish a sustainable system.

The framework will help in:

- Developing an institutional structure with clearly identified data custodians at various sources - Woredas, Regions, and the Federal Ministries along with their roles and responsibilities.
- Developing a data management system (i.e., national inventory system) which will ensure data flow from various sources - Woredas, Regions, and the Federal Ministries, to the EFCCC for final consolidation at a predefined interval.
- Providing necessary guidance to all users involved in the GHG emission inventory process on good practices thereby standardizing the GHG emission inventory process and eliminating human bias.

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- Consulting of relevant stakeholders for setting up an agreed procedure for exchange of data and engagement with the EFCCC and other relevant stakeholders such as the Federal Ministries, Central Statistical Agency (CSA) etc.

Institutional Arrangement and Memorandum of Understanding (MoU)

In addition to ensure the functionality of the framework continuous exchange of report (including Activity Data, Emission Factor and GHG inventory report) an MoU was signed between six line-ministries and two agencies. The institutes are Ministry of Agriculture, Ministry of Water, Irrigation and Energy, Ministry of Transport, Ministry of Mines and Petroleum, Ministry of Urban Development and Housing, Ministry of Trade and Industry, Central Statistics Agency and Ethiopia Mapping Agency.

The MoU provided the role, responsibility and activity data (AD) required for GHG inventory from each

institution according to the requirement of the IPCC guideline. In addition, a permanent MRV expert was assigned by each line ministry to establish appropriate points of contact for the sector GHG emission inventory, who will be available to regularly meet, review activities, and raise issues as necessary.

Annual National GHG Inventory

To timely and sustainably submit GHG inventory reports (National Communication (NC) and the Biennial Update Report (BUR) to the UNFCCC and EFCCC, the responsible government body to spearhead and coordinate climate change related issues, signed a MoU with line ministries to annually report their sector GHG emission by source and removal by sink. The annual GHG inventory report compilation will help to ensure the continuous and timely reporting system as well as archive Activity Data (AD), Emission Factor (EF) and action taken annually to ease the compilation and preparation of the NC and BUR.

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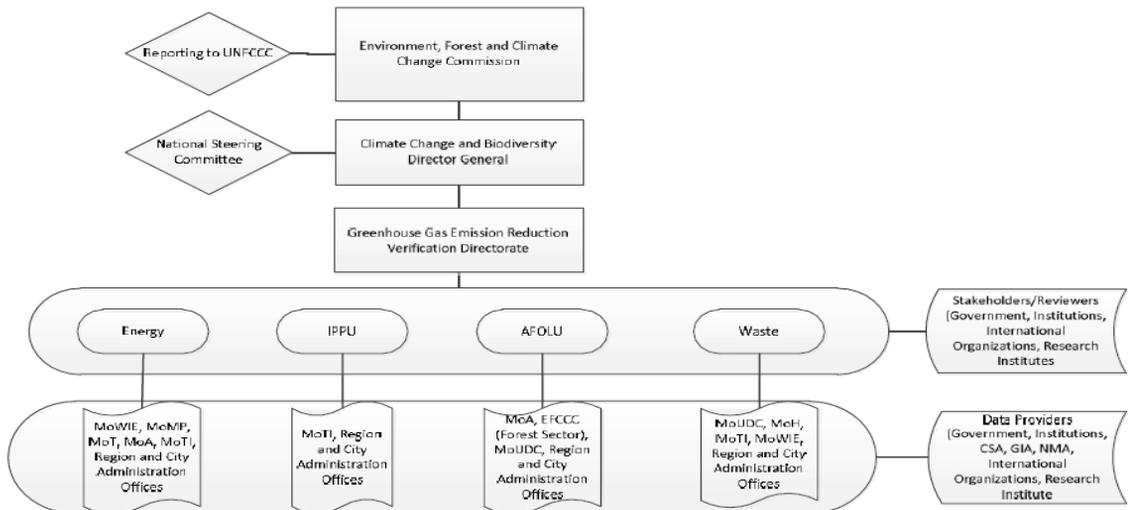


Figure 1: institutional arrangement of national MRV system.

EVENTS

Globally, in view of the spread and severity of the COVID-19 outbreak, several climate change and environmental sustainability related events, continue to be digital. The following are a list of events that will be conducted online. These events are accessible to a broader audience. For further information on each event please click on the 'source' link.

