REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT, CLIMATE CHANGE AND FORESTRY

Kenya's Initial Biennial Update Report

Initial BUR to The United Nations Framework Convention on Climate Change (UNFCCC)

Foreword

The insights contained within this report will be crucial in guiding government priorities for climate action, identifying potential areas for international financial support, and accelerating our progress towards achieving NDC targets by 2030.

On behalf of the Government of Kenya, I am honored to present our initial Biennial Transparency Report (BUR), which includes a comprehensive Greenhouse Gas Inventory Report in fulfilment of its reporting obligation under decision 2/CP/17 paragraph 41(f). The report is Kenya's first and final BUR to the UNFCCC. In this initial BUR, Kenya has thoroughly documented the latest information on its national-level efforts on climate actions and its contributions to sustainable development.

The initial BUR publishes key findings covering data for the period 2020-2022. The data gathered and analyzed include data on greenhouse gas emissions trends; mitigation measures efforts, and inflows of climate support. This report builds upon our previous National Communications submitted in 2002 and 2015, reflecting our ongoing commitment to transparency and international climate reporting.

I extend my sincere gratitude to the experts from various government ministries, departments, civil society organizations, and the private sector who worked diligently under the leadership of the Climate Change Directorate and the ETF Reporting Project. Their collaborative and participatory approach has been instrumental in preparing this comprehensive report.

The insights contained within this report will be crucial in guiding government priorities for climate action, identifying potential areas for international financial support, and accelerating our progress towards achieving NDC targets by 2030. This report represents a significant milestone in Kenya's journey towards a low-carbon, climate-resilient economy and sustainable development.

Hon. Aden Bare Duale, EGH
CABINET SECRETARY
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Acknowledgement

The report represents a comprehensive national effort, drawing expertise from multiple sectors and stakeholders. Line sectors took the lead in compiling their respective inventories, while the NDC tracking and adaptation chapters benefited from contributions from national and county-level ministries, departments, agencies, and non-state actors.

This Biennial Update Report (BUR) has been compiled for the Government of Kenya in fulfilment of its reporting obligation under decision 2/CP/17 paragraph 41(f). The report is Kenya's first and final BUR to the UNFCCC. The report's comprehensive methodology reflects our commitment to rigorous and transparent climate reporting..

The compilation of this report involved a collaborative and multifaceted approach, with specific methodological considerations for each chapter. The national greenhouse gas (GHG) inventory, for instance, was developed using the Intergovernmental Panel on Climate Change (IPCC) 2006 inventory software and adhering to its Good Practice Guidance, ensuring scientific accuracy and international comparability.

The report represents a comprehensive national effort, drawing expertise from multiple sectors and stakeholders. Line sectors took the lead in compiling their respective inventories, while the NDC tracking and adaptation chapters benefited from contributions from national and county-level ministries, departments, agencies, and non-state actors. This inclusive approach ensured that the report captures the diverse perspectives and priorities outlined in Kenya's Nationally Determined Contribution (NDC).

We extend our profound gratitude to the numerous organizations and individuals who made this report possible. Special recognition is due to our key supporters, including the Capacity-building Initiative for Transparency Global Support Programme (CBIT-GSP), Transparency Accelerator Initiative, NAP-Global, Fauna & Flora Kenya, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the International Livestock Research Institute-Climate Change, Agriculture and Food Security (ILRI-CIAT). Their technical expertise, financial support, and commitment to climate action were instrumental in preparing this comprehensive report.

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Preface

The report comprehensively describes climate actions that Kenya has implemented, is implementing, and plans to implement to achieve its Nationally Determined Contribution and the global long-term goals of the Paris Agreement.

Kenya has remained steadfast in supporting the multilateral process on climate change. As a Party to the United Nations Framework Convention on Climate Change and its Kyoto Protocol and the Paris Agreement, the government of Kenya continues to work domestically and through international cooperation to address the adverse impacts of climate change in the context of sustainable development and efforts to eradicate poverty. Despite not being a significant emitter, Kenya continues to make ambitious mitigation commitments in solidarity with other countries to keep within the temperature goal provided in Article 2 of the Paris Agreement.

Kenya made its first significant policy step on climate change when it developed the National Climate Change Response Strategy in 2010. The two key components of the strategy were the establishment of the Climate Change Secretariat and the National Climate Change Action Plan. The Secretariat was responsible for oversight, policy, and coordination of climate change affairs, and the Action plan became an instrument for prioritizing climate change actions to facilitate budgeting and implementation of climate change actions.

The efforts of the climate change secretariat were recognized by climate change stakeholder who successfully advocated for the enactment of a climate change law. Kenya became one of the first countries globally to enact a climate change law, the Kenya Climate Change Act 2016, which was revised in 2023 to incorporate carbon markets. The Act provides for an elaborate institutional arrangement that includes the National Climate Change Council chaired by the President. The act also retains the climate change action plan as the principal document for climate change response measures and actions.

The Copenhagen Accord, the outcome document for the 15th Conference of the Parties in 2009, signalled a new direction for reporting arrangements under the UNFCCC. Cancún introduced new obligations and processes for developing country Parties, who agreed to submit Biennial Update Reports (BURs) every two years from 2014 onwards. This is Kenya's first and last BUR.

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01 Introduction

1.1. Background

Paragraph 41 of decision 2/CP.17 requires developing country Parties like Kenya to communicate their Biennial Update Reports every two years starting December 2014. Decision 1/CP.24, paragraph 38 provides for the final Biennial Update Reports to be communicated to the UNFCCC Secretariat by 31 December 2024. Kenya has not been able to communicate a BUR since 2014, and this is its first and last BUR.

Kenya's initial and final BUR capture the latest information up to 2022, including information necessary to track progress on implementing Kenya Nationally Determined Contribution 2020. The BUR aims to publish information on the national greenhouse gas emissions trends and projections, assessment of mitigation actions and their effects in the context of sustainable development and eradication of poverty, and tracking climate support needed and received.

The preparation of the BUR took a whole-government approach, with all government Ministries, Counties, Departments, and Agencies involved. During the stakeholder participation stage, other stakeholders from non-state actors were also consulted.

The BUR follows the outline below:

a. Introduction – sets the background and mandate of the BUR.

b. National circumstances – presents the snapshot of the current state of Kenya, the prospects, and its implications for climate change. It also captures the updates of institutional arrangements.

c. National greenhouse gas inventory – captures the national GHG inventory processes for 1990-2022.

d. GHG mitigation actions and their effects – gives the results of the assessment effect of mitigation actions.

e. Domestic MRV system – updates the information on Kenya's domestic MRV.

f. Constraints, gaps, related financial, technical, and capacity needs and support received.

g. Annexes – contain a summary of the data and information that provide additional details to the issue addressed in the respective sections


SCHOOL VAN

02

National Circumstances

2.1. Country Profile

Kenya is a tropical, water-scarce country located on the equator in East Africa. It shares many international borders – with Ethiopia in the north, South Sudan in the north-west, Uganda in the west, Tanzania in the south and Somalia in the east. Kenya has a range of climatic conditions, with pockets of tropical and temperate climate in a mostly arid and semi-arid landscape.[1]

Kenya is a middle-income developing country in Sub-Saharan Africa with a stable democratic government and an estimated population of 55,100,586 as of 2023 according to the World Bank.[2]The country enacted a new constitution in 2010 which provided for a devolved governance system. There are, therefore, 47 county governments in Kenya.

Kenya's economy has continued to show resilience in the face of challenges such as the COVID-19 pandemic, political uncertainties, and adverse weather conditions. The worldwide slowdown in economic activities in 2022, tightening of global financial conditions, and pick up in global inflation slowed the growth momentum attained in 2021, with the fading effects of COVID-19 pandemic (Kenya Economic Outlook 2023). In addition, the report notes that the persistent drought situation in the Horn of Africa has seen inflation levels in Kenya cross the government target band, thus raising the cost of living. Furthermore, although public debt remained sustainable, it was at high risk of distress, calling for a sustained fiscal consolidation in attaining fiscal sustainability while supporting growth.

According to the 2024 Economic Survey of Kenya, the real Gross Domestic Product (GDP) grew by 5.6 per cent in 2023 compared to a revised growth of 4.9 per cent in 2022, mainly driven by rebound in agricultural activities that contracted in 2022. The gross value added (GVA) in Agriculture, Forestry, and Fishing Activities rose by 6.5 per cent in 2023 compared to a contraction of 1.5 per cent in 2022 owing to favorable weather conditions that characterized the better part of 2023. Nominal GDP increased from Ksh.13,489.6 billion in 2022 to Ksh.15,108.8 billion in 2023.[3]

Kenya is exposed to climate hazards or the actual biophysical events that are driven by climate change. Slow onset climate hazards, such as temperature increase, drought, changes in precipitation patterns, and sea level rise have intensified. Acute climate hazards, such as extreme precipitation, floods, landslides, and wildfires, are expected to increase in frequency and severity in Kenya.

Climate change is therefore causing an increase in average global temperatures, increasing temperatures, changing precipitation patterns, and rising sea levels creating significant environmental and economic disruption and adversely affecting Kenyans. The impacts of climate change and climate-related disasters are felt at the household level through food insecurity, damage to property, increased prices of food and fuel, and declining access to water and other environmental services.

Due to these impacts which continue to disrupt the country's economy, Kenya has prioritized climate change and put in place an elaborate policy, legal and institutional framework on climate change. Kenya has communicated an ambitious updated Nationally Determined Contribution to the secretariat of the United Nations Framework Convention on Climate Change to demonstrate its global commitment to addressing the adverse effects of climate change in the context of sustainable development and eradication of poverty.

1 https://www.climateimpacts.co.ke/wp-content/uploads/2024/04/KE_FINAL_12-Apr_ONLINE.pdf

2 https://data.worldbank.org/indicator/SP.POP.TOTL?locations=KE

3 https://new.knbs.or.ke/wp-content/uploads/2024/05/2024-Economic-Survey.pdf

2.2. Kenya's policies relevant to climate actions

Kenya has a strong history of climate change governance beginning with the enactment of the new constitution and development of the National Climate Change Response Strategy (NCCRS) in 2010. The policy and legal framework for adaptation includes three National Climate Change Action Plans (2013-2017, 2018-2022, 2023-2027), NAP (2015-2030), and Climate Change (Amendment) Act, 2023. Kenya submitted her first Nationally Determined Contribution (NDC) in 2016 and an updated version in 2020. The NDC responds to both domestic needs and international obligations under the UNFCCC and Paris Agreement and includes a section on adaptation priorities that are aligned with the NAP and NCCAPs. The table below presents a summary of the key legal and policy documents related to climate adaptation.

Table 2.1: Key national policies, legislations, strategies, and plans related to climate change

Document	Brief Description
The Constitution of Kenya, 2010	The mother law in Kenya. Article 42 establishes Kenyans' right to a clean and healthy environment including the right to have the environment protected for the benefit of present and future generations. A healthy environment calls for the sustainable use of ecosystems and consequently continued access to ecosystem goods and the services they provide.
National Climate Change Response Strategy, 2010	The NCCRS formally recognised the need for coordinated efforts to address climate change issues in Kenya. It recommended the development of a climate change policy and legislation. Consequently, a standalone climate change act and related governance structures and plans were developed and supported coordinated mitigation and adaptation actions.
Climate Change Act 2016 (Revised Edition 2023)	Kenya enacted its climate change law, the Climate Change Act, in 2016, which it amended in 2023 to integrate carbon markets. The Act is applied for the development, management, implementation and regulation of mechanisms to enhance climate change resilience and low carbon development for the sustainable development of Kenya
National Climate Change Action Plans, 2013-2017 and 2018-2022 and 2023-2027	A five-year iterative tool for mainstreaming climate actions across all sectors of the economy and the two levels of government. Mechanisms for mainstreaming climate change in priority sectors include the policies and strategies, coordination structures, planning cycles (guidelines and templates), investments, and financing. It is used for implementing both the NDC and NAP. The NCCAP was updated in 2023. Updating and/or revision of the NCCAP is an inclusive process involving both levels of governments, private sector, research and academia, communities, CSOs, media, and other actors.
National Adaptation Plan 2015-2030	Aims at consolidating the country's vision on adaptation by supporting macro-level adaptation actions that are aligned with the economic sectors and addressing county-level vulnerabilities to enhance long-term resilience and adaptive capacity. It is implemented through the five-year NCCAPs. The NAP highlights climate vulnerabilities and priority areas for building climate resilience. It presents adaptation actions that cover the time frame 2015-2030 and builds on the foundation laid by the NCCRS and the NCCAP 2013-2017. Furthermore, it is the basis for the adaptation component of Kenya's NDC.

Document	Brief Description
National Climate Change Framework Policy, 2018	Formulated to ensure the integration of climate change considerations into planning, budgeting, implementation, and decision-making at the national and county levels, and across all sectors. The goal is to promote climate resilient development through pursuing several objectives including providing an effective and efficient institutional framework for mainstreaming climate change; reducing vulnerability and catalyzing the transition to climate-resilient development; incentivising private sector involvement; and providing a framework for resource mobilisation in support of mitigation and adaptation.
National Climate Finance Policy, 2018	Establishes the legal, institutional, and reporting frameworks to access and manage climate finance, consistent with the institutional structures and framework set out in the Climate Change Act 2016. Interventions with respect to this policy include establishing a national Climate Change Fund, identifying climate financing sources, and creating a national system for tracking climate finance. Its operationalisation is meant to address the issue of inadequate finance for mitigation and adaptation interventions.
First Nationally Determined Contribution, 2020 (Updated)	The updated NDC communicated the country's mitigation and adaptation priorities and needs to the international community. The NDC has clear mitigation and adaptation goals with defined priority actions for progress and achievement of the goals.

2.3. National Institutional Arrangements

Coordinating climate change response in Kenya is currently the responsibility of the Climate Change Directorate (CCD) under the State Department for Environment and Climate Change in the Ministry of Environment, Climate Change and Forestry. The Directorate is the National Focal Point for the United Nations Framework Convention on Climate Change (UNFCCC). Due to the priority the government places on climate change issues, the Ministry and the State Department were re-designated in October 2022 to include climate change.

The Directorate works with climate change coordination units in different ministries, departments, and agencies to mainstream climate change in the various sectors of the economy; and with county governments to ensure that climate change is mainstreamed at the sub-national level. The Directorate works under the guidance of various climate change policies and legislative frameworks highlighted above.

2.3.1. Climate change institutional structure

The Climate Change Act provides the primary framework for governing climate change across Kenya and sets out institutional structures and responsibilities that guide the coordination and implementation of Kenya's responses to climate change (see the figure 2.1 below). It establishes a National Climate Change Council (NCCC) chaired by the President that provides overarching national climate change coordination and policy guidance. In addition to the executive, the council has representatives from key government ministries, the private sector, civil society organisations (CSOs), the marginalized, academia, and the chair of the Council of Governors, so as to ensure a whole of society approach to addressing climate change issues. Furthermore, it designates CCD as the secretariat to the Council and the lead agency of the government on national climate change plans and actions, including adaptation plans.

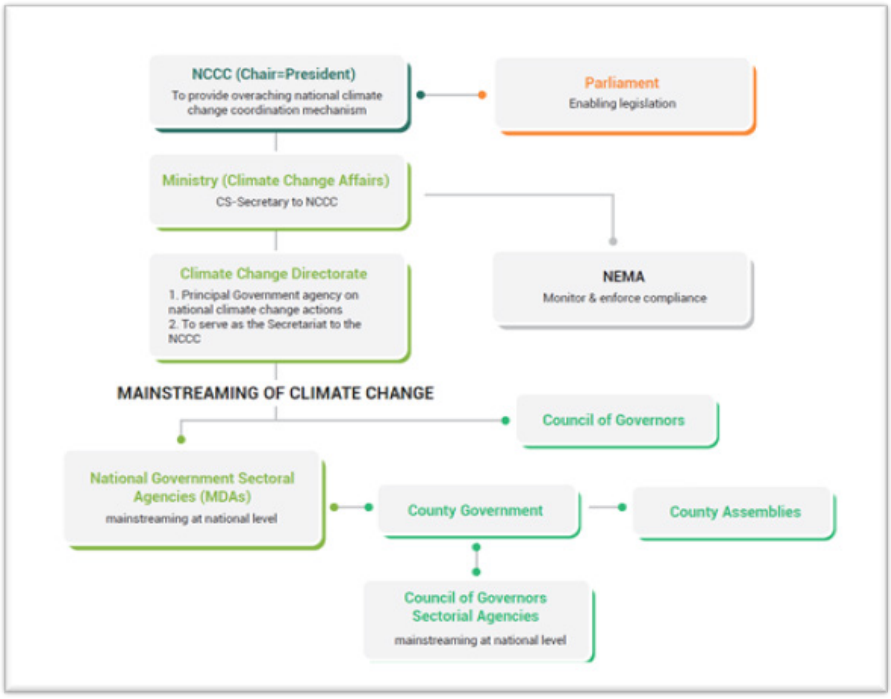

Figure 2.1: Climate Change Coordination Structure

The National Environment Management Authority (NEMA) is tasked with enforcement of the act and is expected to integrate climate risk and vulnerability assessments into all forms of assessments including Environmental Impact Assessments and Strategic Environmental Assessments and to liaise with relevant lead agencies for their technical advice.

At the sub-national level, the 47 county governments are responsible for operationalising climate change planning and budgeting within their jurisdictions. All counties have designated a County Executive Committee member responsible for climate change and created a Climate Change Unit (CCU) to coordinate climate change action. Many counties also have county and ward climate change planning committees supporting the planning and implementation of climate adaptation actions. The Ward Climate Change Planning Committees help communities to work in a participatory manner to analyse their resilience to present and future climate risks and use the findings to prioritise investments that the County Climate Change Funds (CCCFs) can support. The committees draw their membership from county government departments, national government institutional offices in the counties (e.g. KMD, NEMA); non-governmental organisations (NGOs), community-based organisations, the private sector, and local communities.

2.3.2. Institutional arrangements for BUR preparation

The Directorate has various roles and functions, which include, but are not limited to, providing analytical support on climate change to various sectors, establishing and managing a registry of climate change actions, as well as coordinating adherence to the country's international obligations, such as associated reporting requirements. Kenya received support from the Global Environment Facility (GEF) through the United Nations Environment Programme (UNEP), an implementing entity of the GEF, to prepare its initial Biennial Update Report (BUR). Kenya established a Project Management Unit to facilitate the implementation of the Project, the ETF Reporting Project.

Kenya established elaborate institutional arrangements to facilitate efficient and timely implementation of the project. A project Steering Committee was established to oversee the project. The Project Steering Committee (PSC) is the highest policy decision-making body for the TNC/BUR/BTR project and will provide overall direction and oversight. The PSC is chaired by the Principal Secretary responsible for climate change matters. The PSC ensures that the implementation of the TNC/BUR/BTR project becomes efficient in terms of quality of work delivery, timeliness, and strict adherence to disbursements in accordance with the budgetary provisions of the project. In addition to contributing to the success of the project, the PSC members also serve as agents for facilitating greater visibility of GHG Inventories and GHG mitigation/adaptation actions in their respective institutions. The PSC is responsible for approving work plans, budgets and Technical Reports and shall meet quarterly.

The PSC (Project Steering Committee) membership comprises Principal Secretaries from key sectors and heads of identified institutions from non-state actors. Representatives of the Climate Change Directorate participate in the PSC meetings as appropriate. The Project Manager serves as the Secretary of the PSC. Members of the PSC are appointed by the Principal Secretary responsible for climate change who will also Chair the Committee. The Committee is constituted as follows:

1. The Principal Secretary/Secretaries responsible for Climate Change and Forestry,
2. The Principal Secretary/Secretaries responsible for the National Treasury and Economic Planning.
3. The Principal Secretary/Secretaries responsible for Agriculture and Livestock Development
4. The Principal Secretary/Secretaries responsible for Energy

and Petroleum

5. The Principal Secretary responsible for Industry
6. The Principal Secretary responsible for Transport
7. The Principal Secretary responsible for Gender and Affirmative Action
8. The Chief Executive Officer, Kenya Private Sector Alliance (KEPSA)
9. The Chief Executive Officer, Council of Governors
10. The Executive Director from the nominated, representative Civil Society Organization/Association
11. Representative (s) of the Climate Change Directorate
12. The Enhanced Transparency Framework (ETF) Project Manager

Four (4) technical working groups (TWG) were formed, and their membership was based on competence, experience, and relevance. Five (5) Sector Working Groups were formed under the Technical Working Group on Greenhouse Gas Inventory. Each group is responsible for the implementation of one work package and reports to the National Project Manager:

- TWG on National Greenhouse Gas Inventory (TWG-NGGI) – responsible for Greenhouse Gas Inventory
  - **a.** Energy (including Transport) Sector Working Group
  - **b.** IPPU Sector Working Group
  - **c.** Waste Sector Working Group
  - **d.** Agriculture (Crop and Livestock) Sector Working Group
  - **e.** FOLU Sector Working Group
- TWG on Mitigation and MRV (TWG-MMRV) – responsible for Information on mitigation actions and their effects and Domestic MRV.
- TWG on Adaptation (TWG-A) – responsible for Information on adaptation, vulnerability assessment, adaptation actions and their effects.
- TWG on Cross-Cutting Issues (TWG-CCI) – National Circumstances, Information on financial, technical and capacity needs and any Other Information

Kenya's updated Nationally Determined Contribution has adaptation, and mitigation goals up to 2030 with defined support needs from domestic and international sources, the TWGs on Mitigation, Adaptation and Crosscutting will support the chapter on NDC Tracking. The Project Manager will coordinate the chapter to ensure information is provided based on the annexes to decisions 18/CMA.1 and 5/CMA.3. The agreed common tabular formats will be used to communicate this information as appropriate.

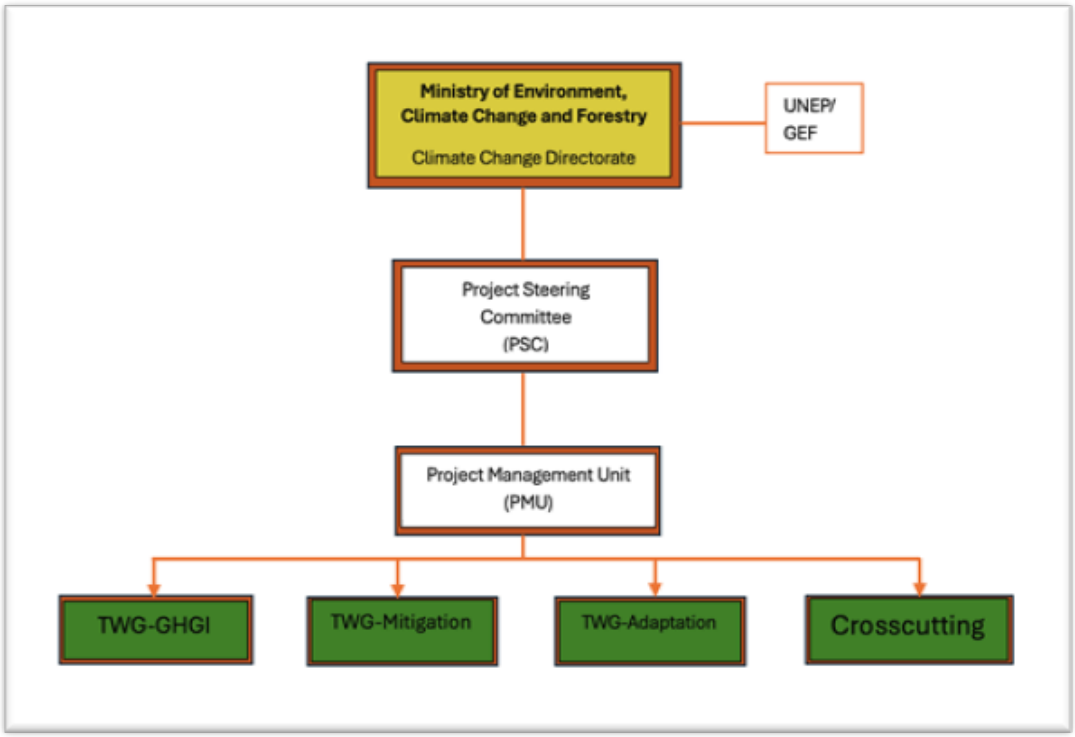

Figure 2.2 : Institutional arrangement for BUR Preparation

Project Management Unit

The Project Management Unit (PMU) was established in the Climate Change Directorate (CCD), headed by a Project Manager to administer and manage the project and report to the Project Focal point appointed by the Directors of Climate Change. The PMU is responsible for implementation, management, administration and performance against the implementation plan, budgeting, and reporting. The PMU is the Secretariat of the PSC, and the Project Manager is the secretary to the PSC. The PMU comprises a Project Manager, a Technical Assistant and an Administrative Assistant.