- Virtual Peer Learning Summit - Addressing climate change through integrated responses: Linking adaptation and mitigation, NAP Global Network & LEDS Global Partnership, May 2021 | [Source](#)
- Sustainable Production and Consumption Hotspot Analysis Tool Regional Workshops, GO4SDGs, May 2021 | [Source](#)
- Land Value Capture and Equitable Development, WRI, May 2021 | [Source](#)
- SDG Finance Geneva Summit 2021, UNDP, June 2021 | [Source](#)
- 9th World Conference on Ecological Restoration, The Society for Ecological Restoration, June 2021 | [Source](#)
- Reimagine Series: Nature-Based Solutions, Climate Action, June 2021 | [Source](#)
- Reimagine Series: Oceans & the Blue Economy, Climate Action, June 2021 | [Source](#)
- Reimagine Series: Land Use & Agriculture, Climate Action, June 2021 | [Source](#)
- Climate Innovation Forum 2021, Climate Action, July 2021 | [Source](#)

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Accordingly, based on the MoU, the sector specific GHG emission report provided by the line ministries was used to compile Ethiopia's three-year Greenhouse Gas report. The objective of developing the three GHG inventory report was to identify the principal sources/sinks, to establish quantitative estimates of GHG emissions from different sectors, and to enhance decision making by focusing on emissions/removals within the larger context of the global contribution to the accumulation of GHG emissions. Additionally, it will track the progress made due to the implementation of the different mitigation actions and the status in achieving the GHG reduction target set by the country. Furthermore, the report will help to generate up to date information for decision makers, national and international stakeholders.

The report was prepared for three years (2007 – 2009 Eth. Cal.) and 5 years (2006-2010 Eth. Cal) where the sectors included are energy, industrial process and product use, agriculture (except Forest and Other Land Use (FOLU), and waste covering the gases carbon dioxide (CO₂), methane (CH₄) and nitrous oxide.

Capacity Building

Since the start of the development of the MRV system different international organizations and development partners, including World Resource Institute (WRI), European Union (EU), United Nation Food and Agriculture Organization (FAO), and Colorado State University/United States Forest Service (CSU/USFS) have provided capacity building, which includes training, finance and technology to ensure the sustainability of the system. This has supported the local team to progressively work independently and produce various reports. In the next issue we will present a summary of a GHG emission inventory report for Addis Ababa.



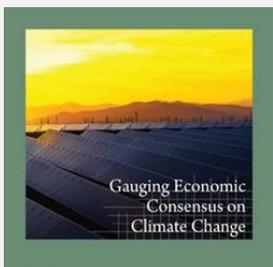
PUBLICATIONS

Cooling Suppliers: Who's winning the Race to Zero?



This document aims to provide a snapshot of the cooling industry's climate commitments. It covers both the readiness to join the Race to Zero campaign and alignment with the recently published Cooling Climate Action Pathway to Net Zero. [Source](#)

Gauging Economic Consensus on Climate Change



By conducting a large-sample global survey on climate economics, the survey identified an overwhelming consensus that the costs of inaction on climate change are higher than the costs of action, and that immediate, aggressive emissions reductions are economically desirable. [Source](#)

The Climate Change Performance Index 2021



The CCPI analyzes and compares climate protection across 57 countries (plus EU as a whole) with the highest emissions. Together these countries account for 90 percent of global emissions. The index aims to enhance transparency in international climate politics and enable comparison of mitigation efforts and progress made by individual countries. [Source](#)

Progress in the Implementation of the Climate Resilient Green Economy Strategy by the Manufacturing Sector

- G/Michael G/Kidan Bahta, Director of Industry Environment & Climate Change Directorate, MoTI

The Climate Resilient Green Economy (CRGE) Strategy of the Federal Democratic Republic of Ethiopia proposes sector-based climate change adaptation and mitigation approaches to facilitate the country's vision of becoming a carbon neutral middle-income economy by 2025.

The CRGE's industrial sector strategy section has identified various measures to limit expected greenhouse gas (GHG) emissions from the sectors' development targets. According to the CRGE strategy, the manufacturing industry is likely to be the largest contributor of GHG emissions through 2030. Industrial emissions are projected to grow by 16% annually from 4 Mt CO₂e (carbon dioxide equivalents) in 2010 to 71 Mt CO₂e in 2030 under a business-as-usual scenario.

The increase in concentration of greenhouse gases in the atmosphere continues to cause global warming, leading to adverse climate change. Greenhouse gases are produced from different industrial activities. The main emission sources are industrial processes that chemically or physically alter materials. During these processes, many different GHGs, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), and per-fluorocarbons (PFCs) can be produced.

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As part of the United Nation’s 2015 Framework Convention on Climate Change, Ethiopia has pledged under the Framework’s Nationally Determined Contribution (NDC) declaration to decrease its industrial GHG emissions to 20 Mt CO₂e. Under the industry sector’s motto “leapfrogging to modern and energy-efficient technologies,” the following strategies have been identified as means to limiting industrial GHG emissions and meeting the NDC target:

- Energy efficiency (e.g., retrofitting factories with modern production technologies; improving insulation, recovering waste heat and using cogeneration)
- Alternative fuels (e.g., switching from coal/furnace oil to biomass/biofuels or electricity)

- Alternative production processes (e.g., replacing chemicals with enzymes, clinker substitution)
- Carbon capture and supply to other industries which use carbon as an input into their production process, mineralization.

Industry Sector CRGE Implementation Roadmap

The CRGE implementation roadmap was developed to support the Ministry of Trade and Industry (MoTI) to meet the goals and objectives of the CRGE strategy through implementation of specific actions. The roadmap indicates what is needed for each action in terms of technologies, capacity, and finance.