03 Greenhouse Gas Inventory

3.1. Overview

Kenya has developed a stand-alone inventory report that includes a national inventory document and common reporting tables. The inventory document has been annexed to the BTR, while the common reporting tables have been submitted electronically using the UNFCCC CRT tools.

The inventory report has been prepared in line with the modalities, procedures, and guidelines for the enhanced transparency framework provided in the annex to decision 18/CMA.1.

According to the estimations, Kenya's total greenhouse gas emissions were equivalent to 113,366 $GgCO_2eq$, including the LULUCF Sector in 2022. Total CO2 emissions for the year 2022 are estimated to be 66 519.7 $GgCO_2eq$ without contribution from LULUCF. For details, please refer to the national inventory document.

3.2. Description of GHG emissions and removals

3.2.1. Overview of greenhouse gas inventory

Background information on Kenya's greenhouse gas inventory

Kenya has developed a stand-alone GHG inventory document that contains information on emissions and removals of GHGs. The inventory document has been developed in line with the provisions of the modalities, procedures and guidelines for the enhanced transparency framework provided in the annex to decision 18/CMA.1. Therefore, this chapter provides only a summary of the information in the report.

Kenya's emissions for the GHG inventory have been estimated in line with the 2006 IPCC Guidelines for the National Greenhouse Gas Inventories (2006 IPCC Guidelines), which were developed by the Intergovernmental Panel on Climate Change (IPCC). Kenya used the IPCC software to estimate the emissions for all the sectors.

3.2.2. Description of emission and removal trends for aggregated GHG emissions and removals

Kenya's total greenhouse gas emissions were equivalent to **113,366** $GgCO_2eq$ including the LULUCF Sector in 2022. The total greenhouse gas emissions have increased by **343** percent since 1990 (Table 3.1). Total CO_2 emissions for the year 2022 are estimated to be **66, 519.7** $GgCO_2eq$ without contribution from LULUCF. Trends in total CO2eq emissions for the time series 1990 to 2022 are shown in figures 3.1 and 3.2. In general emission have been increasing since 1990 rising to **69, 399.5** $GgCO_2eq$ in 2021 without LULUCF and then dropping slightly in 2022.

Table 3.1: Total National Emissions without and with LULUCF

Year	1990	2000	2010	2020	2022	annual growth rate	~% Change 1990-2022
Total National emissions ($GgCO_2eq$) without LULUCF	25593.7	25045.0	40886.2	67873.6	66519.7	5%	160%
Total National emissions ($GgCO_2eq$) with LULUCF	25593.7	25045.0	55861.1	108330.4	113366.0	10%	343%

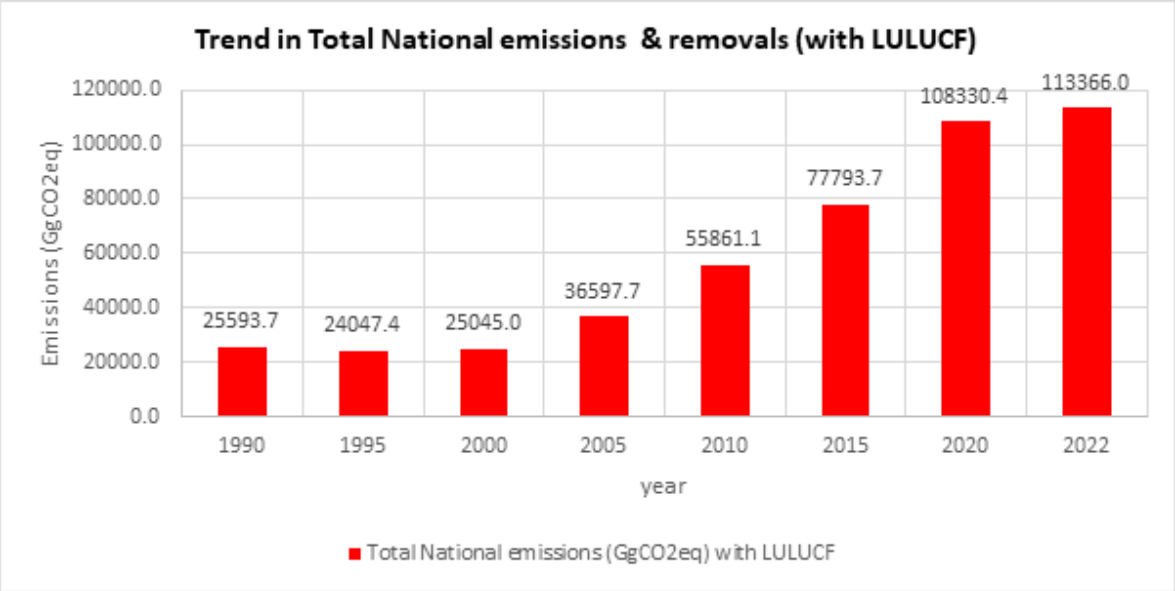

Figure 3.1: Kenya total greenhouse gas emissions trends 1990–2022 with the LULUCF sector

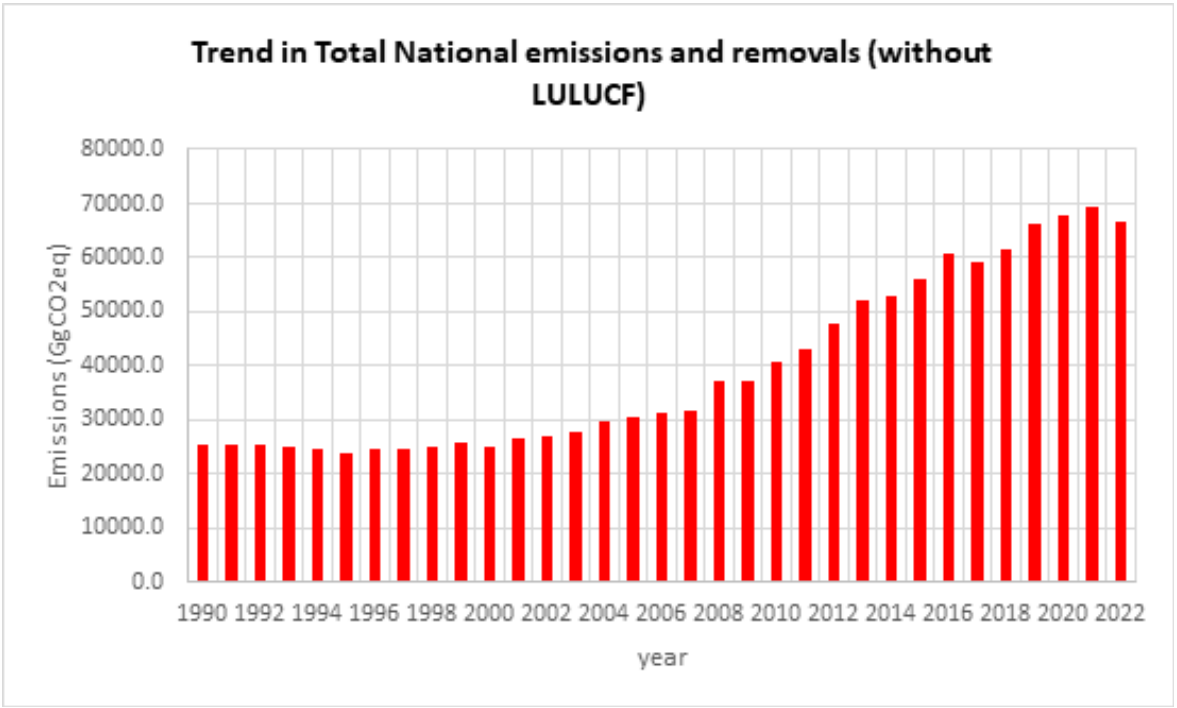

Figure 3.2: Kenya total greenhouse gas emissions trends 1990–2022 without LULUCF

Emission growth is primarily driven by Energy and AFOLU sectors which have remained net emitters, showing deforestation and forest degradation have been exceeding the reforestation rates throughout the period and together with increased consumption of fossil fuels. Other drivers of emissions is due to increased agricultural activities, and demand for fossil fuels in the energy sector. Over the period 1990 to 2022, the average annual growth in overall emissions has been **4** percent per year including the LULUCF sector.

Greenhouse gas emission contributions by sector and by type of greenhouse gas are summarized in section 3.2 below.

3.2.3. Description of emission and removal trends by sector and by gas

Emission trends by Source-Sector

Kenya is amongst developing nations in which Agriculture and LULUCF sectors dominates the share of its total greenhouse gas emissions. Tables 3.2 provides a summary of sectoral greenhouse gas emissions results for all sectors, and figure 3.3 shows Emissions trends by sectors without LULUCF, while figure 3.4 shows emissions trends by sector including LULUCF.

Table 3.2: Kenya`s sectoral greenhouse gas emissions Summary 1990-2022

Categories	1990	2000	2010	2020	2022	annual growth rate	~% Change 1990-2022
3A/C-Agriculture	15639.7	13732.7	19941.1	40211.6	36102.2	4%	131%
1 - Energy	7018.6	7767.7	15185.0	20625.9	21503.2	6%	206%
4 - Waste	2171.5	2953.3	4113.4	5009.3	5237.0	4%	141%
2 IPPU	764.0	591.2	1646.7	2026.9	3677.2	12%	381%
3B-LULUCF	-	-	14974.9	40456.8	46846.3	20%	653%

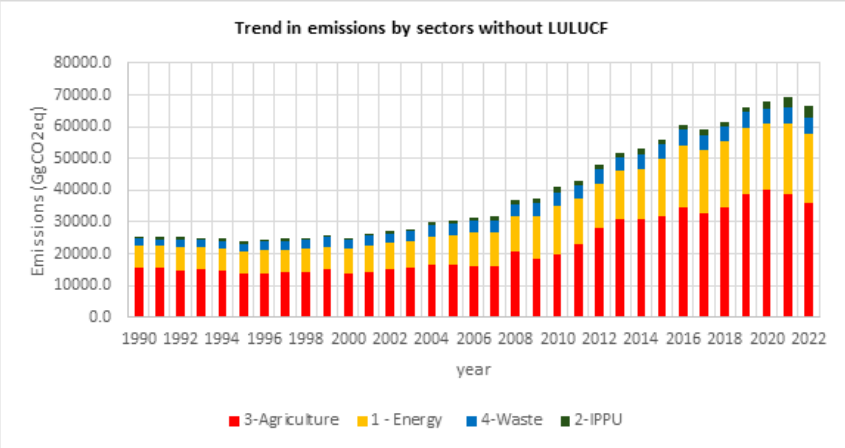

Figure 3.3: Greenhouse gas emission trend by sector in Gg CO_2eq, excluding LULUCF

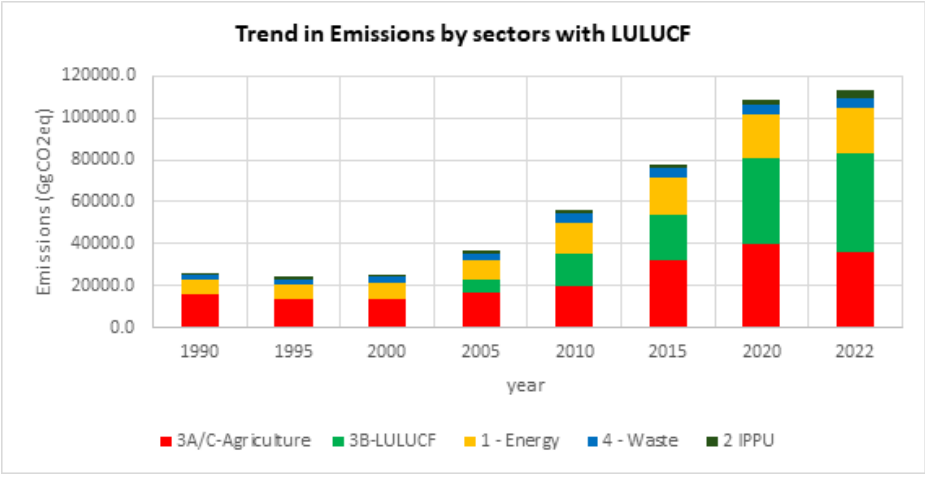

Figure 3.4: Greenhouse gas emission trend by sector including LULUCF

The LULUCF sector emitted **46846.3** Gg CO_2eq in 2022 (41 % of the national emissions). The Agriculture sector was a net emitter in 2022 contributing approximately **36102.2** GgCO_2eq or **32** percent of the national emissions. Thus AFOLU (combined agriculture, land use change and forestry) is the largest contributor to the total emissions in Kenya having **73%** share. (Tables 3.2 and figure 3.5).

The energy sector emitted **21503.2** Gg of CO_2eq., contributing **6** percent of the total GHG emissions in 2022. The waste sector emitted **5237.0** Gg CO_2eq in 2022, which was **5** percent of the total GHG emission. The Industrial Processes and Product Use emitted **3677.2 Gg** CO_2eq or about **3%** of total GHG emissions. (Tables 3.2 and figure 3.5).

The LULUCF emissions grew at average rate of **20%** per annum which is the highest annual rate by sector, followed by Industrial process emissions at an average rate of **12 %** per year. The Energy emissions grew at an average rate of **6%** per year between 1990 and 2022. Waste process and Agriculture emissions grew much more slowly at an average rate of **4%** per year. (Table 3.2).

Emissions from the **AFOLU** sector have been increasing steadily since 1990 to 2022 due steady demand for agricultural land, deforestation activities and use of synthetic fertilizers, and increasing number of livestock. **IPPU** Emissions have continued to grow primarily due to increased CO_2 emissions from cement production (more factories became operational). Emissions from the **Energy** Sector had increased over the years largely due to increased importation of fossil consuming vehicles in the transport sector.

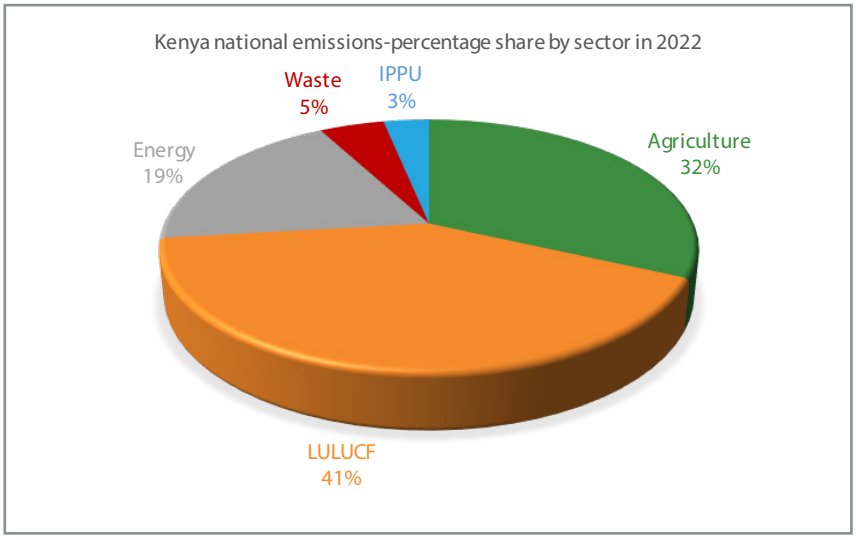

Figure 3.5: Kenya`s Sectoral greenhouse gas emissions percentage share of national total emissions in 2022 including LULUCF

The current level of emissions from LULUCF is **653** percent above the 1990 level , while IPPU is **381%** above that of the 1990, agriculture sector is **131** percent, and energy sector is **206%** (table 3.2). Detailed results by sector and source categories for each of the inventory period 1990 to 2022 are provided in chapters 3-6

Emission trends by gas

Methane and Carbon dioxide dominate Kenya's increase in greenhouse gas emissions (table 3.3 and figure 3.6). In 2022, CH_4 comprised **51** percent of total CO2 equivalent (CO2e) emissions, whereas CO_2 contributed **44%** and N_2O, **5** percent.

Therefore CO_2 and CH_4 remain the major greenhouse gases in Kenya's historical emissions profile. Figure 3.6 illustrate the share of emission by gas type.

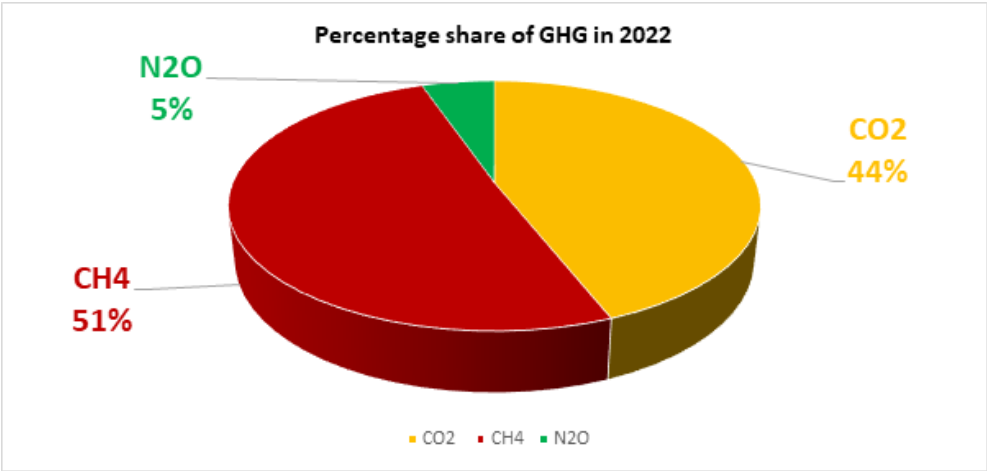

Figure 3.6: Kenya's emissions share by gas in 2022

Table 3.3: Kenya`s emissions by gas 1990-2022 (Gg CO2 eq)

GHG Type	1990	2000	2010	2020	2022	% change 1990-2022
CO2	6622.4	7136.2	29334.8	58674.7	67114.2	913%
CH4	17036.2	15865.0	23843.3	45599.8	42127.5	147%
N2O	1935.2	2043.8	2682.9	4055.9	4124.4	113%
TOTAL EMISSIONS (Gg CO_2eq)	25593.7	25045.0	55861.1	108330.4	113366.0	343%

The growth in CH_4 emissions can be associated with increased number of livestock population. The growth in CO_2 represents the increased emissions from the LULUCF and energy sectors, in particular transport sub-sector. N_2O emissions have increased due to increased use of nitrogenous fertilizers in agricultural soils since 1990.

Table 3.3 and figure 3.7 indicate the amounts of emissions of the three main greenhouse gases (i.e., CO_2, CH_4, N_2O) for each of the inventory years and the relative changes from 1990 to 2022. CO_2 relative change in emissions is far the largest changing by **913%** since 1990 to 2022, followed by CH_4 at **147%**, and N_2O at **113%** change.

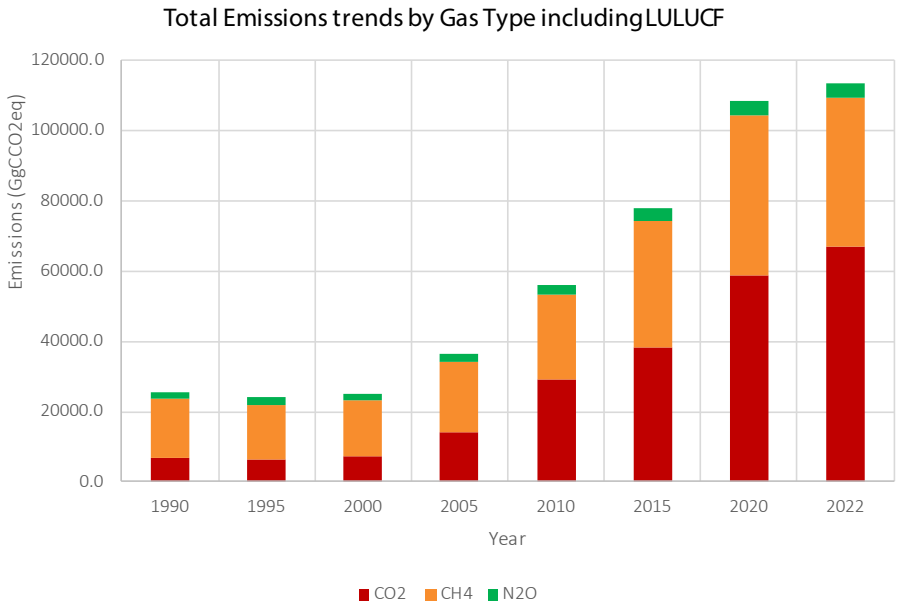

Figure 3.7: Trend in GHG emissions n by gas type 1990-2022

Category 2.F product uses as substitutes for ozone depleting substances was not estimated due to insufficient data on Hydrofluorocarbons (HFCs) and, to a very limited extent, perfluorocarbons (PFCs) that are serving as alternatives to ozone depleting substance.

Emission trends for indirect greenhouse gases and SO2

The indirect greenhouse gases CO, NOx, NMVOC as well as SO_2 are not included in the current Kenya`s total greenhouse gas emissions.

04 Mitigation Actions and their Effects

Kenya submitted her first Nationally Determined Contribution (NDC) with instruments for ratification to the Paris Agreement on 28th December 2016. In her first NDC, Kenya committed to reducing emissions by 30% against a Business as Usual (BAU) scenario of 143 $MtCO_2eq$ by 2030.

Kenya updated her first NDC in 2020 which seeks to abate GHG emissions by 32% relative to the BAU scenario of 143 $MtCO_2eq$ by 2030, in line with Kenya's sustainable development agenda and national circumstances.

The NDC is an economy-wide absolute GHG emissions target. It is a single-year target, and the implementation period is from 1st January 2021 to 31st December 2030, with milestone targets in 2025.

Key sectors covered include Energy, Agriculture, Land Use, Land-Use Change and Forestry (LULUCF), Industrial Processes and Product Use (IPPU) and Waste. Greenhouse gases covered are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF_6) and Nitrogen trifluoride (NF_3) are currently negligible.

For the land Use, land-use change and forestry sector, emissions and removals from the following reporting categories are included: The five carbon pools above-ground biomass, below ground biomass, litter, dead wood and soil organic matters.