Table 1: Industry sector mitigation action and annual GHG targets

Mitigation Actions - Annual and Total GHG Targets

No.	Action	Annual GHG Targets (MtCo ₂ e)												Total Target
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
1	Clinker substitution	0.426	0.41	0.405	0.4	0.395	0.39	0.385	0.379	0.374	0.369	0.364	0.364	4.6
2	Waste heat recovery	0	0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	2.5
3	Energy efficiency	0	0	0	0	1.06	1.06	1.06	1.06	1.06	0	0	0	5.3
4	Fuel switch from fossil fuel to biomass/biofuels or electricity/Solar Wind and Geothermal	0	0	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	5.2
5	Alternative production process	0	0	0	0.05	0	0	0.05	0	0.1	0	0.1	0.2	0.5
6	Improving industrial waste management	0	0.095	0.152	0.19	0.285	0.38	0.475	0.57	0.665	0.95	1.33	1.9	1.9

Sources: CRGE strategy road map (Tracking and Strengthening Climate Action)

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To support the implementation of the CRGE strategy in the industry sector, MoTI developed various strategy documents and initiated programs:

Green Manufacturing Strategy

A national Green Manufacturing Strategy that addresses the environmental, climate, social, and economic effects of industrialization and suggests a path toward attracting foreign investment was developed and adopted in 2019. The strategy also outlines sustainability issues facing the manufacturing sector and suggests targets and actions to diminish those issues.

Energy Efficiency Strategy for the Manufacturing Sector

The Energy Efficiency Strategy for the manufacturing sector was developed and adopted in 2019. The strategy will assist in achieving the CRGE strategy targets set for the manufacturing sector.

CRGE Communication Documents

Achieving the CRGE strategy in the manufacturing industries requires a strategic communication plan to communicate the benefits of low emissions growth within the industrial sector. Accordingly, a green manufacturing communication document was developed in 2018 to record and publicize the different actions taken by some manufacturing industries that are in line with green manufacturing principles and practices.

Efforts to Mobilize Resources from the Green Climate Fund

In 2015 a six-project proposal document was prepared for the Green Climate Fund (GCF) and submitted to the Ministry of Finance (MoF). The proposal sought to scale up a pilot energy efficiency program, limiting industrial GHG emissions and meeting the NDC target. The financial resources from the GCF were planned to be used as a guarantee to leverage additional resources from the project owners and financial institutions on equity and loan. However, the proposal was not selected for submission as priority was given to nationally high emitting sectors. Currently MoTI and MoF are jointly preparing a concept note for the GCF. The concept note focuses on emission reduction through waste heat recovery system in cement plants and aims to raise a total of \$ 21.95 million.

Improved Energy Efficiency Practices to Reduce Carbon Emissions

Energy management team from MoTI, Industrial Parks Development Corporation (IPDC), sector development institutes, Ethiopian Energy Authority, the Sugar Corporation, Ethiopian Standards Agency and regional energy bureaus participated in a series of trainings and factory visits in 2019 to learn about energy management and conservation strategies. The trainees used knowledge gained to develop energy management program for the implementation of energy efficiency in the manufacturing sector. Participants also helped draft the first National Energy Management Strategy for the manufacturing sector.

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An Energy Management Program (EMP), which entails assessing the energy usage of an entity, exploring organizational actions to manage energy utilization and recommending future energy conservation targets by indicating actions to meet set goals, was established. As per factory selection criteria, the EMP teams selected 13 factories from different manufacturing sectors for data collection and energy management implementation. Twelve (12) of these factories are now in the process of implementing the planned Energy Management Program.

MRV of GHG Emission for Industrial Process and Product Use (IPPU) Sector

To strengthen and improve existing MRV system, MoTI is working with the European Union to capacitate the industry sector development institute in the collection of reliable data of GHG inventory and develop data management for MRV system to track progress on CRGE/ NDC implementation action. In addition, IPPU sector GHG emission inventory of 20-year is under preparation.

Table 2 Energy management program implementation

No.	Sector	Factory	Location	Implementation status	Total Planned emissions reduction (in KG CO2e/year)
1	Leather	Batu Leather factory	Addis Ababa	Implementing	1,221,646.00
		Colba Tannery PLC	Modjo	Implementing	534,990.47
2	Meat and Dairy	Al-Nujum Export Abattoir	Dukem	Implementing	501,349.13
		Ade'a Dairy	Bishoftu	Implementing	64,392.64
3	Metal	Steely R.M.I	Bishoftu	Implementing	13,833,961.65
		Yesu Plc	Gelan	Implementing	3,179,636.359
4	Chemical	Addis Ababa Glass Factory	Addis Ababa	Implementing	3,191,773.935
		Minaye packaging	Alemegena	Implementing	1,342,116.45
5	Food and Beverage	Rorank S.C	Chacha	in preparation	
		Sheng Pharmaceuticals	Dukem	Implementing	264.12
6	Textile	Kanoria Africa textile PLC	Bishoftu	Implementing	983,638.63
		Else Addis industrial development plc	Adama	Implementing	1,048,692.05
7	Sugar	Wonji Sugar S.C	Wonji	Implementing	617.28



NDC Highlights

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