4.1. Description of Kenya's NDC

The NDC sets out both adaptation and mitigation contributions on the condition that it receives international support for implementation. Tables 4.1 below describes the mitigation elements of the NDC

Mitigation

Table 4.1: Mitigation elements of the NDC

Elements	Description
Target(s) and description, including target type(s), as applicable	Kenya's NDC is an economy- wide absolute emissions target to abate GHG emissions by 32% by 2030 relative to the BAU scenario of 143 $MtCO_2eq$
Target year(s) or period(s), and whether they are single-year or multi-year target(s), as applicable	Kenya's NDC is a single-year target, with target year of 2030.
Reference point(s), level(s), baseline(s), base year(s) or starting point(s), and their respective value(s), as applicable	Base year for emission projections: 2010 – 69 $MtCO_2eq$ Reference year for BAU emissions target: 2030
Time frame(s) and/or periods for implementation, as applicable	From 1st January 2021 to 31st December 2030, with a milestone target in 2025
Scope and coverage, including, as relevant, sectors, categories, activities, sources and sinks, pools and gases, as applicable	Kenya's NDC is an economy-wide absolute GHG emissions target. Key sectors covered include Energy, Agriculture, Land Use, Land-Use Change and Forestry (LULUCF), Industrial Processes and Product Use (IPPU) and Waste. Greenhouse gases covered are carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O). Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF6) and Nitrogen trifluoride (NF3) are currently negligible. For the land Use, land-use change and forestry sector, emissions and removals from the following reporting categories are included: Forest Land, grassland wetland, including land use changes between the categories, and between these categories and settlements and other land.
Intention to use cooperative approaches that involve the use of ITMOs under Article 6 towards NDCs under Article 4 of the Paris Agreement, as applicable	Kenya intends to use ITMOs under Article 6 of the Paris Agreement towards its NDC.
Any updates or clarifications of previously reported information, as applicable	Not Applicable

The resource requirements for mitigation activities for the period 2020 to 2030 are estimated at $17,725 Million. Subject to national circumstances, Kenya will bear 21% ($3,725 Million) of the mitigation cost for domestic sources, while 79% the balance of ($14,000 Million) is subject to international support. However, these estimated resource requirements may change with changing circumstances.

4.2. Information on Kenya's progress toward achieving its 2030 emission reduction target is as follows

Indicator including definitions

To track progress towards the implementation and achievement of Kenya's NDC, total annual GHG emissions and removals has been selected as the indicator, consistent with the scope of the NDC in tCO_2eq

Table 4.2: Indicator including definitions

Information	Description
Selected Indicator	Annual total greenhouse gas emissions and removals in tCO2eq.

Information	Description
Information for the reference point(s), level(s), baseline(s), base year(s) or starting point(s)	Base year: 2010 Reference point (baseline GHG emissions in 2010): 69 Mt CO2 eq.
Updates	This is the first time the reference level has been reported, hence there are no updates. The value of the reference level may be updated or recalculated in future due to methodological improvements or data availability, in subsequent GHG inventories.
Definitions needed to understand indicator	Total annual GHG emissions and removals correspond to the annual total of emissions and removals reported in tCO2 equivalents in Kenya's latest GHG inventory. The totals comprise all sectors and gases listed in the table xxx, description of Kenya's NDC.
Relation to NDC	The indicator is defined in the same unit and metric as the NDC target hence it can be used to track progress in implementing and achieving Kenya's NDC target.
Most recent information	Kenya's total GHG emissions in 2022 was approximately 113.3 MtCO₂eq (including LULUCF) and 66.5 MtCO2eq (excluding LULUCF)

4.2.1. Tracking Progress Towards NDC

Kenya selected the total annual greenhouse gas emissions (including LULUCF) as the primary indicator to track progress in implementing and achieving her NDC, which seeks to abate GHG emissions by 32% (46 $MtCO_2eq$) relative to the BAU scenario of 143 $MtCO_2eq$ by 2030.

Kenya's current trajectory aligns with its emissions reduction target, reflecting a sustained commitment to achieving a low carbon climate resilient development pathway. Kenya is on track with meeting the 2030 NDC target.

Key data points in the NDC for tracking progress include projected emissions of 122 $MtCO_2eq$ by 2022, 112.4 Mt CO_2eq by 2025, advancing toward the 2030 target of 97 $MtCO_2eq$. Kenya's most recent 2022 total annual greenhouse gas emissions were approximately 113.3 $MtCO_2eq$ (including LULUCF) and 66.5 $MtCO_2eq$ (excluding LULUCF), according to the latest inventory data.

4.2.2. Methodologies and accounting approaches for tracking progress toward implementing and achieving the NDC

The methodologies and accounting approaches are equivalent to those in the GHG inventory, which uses 2006 IPCC Guidelines for National GHG Inventories. Emissions estimates were based on the sectoral approach. Most emissions estimates were derived using Tier 1 methodology provided in the 2006 IPCC Guidelines.

Chapter 1 of this BTR as well as the inventory provide further details on our accounting approaches and methodologies.

Details of the methodologies and accounting approaches to be used to track progress in implementing and achieving the NDC are provided in the table below:

Table 4.3: Methodologies and accounting approaches to be used to track progress in implementing and achieving the NDC

Reporting requirement	Description
Accounting for anthropogenic emissions and removals in accordance with methodologies and common metrics assessed by the IPCC and adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement:	
Accounting approaches	
Information on the accounting approach used is consistent with paragraphs 13–17 and annex II of decision 4/CMA.1	Kenya accounted for the GHG emissions and removals using the 2006 Intergovernmental Panel on Climate Change (IPCC), the good practice guidance and Uncertainty Management for National Greenhouse Gas Inventories (IPCC 2000), Good Practice Guidance for land use, land-use change and forestry (IPCC 2003).

Reporting requirement	Description
Each methodology and/or accounting approach used to assess the implementation and achievement of the target(s), as applicable	Kenya will assess the implementation and achievement of its NDC target by accounting for its annual total GHG emissions and removals using the 2006 IPCC Guidelines.
Each methodology and/or accounting approach used for the construction of any baseline, to the extent possible	
If the methodology or accounting approach used for the indicator(s) differ from those used to assess the implementation and achievement of the target, describe each methodology or accounting approach used to generate the information generated for each indicator	The accounting approach for the indicator does not differ from the accounting approach used to assess the implementation and achievement of Kenya's NDC target.
Any conditions and assumptions relevant to the achievement of the NDC under Article 4, as applicable and available	The achievement of Kenya's NDC is subject to availability of international support in the form of finance, technology development and transfer and capacity building. Implementation of Kenya's NDC is estimated at $62 billion up-to 2030. Kenya will consider any climate finance in terms of loans as part of her domestic contribution.
Key parameters, assumptions, definitions, data sources and models used, as applicable and available	The accounting approach will be aligned with the methodologies in the GHG inventory. Any key parameters, assumptions, definitions, data sources and models used within the inventory would also be used to account for the NDC target.
IPCC Guidelines used, as applicable and available	2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories
Report the metrics used, as applicable and available	Kenya's emissions for CO2, CH4, N2O will be derived using the 2006 IPCC Guidelines, via the Sectoral approach. The Tier 1 methodology will be used for most emissions estimates. Higher tier methodology will be used, where relevant and depending on availability of data. The aggregation of GHG emissions and removals will be reported using the 100-year time- horizon global warming potential (GWP) values from the IPCC Fifth Assessment Report.
For Parties whose NDC cannot be accounted for using methodologies covered by IPCC guidelines, provide information on their own methodology used, including for NDCs, pursuant to Article 4, paragraph 6, of the Paris Agreement, if applicable	Not applicable. Kenya's NDC will be accounted for using IPCC guidelines.
Provide information on methodologies used to track progress arising from the implementation of policies and measures, as appropriate	Not Applicable
Where applicable to its NDC, any sector-, category or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, taking into account any relevant decision under the Convention, as applicable:	
For Parties that address emissions and subsequent removals from natural disturbances on managed lands, provide detailed information on the approach used and how it is consistent with relevant IPCC guidance, as appropriate, or indicate the relevant section of the national GHG inventory report containing that information	GHG emissions and removals from natural disturbances, if any, will be accounted for in accordance with the Good Practice Guidance for land use, land-use change and forestry (IPCC 2003).
For Parties that account for emissions and removals from harvested wood products, provide detailed information on which IPCC approach has been used to estimate emissions and removals	Emissions and removals from harvested wood products are not included.

Reporting requirement	Description
For Parties that address the effects of age-class structure in forests, provide detailed information on the approach used and how this is consistent with relevant IPCC guidance, as appropriate	Kenya will estimate GHG emissions and removals in the LULUCF sector with Tier 1 approaches and apply high-resolution satellite images, coupled with collection of country-specific data resulting from field inventory measurements undertaken at regular intervals and estimated by modelling approaches.
How the Party has drawn on existing methods and guidance established under the Convention and its related legal instruments, as appropriate, if applicable	Kenya will assess the implementation and achievement of its NDC target by accounting for its GHG emissions and removals using the 2006 IPCC Guidelines, the good practice guidance and Uncertainty Management for National Greenhouse Gas Inventories (IPCC 2000) and Good Practice Guidance for land use, land-use change and forestry (IPCC 2003).
Any methodologies used to account for mitigation benefits of adaptation actions and/or economic diversification plans	Not Applicable
Describe how double counting of net GHG emission reductions has been avoided, including in accordance with guidance developed related to Article 6 if relevant	As of 2022, Kenya had not participated in cooperative approaches that involve the use of internationally transferred mitigation outcomes (ITMOs) under Article 6.
Any other methodologies related to the NDC under Article 4	Not applicable.
Ensuring methodological consistency, including on baselines, between the communication and implementation of NDCs:	
Explain how consistency has been maintained in scope and coverage, definitions, data sources, metrics, assumptions and methodological approaches including on baselines, between the communication and implementation of NDCs	The scope and coverage, definitions, data sources, metrics, assumptions and methodological approaches used for communicating and implementing Kenya's NDC are equivalent and, therefore, consistent.
Explain how consistency has been maintained between any GHG data and estimation methodologies used for accounting and the Party's GHG inventory, pursuant to Article 13, paragraph 7(a), of the Paris Agreement, if applicable (para. 2(b) of annex II to decision 4/CMA.1) and explain methodological inconsistencies with the Party's most recent national inventory report, if applicable	The methodologies used to estimate GHG emissions and removals for accounting NDC and the methodologies used in the GHG inventory are similar, hence consistent.
For Parties that apply technical changes to update reference points, reference levels or projections:	
Explain how any methodological changes and technical updates made during the implementation of their NDC were transparently reported	To the extent possible, any methodological changes and technical updates will be reported in Kenya's GHG inventory.
Striving to include all categories of anthropogenic emissions or removals in the NDC and, once a source, sink or activity is included, continuing to include it:	
Explain how all categories of anthropogenic emissions and removals corresponding to their NDC were accounted for	All categories of anthropogenic GHG emissions and removals will be accounted for using the 2006 IPCC Guidelines.
Explain how Party is striving to include all categories of anthropogenic emissions and removals in its NDC, and, once a source, sink or activity is included, continue to include it	Kenya will strive to continue to report emissions from the key categories in subsequent GHG inventories.
Provide an explanation of why any categories of anthropogenic emissions or removals are excluded	Not Applicable
Each Party that participates in cooperative approaches that involve the use of ITMOs towards an NDC under Article 4, or authorizes the use of mitigation outcomes for international mitigation purposes other than achievement of its NDC	
Provide information on any methodologies associated with any cooperative approaches that involve the use of ITMOs towards an NDC under Article 4	Not Applicable. As of 2022, Kenya had not participated in cooperative approaches that involve the use of internationally transferred mitigation outcomes (ITMOs) under Article 6.

4.3. Mitigation policies and measures, actions and plans.

Kenya is a developing country with diverse challenges compounded by the impacts of climate change. Over the NDC implementation period, climate change actions will be implemented through selected and prioritized measures covering both mitigation and adaptation.

This section outlines a few selected significant policies and measures, actions and plans, by sector, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans relating to the implementation of the NDC:

4.3.1. Agriculture Sector

Within the Agriculture sector, the overarching policy is the Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019-2029. This strategy is designed to support agricultural productivity, ensure food security, and contribute to environmental sustainability. It provides guidelines for soil conservation, improvement of soil health, and the adoption of best practices in soil management to optimize agricultural outputs. The objective of the strategy is to contribute to economically and environmentally viable, and socially acceptable development opportunities for agricultural production in Kenya to reduce poverty and improve food security through improved soil management.

The strategy is implemented by the Ministry of Agriculture and Livestock Development and other key stakeholders including other Ministries and agencies such as Kenya Agricultural Livestock and Research Organization (KALRO); Ministry of Environment, Climate Change and Forestry; National Land Commission (NLC); National Environment Management Authority (NEMA); Kenya Bureau of Standards (KEBS), Radiation Board, among others.

The Kenya Climate Smart Agriculture Strategy (KCSAS 2017-2026) is the main policy instrument geared towards the implementation of the NDC through initiatives and measures such as:

a. Reducing the rate of emissions from livestock (manure and enteric fermentation).

b. Reducing the rate of emissions from rice production systems.

c. Providing accurate, timely and reliable climate/weather information to inform decisions of actors on crops, livestock and fisheries value chains.

d. Promoting crop varieties, livestock and fish breeds and tree species that are adapted to varied weather conditions and tolerant to associated emerging pests and diseases.

e. Technology development, dissemination and adoption along crops, livestock, fisheries and forestry value chains.

f. Diversification of enterprises and alternative livelihoods.

g. Enhancing productivity and profitability of agricultural enterprises.

Through the Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019-2029, the sector has developed several plans and implemented actions that directly and indirectly support climate actions. These include:

1. 1. National Agricultural Soil Management Policy (NASMP)-(2020)- This policy is designed to support agricultural productivity, ensure food security, and contribute to environmental sustainability. It provides guidelines for soil conservation, improvement of soil health, and the adoption of best practices in soil management to optimize agricultural outputs.
2. Agriculture (Farm Forestry) Rules 2009- These are regulations established under the Agriculture Act in Kenya to encourage the integration of forestry practices within agricultural landscapes. These rules are part of Kenya's broader strategy to enhance environmental conservation, increase forest cover, and improve agricultural productivity through sustainable land use practices. The rules mandate farmers to allocate a portion of their land for tree planting and management, contributing to ecological balance, soil fertility improvement, and climate change mitigation.
3. Sessional Paper No. 3 of 2020 on the Livestock Policy- Policy aims to utilize livestock resources for food and nutrition security, improved livelihoods while safeguarding the environment.

In support of these interventions, the sector implemented the following measures and initiatives as described in the table below:

Table 4.4: Overview of the mitigation policies and actions in the Agriculture sector

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument (Regulatory, Economic, Voluntary, other)**	**Status (Planned, adopted, Implemented)**	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq) [j, k]** Achieved | Expected	
Kenya Climate Smart Agriculture Strategy (KCSAS 2017-2026)	The recurrent droughts and rising temperatures attributed to climate change continue to exert more pressure on fisheries resources due to reduction of water supply, and increased evaporation of water in lakes and rivers. The country therefore requires transformation of its agricultural systems to make them more productive, resilient and competitive in generating incomes under a changing climate. The CSA strategy provides an excellent opportunity for this transformation.	The overall objective of this strategy is to build resilience and minimize emissions from agricultural farming systems for enhanced food and nutritional security and improved livelihoods.	Economic	Adopted	Agriculture Cross-cutting	CH_4, CO_2, N_2O	2017	The National Government (Ministry of Agriculture and Livestock Development) The County Governments		

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument** (Regulatory, Economic, Voluntary, other)	**Status** (Planned, adopted, Implemented)	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq)** [j, k] Achieved	Expected
Dairy Nationally Appropriate Mitigation Actions (NAMA)	The NAMA is aimed at transforming the dairy sector to reduce greenhouse gas emissions while enhancing productivity and economic benefits. The program is structured around implementing sustainable dairy farming practices that improve productivity, animal health, and resource efficiency. It focuses on enhancing the capacity of dairy farmers, cooperatives, and institutions to adopt practices that lower emissions while improving livelihoods. By targeting both smallholder and commercial dairy operations, the NAMA aims to create a resilient and competitive dairy industry in Kenya.	To reduce GHG emission intensities in the dairy sector by at least 3% below current levels and reach more than 600,000 dairy farmers in the country.	Economic	Planned	Livestock Environment	CH_4, CO_2, N_2O	N/A	Ministry of Agriculture and Livestock Development Ministry of Environment, Climate Change and Forestry World Agroforestry Centre (ICRAF) Consultative Group on International Agricultural Research (CGIAR) Kenya Dairy Board (KDB)		

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument** (Regulatory, Economic, Voluntary, other)	**Status** (Planned, adopted, Implemented)	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq)** [i, k] Achieved	Expected
TWENDE: Towards Ending Drought Emergencies: Ecosystem Based Adaptation in Kenya's Arid and Semi-Arid Rangelands	The project targets eleven counties in two major climate zones which have devolved powers under Kenya's new constitution. Building capacity and institutions for the improved implementation of devolution is seen as necessary to enhance the climate resilience of Kenya's arid and semi-arid lands. Interventions focus on increasing the adaptive capacities of communities and local institutions to develop evidence-based landscape planning. This will be done by increasing accessibility to climate data and information; and enhancing the ability of community-based cottage industries to access markets and financial services.	Increasing the resilience of the livestock and other land-use sectors through restored and effectively governed rangeland ecosystems in Kenya's arid and semi-arid lands	Regulatory Economic	Adopted	Agriculture Forestry	CH_4, CO_2, N_2O	2020	Ministry of Agriculture and Livestock Development Water Resources Authority (WRA) International Union for Conservation of Nature (IUCN)		

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument (Regulatory, Economic, Voluntary, other)**	**Status (Planned, adopted, Implemented)**	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq) [j, k]** Achieved | Expected	
National Agricultural And Rural Inclusive Growth Project (NARIGP)	The project was formed to intervene in the following areas: through the increased adoption of new technologies and improved practices and by federating into POs and other forms of rural institutions like SACCOs, rural smallholder farmers will be able increase their productivity, incomes and profitability	To boost agricultural productivity and profitability in selected rural communities in 21 selected counties, and in the event of an Eligible Crisis or Emergency ,to provide immediate and effective response.	Economic Regulatory	Implemented	Agriculture	CH_4, CO_2, N_2O	2017	Ministry of Agriculture and Livestock Development		
Kenya Climate Smart Agriculture Project (KCSAP)	The project is a government-led initiative designed to transform Kenyan agriculture into a more sustainable and climate-resilient sector. KCSAP emphasizes the use of innovative technologies and farming practices that are aligned with climate change mitigation and adaptation strategies, aiming to achieve food security, improve livelihoods, and protect the environment.	The project aimed to improve crop and livestock productivity through climate-smart technologies and practices, ensuring food security and economic growth; Strengthen the capacity of farming communities to adapt to climate variability and change, reducing vulnerability and enhancing resilience; Promote agricultural practices that minimize carbon footprints and contribute to climate change mitigation.	Economic	Implemented	Agriculture Livestock Environment	CH_4, CO_2, N_2O	2017			

4.3.2. Energy Sector

The Energy sector through various policies and legislations has over the years progressed towards more sustainable generation and consumption of energy most notably through the Sessional Paper No. 4 on Energy, 2004, and the Energy Act 2006, Feed-in-Tariffs Policy 2008 revised in 2012 that promoted renewable energy generation, the Energy (Energy Management) Regulations, 2012 promoted enhanced energy efficiency. The national Energy Policy was revised in 2018 leading to the Energy Act, 2019 which captures the national ambition and aspirations.

In line with achieving the NDC target, the energy sector aims to increase renewables in the electricity generation mix of the national grid. The Government through the Ministry responsible for Energy has over the years undertaken power development planning for the country through the Least Cost Power Development Plan (LCPDP). The Least Cost Power Development Plan is a rolling 20-year plan prepared biennially (since 2011), and five-year medium-term plans compiled to guide particularly the expansion of the electricity sector.

In 2020, the plan was updated with emphasis on the prioritization of renewable energy options for generation of electricity. The expansion of the grid (electricity network) has enabled the dispatch of more renewable electricity and improved its robustness to take up more renewable energy sources especially with regards to the instantaneous, daily and seasonal variability. Subsequent updates of the plan have sustained this trajectory achieving 89.8% and 87.7% electricity generated from renewable energy sources in the years 2021 and 2022 respectively.

Table 4.5: Overview of the mitigation policies and actions in the Energy sector

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument (Regulatory, Economic, Voluntary, other)**	**Status (Planned, adopted, Implemented)**	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq) [j, k]** Achieved | Expected	
Least Cost Power Development Plan	The Government through the Ministry responsible for Energy has over the years been undertaking power development planning for the country through the Least Cost Power Development Plan(LCPDP). Updates of the Least Cost Power Development Plan are prepared biennially(since 2011) covering 20 year periods, and five-year medium term plans compiled in alternate years.	The overall objective of this strategy is to build resilience and minimize emissions from agricultural farming systems for enhanced food and nutritional security and improved livelihoods.	Regulatory Economic	Adopted	Energy	CO_2,	2011	Ministry of Energy and Petroleum Energy and Petroleum Regulatory Authority (EPRA) Kenya Power and Lighting Company (KPLC) Kenya Electricity Generating Company (KENGEN) Geothermal Development Company (GDC) Kenya Electricity Transmission Company (KETRACO)	18,000	904.316

4.3.3. Transport Sector

Kenya's GHG emissions from the transport sector have a significant share, consistently being the most significant source of emissions in the energy sector, particularly due to its reliance on fossil fuels. With population growth and economic prosperity, there has been a surge in motorization, which is a significant contributor to GHG emissions, primarily due to the reliance on petrol and diesel vehicles. Increased economic activities mean more goods and people need to be transported, further raising emissions. As one of the main contributors to emissions in the country, the transport sector is at the heart of achieving the NDC target.

The Government's Bottom-Up Economic Transformation Agenda, which is currently being implemented through the Fourth Medium Term Plan 2023-2027 under the Kenya Vision 2030 Agenda, recognizes the role e-mobility could play in the attainment of national development and environmental goals. With the objective of achieving a low carbon and efficient transportation system in the NDC, the transport sector aims to promote several identified mitigation measures such as: Transfer of freight from road to rail; Transition to e-mobility; Electrification of the Standard gauge railway between Nairobi and Mombasa by 2022, among others.

The total length of the rail network in the country is 2,778 km comprising both the meter-gauge track and the standard-gauge track. In 2017, the construction of Phase I of the Standard Gauge Railway spanning 472 km of track from the port city of Mombasa to Nairobi was completed, this has significantly reduced freight and passenger tariffs and travel time and led to a significant shift of freight and passengers from road to rail. The cargo transported using the railway system increased from 1,380,000 tonnes in 2016 to 6,090,000 tonnes in 2022. The passenger per km increased from 113 million in 2016 to 2,392 million in 2022. (source KNBS Economic Survey 2018 and 2023). This is observed in the trend of emissions for heavy-duty vehicles which declined in 2017.

The National Energy Efficiency and Conservation Strategy (2020) envisions that by 2025, 5 % of all registered vehicles in Kenya will be electric powered.

As of 2022, the sector was not able to implement most of the planned actions for the achievement of the NDC, due to inadequate financial support.

Table 4.6: Overview of the mitigation policies and actions in the Transport sector

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument** (Regulatory, Economic, Voluntary, other)	**Status** (Planned, adopted, Implemented)	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq)** [j, k] Achieved | Expected	
Transfer of freight from road to rail between Nairobi and Mombasa	30% of freight from Mombasa to Nairobi shifted from road to rail. The transfer of freight from road to rail between Nairobi and Mombasa in Kenya is part of the Kenya Railway Expansion project, which aims to reduce road damage and provide a faster and safer intercity transportation system. The project includes the Mombasa-Nairobi-Malaba Corridor, which connects the Port of Mombasa to Nairobi and Malaba, Uganda.	Reduce fuel consumption and fuel overhead costs	Economic	Adopted	Transport Cross-cutting	CO_2	2018	Ministry of Roads and Transport Kenya Railways		

4.3.4. Land Use, Land-Use Change and Forestry (LULUCF) Sector

The Land Use, Land-Use Change, and Forestry (LULUCF) sector plays a critical role in achieving the NDC. The sector is central to Kenya's climate action, providing significant mitigation potential through sustainable forest management, afforestation, reforestation, and landscape restoration initiatives. These actions are complemented by policies and measures that prioritize climate-smart agriculture, agroforestry, and nature-based solutions, ensuring the integration of adaptation co-benefits. Additionally, economic diversification plans focusing on green jobs and sustainable livelihoods enhance the sector's contribution to emissions reductions while fostering community resilience and environmental sustainability.

This section outlines the key mitigation policies, actions, and plans for the sector, designed to advance Kenya's NDC commitments while addressing broader socio-economic and environmental objectives. These include the commitment to progressively achieve a minimum of 10% tree cover across the total land area; efforts towards achieving land degradation neutrality; scaling up nature-based solutions (NBS) for mitigation and enhancement of REDD+ activities.

In its efforts to achieve 10% tree cover, Kenya implemented the strategy for increasing tree cover to at least 10% of the total land area by 2022. As a result, approximately 80,398.5 hectares were successfully planted with trees through afforestation, reforestation, and agroforestry initiatives. On-the-ground initiatives that were implemented, such as the Green Zones Support Project Phase II and the Adopt a Forest Initiative, actively engage stakeholders to restore degraded landscapes, enhance forest cover, and integrate tree planting with agricultural practices.

Kenya, in its efforts to enhance REDD+ activities, finalized its REDD+ Strategy in 2021, which outlines an ambitious framework for implementing national REDD+ activities to reduce emissions from deforestation and forest degradation while promoting conservation, sustainable forest management, and enhancement of forest carbon stocks. The strategy identifies key areas of focus to address deforestation and forest degradation, including scaling up afforestation, reforestation, and landscape restoration programs. It also emphasizes improving governance and policy implementation to curb the conversion of forests to other land uses and increasing the productivity of public plantation forests. In addition, the strategy seeks to enhance efficiency, effectiveness, and skill development across forest-related value chains, ensuring sustainable utilization of forest resources.

Recognizing the importance of financial resources, the strategy prioritizes the mobilization of funding to support the implementation of REDD+ initiatives in Kenya. It is worth noting that Kenya has not implemented REDD+ at the national level. As of 2022, Kenya was at the REDD+ readiness phase. However, several site-level REDD+ activities, such as the Kasigau Corridor REDD project (phases I and II), Mikoko Pamoja Mangrove Restoration in Gazi Bay and the Chyulu Hills REDD+ Project, are being implemented in the voluntary carbon markets.

Additionally, Kenya has operationalized other policies and measures, actions and plans related to implementing and achieving her NDC within the forestry sector. The National Forestry Programme (2016-2030) aims to enhance forest restoration, agroforestry and sustainable land use, contributing to socio-economic growth and climate resilience. Community involvement is also paramount in enhancing forest conservation and management efforts and is encouraged through legislative measures like the Forests (Participation in Sustainable Forest Management) Rules, 2009, which promote collaborative forest management between local communities and the Kenya Forest Service (KFS). This has borne fruits in the management of existing forests reducing conversions to other uses and reforesting degraded areas.

All these, and many other efforts within the sector, collectively target greenhouse gas reductions, particularly carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), and increasing of sinks across the land-use, land-use change, and forestry (LULUCF) sectors.

Table 4.7: Overview of the mitigation policies and actions in the LULUCF sector

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument (Regulatory, Economic, Voluntary, other)**	**Status (Planned, adopted, Implemented)**	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq) [j, k]** Achieved | Expected	
Strategy towards the attainment of 10% tree cover by 2022	A comprehensive approach to expand forest and tree cover across public and private lands through afforestation, reforestation and landscape restoration	To increase the country's tree cover to 10% by 2022	Regulatory Economic	Implemented	Forestry Agriculture	CO_2	2018	Ministry of Environment, Climate Change and Forestry Kenya Forest Service	NE	NE
National REDD+ Strategy 2021	Strategy for REDD+ implementation in Kenya	To Scale-up reforestation and enhance governance and policy; and mobilize finance for REDD+	Regulatory Economic	Planned	Forestry	CO_2	2021	Ministry of Environment, Climate Change and Forestry Kenya Forest Service (KFS) Development partners	NE	NE

4.3.5. Industrial Processes and Product Use (IPPU) Sector

The Government initiated the development of policies and measures in industrial processes and product use to enhance manufacturing sector resource efficiency and introduce a circular economy to reduce material extraction used in production. Further setting up structures for extended producer responsibility implementing the Sustainable Waste Management Policy 2021 and National Sustainable Waste Management Act 2022. Extended Producer Responsibility regulations 2024 have been developed to operationalize the policy and act. To enhance energy efficiency and in compliance with the Energy Management regulations of 2012.

The sector targets resource efficiency services for IPPU in energy efficiency, water, and wastewater management, circular economy, and carrying out process optimization and environmental compliance. The sector also aims to promote technology transfer and best practices in green technologies.

Industries prioritized for the GHG modelling include cement manufacturing, glass production, and lime production, and under the chemical sector categories, they are focused on soda ash production where activity data is available.

4.3.5. Industrial Processes and Product Use (IPPU) Sector

To ensure the achievement of the NDC targeted goals under the waste sector, Kenya developed:

1. The National Sustainable Waste Management Policy, 2021 which aims to create an enabling regulatory environment for Kenya to effectively tackle the waste challenge it faces by implementing sustainable waste management that prioritizes waste minimization and contributes to a circular economy.
2. The Sustainable Waste Management Act, 2022 which contributes to emissions reduction by promoting the zero-waste principle which targets the reduction of volumes of waste from the environment among other critical principles.

In addition, the government is implementing a ban on the manufacture, sale, export and importation of plastic carrier bags (Gazette Notice number 2356, February 2017) which took effect in August 2017 and has made a major contribution to minimizing waste generation.

Table 4.8: Overview of the mitigation policies and actions in the IPPU sector

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument (Regulatory, Economic, Voluntary, other)**	**Status (Planned, adopted, Implemented)**	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq) [j, k]** Achieved | Expected	
National Sustainable Waste Management Policy 2021	The policy recognizes that sustainable waste management is critical to delivering on Kenya's constitutional right to a clean and healthy environment, achieving sustainable development goals, and realizing the nation's leadership in the blue economy.	The policy aims to establish an enabling regulatory environment that prioritizes waste minimization and contributes to a circular economy. It also supports county governments' mandate to provide sustainable waste management services and provides the framework for coordinated action at the national level. In addition, the policy proposes a waste hierarchy that includes reducing waste generation, reusing materials, effective and affordable waste collection, and proper treatment and disposal of residual waste in well-engineered and regulated landfills.	Regulatory Economic	Adopted	Waste	CH_4, CO_2, N_2O	2021	National Government County Governments National Environment Management Authority (NEMA) Ministry of Environment, Climate Change and Forestry Private Sector		

Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement										
Name	**Description**	**Objectives**	**Type of Instrument (Regulatory, Economic, Voluntary, other)**	**Status (Planned, adopted, Implemented)**	**Sector(s) affected**	**Gases affected**	**Start year of implementation**	**Implementing entity or entities**	**Estimates of GHG emission reductions (kt CO_2 eq) [i, k]** Achieved | Expected	
Sustainable Waste Management Act, 2022	A legal and institutional Framework for the sustainable management of waste.	Promote sustainable waste management, improve the health of all Kenyans by ensuring a clean and healthy environment, reduce air, land, fresh water and marine pollution, promote and ensure the effective delivery of waste services, create an enabling environment for employment in the green economy in waste management, recycling and recovery, establish an environmentally sound infrastructure and system for sustainable waste management, promote circular economy practices for green growth, mainstream resource efficiency principles in sustainable consumption and production practice, and inculcate responsible public behaviour on waste and environment.	Regulatory	Adopted	Waste	CO_2, CH_4, N_2O	2022	National Government County Governments National Environment Management Authority (NEMA)		

4.4. Summary of GHG emissions and removals

For a summary of greenhouse gas emissions and removals, see Chapter 1 of this BTR.

05 Domestic MRV System

5.1 Status of the Domestic MRV System

In 2016, Kenya enacted a climate change law known as the Climate Change Act 2016. This law was revised in 2023 to incorporate carbon markets following the adoption of the modalities, procedures, and guidelines for implementing Article 6 of the Paris Agreement. The Act envisioned a comprehensive Monitoring, Reporting, and Verification (MRV) system that would align with the country's devolved governance framework.

To facilitate this elaborate MRV system, the law called for the development of specific MRV regulations, which have been drafted and are currently awaiting political approval. While key institutions established by the Act as part of the MRV system have been operationalized, the National Climate Change Council remains inactive. Additionally, systems for data handling, necessary tools, and the required IT infrastructure have yet to be developed.

Institutional arrangement, capacity development and legal mandate

- The Act established the National Climate Change Council as the overarching policy and oversight institution on climate change. The president chairs the Council to facilitate one government approach to climate change response in the country. The Council has yet to be operationalized due to some legal hurdles encountered during its composition, but these have since been addressed, paving the way for its operationalization.
- The Act established the Climate Change Directorate as the lead agency on climate change. The Directorate established in the State Department is responsible for climate change affairs and is responsible for coordinating the implementation of climate change measures and actions among other responsibilities. The directorate works through the climate change units which are in all ministries, counties, departments and agencies. The State Department for Environment and Climate Change is the policy custodian for the implementation of the NDC. The Directorate coordinates the reporting of the BTR, BUR, NC and other climate change reports.
- The Climate Change Directorate coordinates and implements different capacity-building and awareness initiatives on MRV, which facilitate the sharing of information for reporting. The Directorate also engages experts and stakeholders to improve their skills and knowledge of MRV through training received from the UNFCCC and other capacity-building platforms like the CBIT.

The government had established an elaborate roadmap to address MRV gaps, including the development of data handling, tools and IT infrastructure at both the national and county levels of governance. This includes the relevant institutional and legal MRV frameworks for carbon markets. Significant resources will be required to support Kenya in this endeavor. Below is a summary of Kenya's MRV system as envisioned by the Climate Change Directorate.

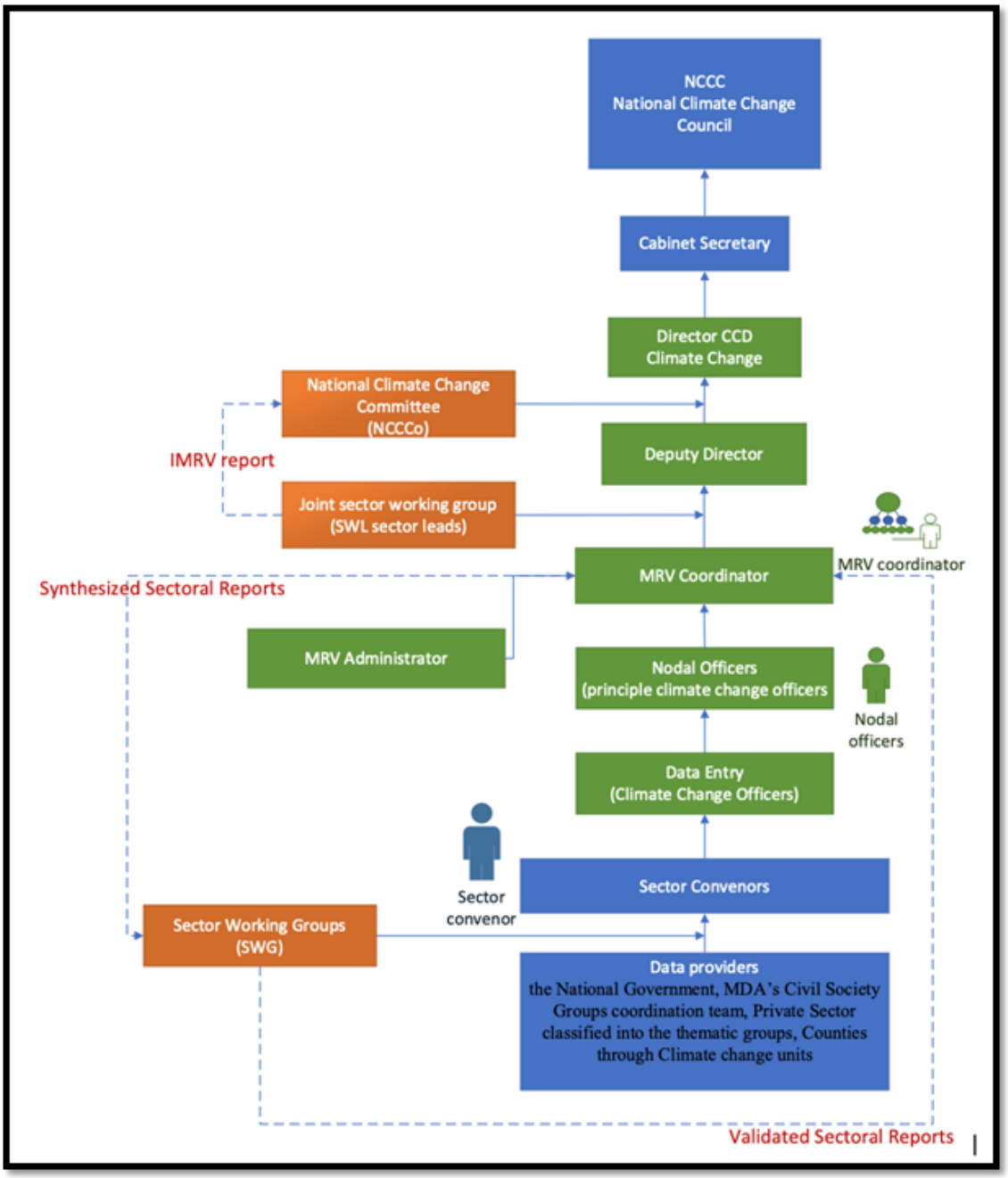

Figure 5.1: MRV Institutional Arrangement

Progress in Domestic MRV

Kenya has made notable progress in establishing a domestic MRV system that could facilitate reporting to the UNFCCC. Some of the progress made include:

NDC Tracking

- Kenya has a single-year NDC with one major indicator of emissions reduction against a business-as-usual scenario. The GHG inventory is, therefore, the primary source of information for tracking the NDC. The government, through the Climate Change Directorate, envisioned an elaborate MRV system for the inventory. The government is making progress in the operationalization of the MRV system and has appointed an inventory coordinator, a primary component of the MRV system.
- Under one of the climate change programmes, the Financing Locally-led Climate Change Action (FLLoCA), the climate change directorate has trained the climate change units from ministries, counties, departments and agencies on climate change reporting to facilitate NDC tracking

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Adaptation Reporting

- Adaptation is a priority area of focus for Kenya. Kenya was one of the countries that developed and submitted a National Adaptation Plan with a 2030 vision that is complementary to the adaptation goal in the updated first Nationally Determined Contribution. The government uses the National Climate Change Action Plan to prioritize actions for the implementation of both the NDC and the NAP. The climate change directorate has developed common tabular formats to facilitate the collection of information from the ministries, counties, departments and agencies, to inform the progress reports on the implementation of NCCAP.

Climate Finance Reporting

Reporting climate finance flows is crucial for ensuring transparency and accountability in the allocation and use of funds, allowing for the effective tracking of progress towards climate goals. It supports informed decision-making by providing policymakers and stakeholders with essential data for resource allocation and policy adjustments. Furthermore, transparent reporting enhances global cooperation by fostering trust among nations and facilitating the exchange of best practices. Ultimately, it ensures alignment with national and international climate targets, supporting evidence.

The National Treasury in Kenya leads climate finance tracking. A climate finance unit was established to coordinate climate finance issues in the country, as guided by the UN Climate Change Convention and its Paris Agreement.

A. The National reporting process for expenditures

The reporting by counties, ministries, departments, and agencies (MDAs) in Kenya involves several key structures and mechanisms which include:

1. Budgetary Framework

Kenya's budgetary framework provides the foundation for expenditure reporting. It includes:

- Annual Budget Cycle: This cycle encompasses budget preparation, approval, execution, and evaluation.
- • Medium-Term Expenditure Framework (MTEF): A three-year rolling budget framework that aligns sectoral priorities with available resources.
- Budget Call Circular: Issued by the National Treasury, it guides MDAs on budget submissions and reporting requirements.

2. Accounting and Financial Management Systems

MDAs use robust accounting and financial management systems to record and track expenditures. These systems include:

- Integrated Financial Management Information System (IFMIS): Used for budget execution, accounting, and financial reporting.
- Expenditure Control Mechanisms: These ensure compliance with budget allocations and prevent overspending.

3. Financial Reporting Structures

MDAs prepare financial statements, including:

- Annual Financial Statements which provide a summary of financial transactions, assets, liabilities, and equity.
- Quarterly Financial Reports: Regular updates on expenditure execution.
- Monthly Expenditure Reports: Detailed breakdown of spending by category.

4. Internal Audit and Oversight

MDAs have internal audit units that review financial processes, transactions, and compliance. The Auditor General Conducts independent audits of government accounts and reports findings to Parliament.

5. County Governments

Kenya has a devolved system of government, with 47 counties with each county having its own budgetary process, expenditure reporting, and oversight mechanisms.

6. Public Procurement and Disposal Act (PPDA)

The PPDA governs procurement processes, ensuring transparency and accountability. MDAs report procurement-related expenditures in line with PPDA guidelines.

7. Parliamentary Oversight

The National Assembly's Budget and Appropriations Committee scrutinizes expenditure reports. Parliamentary debates and committee hearings hold MDAs accountable.

8. Public Participation and Citizen Engagement

Public participation forums allow citizens to engage with MDAs, review budgets, and provide feedback while County Integrated Development Plans (CIDPs) involve citizens in planning and resource allocation.

06 Climate Support Needed and Received

6.1. National circumstances, institutional arrangements and country-driven strategies

National Circumstances

Kenya is highly vulnerable to climate change largely due to the climate-sensitive nature of its economy with the agriculture, water, energy, tourism, and wildlife sectors being critical in overall economic output. Several environmental, physical, economic and social factors contribute to Kenya's high climate vulnerability. These include declining natural resources such as water, insecure land tenure, environmental degradation and inadequate environmental management actions, varying ecological zones with different exposure levels, inadequate social safety nets, increased social conflicts over increasingly limited natural resources like water and pasture during dry seasons and high reliance on natural and weather factors for productivity across various economic sectors. These are amplified further by socio-economic factors such as high poverty levels, rapid population growth and fiscal constraints.

Climate change significantly increases Kenya's exposure to risks resulting in multiple and evolving climate change needs. In addition to adaptation and mitigation needs, Kenya faces loss and damage, and just transition needs. Impacts of response measures of developed countries are continually having a bearing on Kenya's economy.

Drought and floods are the main climate hazards, negatively impacting lives, livelihoods, economic output and human health increasingly being at risk. Extreme climate events cause significant loss of life, adversely affecting the national economy. Sea level rise is already affecting coastal towns and communities and is expected to impact communities with coastal erosion and wetlands loss characterizing negative impacts in coastal areas.

Kenya requires USD 62 billion for mitigation and adaptation actions across sectors up to 2030. Kenya will mobilize resources to meet approximately 13% of this budget, requiring international support for the balance. The international support required is in the form of finance, technology development and transfer, and capacity building to fully realize her NDC. Kenya will consider any climate finance in terms of loans as part of its domestic contribution.

Institutional arrangements

The Climate Change Act, 2016 established a robust institutional framework for Climate Change governance in Kenya. At the apex, the Act established a National Climate Change Council chaired by the President of the Republic of Kenya to provide an overarching national climate change coordination mechanism and ensure the mainstreaming of climate change functions by the national and county governments. The Climate Change Directorate is the lead agency of the government on national climate change plans and actions to deliver operational coordination.

The National Climate Change Action Plans. which are periodically reviewed, serve as the strategic blueprint guiding Kenya's mitigation and adaptation efforts, ensuring alignment with Nationally Determined Contributions (NDCs) under the Paris agreement. Each state department and national government public entity is mandated to integrate the Climate Change Action Plans into sectoral strategies and action plans and report on sectoral greenhouse gas emissions for the national inventory. County governments are equally mandated to integrate and mainstream climate change

actions into their planning processes, taking into account national and county priorities. A County Executive Committee Member appointed by the Governor coordinates climate change affairs at the County level and is reporting for reporting on progress of implementation of climate change actions to the County Assembly and the Climate Change Directorate.

Further, the National Policy on Climate Finance (2018) and The National Green Fiscal Incentives Policy provides clear direction on mechanisms for enhanced mobilization of climate finance from all sources. The Climate Finance and Green Economy Unit at the National Treasury and Planning is responsible for coordinating climate finance mobilization and reporting in the country.

Country-driven strategies

Kenya's country driven approach is embedded within Kenya's climate change legal and policy frameworks that set national climate change priorities identified through sectoral needs' assessments and stakeholder consultation processes. The frameworks designate sector level actions that require support and form the basis for to address climate change.

The country recognizes the importance of developing needs-responsive interventions that enhance adaptive capacities, build resilience to climate change and reduce greenhouse gas emissions. In principle, all climate actions must be country driven, and country owned, developed in a manner that is in line with national climate plans and priorities in consultation with national and county governments' institutional structures, and stakeholders.

Kenya underscores the crucial importance of means of implementation in driving successful implementation of climate action in line with national commitments. The country explores and adopts technologies as well as requisite capacity strengthening efforts to facilitate effective delivery of impactful actions. Examples of these technologies include drought-resistant crops and renewable energy solutions, access to which is facilitated by collaboration with international partners. There are still technological gaps across sectors and a need for further technology transfer to enable the full implementation of the NDC and a just transition

Kenya also undertakes capacity–building efforts which are equally crucial for climate action. Training programs, technical assistance, and community engagement initiatives are designed to enhance the adaptive capacity of local institutions and communities. These efforts ensure that climate actions are sustainable and locally driven. However, capacity building initiatives often struggle with inadequate funding, lack of infrastructure, insufficient human resources and inadequately address institutional capacity gaps.

Financial resources are critical to Kenya's adaptation and mitigation strategies. The country has made significant strides in mobilizing climate finance from both domestic and international sources. However, there remains a huge gap between finance needed and what is availed. This gap leads to delays and comprises the effectiveness of efforts to address climate change. Additionally, Kenya....

6.2. Underlying assumptions, definitions and methodologies

In determining support received, Kenya makes the following:

Assumptions

1. On-budget and off-budget support was considered in this BTR, acknowledging existing limitations in off-budget support tracking and data compilation that require more complex and detailed tracking practices to be developed over time. On-budget support refers to financial support received directly into Kenya's budget from international sources. Off-budget refers to financial and in-kind (technological and technical assistance) resources received by the government through non-governmental channels or offered directly to government agencies without direct financial input to the national budget.
2. Following the explanation above, we assume that Kenya received the full sum of indicated amounts within the January 2021 to December 2022 period into the national budget.

Definitions and methodologies

3. Only core climate change support is considered as support received. In this BTR, Kenya considers support received from projects whose main(core) objective is climate change mitigation and adaptation that are designated under the NDC. Development projects with climate benefits have not been considered due to challenges in determining additionality.
4. The BTR report only considers finance received and expended (used) in contributing to the objectives of the NDC.
5. In principle, concessional loans received to support core climate change projects shall count as Kenya's climate finance contribution. Kenya does not count market-rate loans (commercial loans) as climate finance.
6. Financial resources from the ex-chequer (internal budgetary allocation) are counted as Kenya's own contribution.
7. To avoid double counting, this report has not considered information on support provided to Kenya based on the OECD/DAC data. This data will, however, be considered in future reports after Kenya develops an elaborate tracking system for climate finance.
8. Information on non-monetized climate support received has not been included in the report. This is due to a lack of adequate information and data.

6.3. Information on financial support needed

Kenya conducted a technical analysis of the resources required to meet the country's NDCs' targets. The technical analysis evaluated the national and sectoral policies, plans, and strategies including identified priority actions to inform data driven decisions based on evidence and analytics. To complement the technical analysis, data from available sectoral reports was assessed allowing for the extraction of meaningful insights to better understand Kenya's priorities in scaling up climate action in meeting our NDC targets.

The NDC targets cut across different sectors including disaster risk reduction, agriculture (crops, livestock, and fisheries), environment, gender, youth, and other vulnerable groups, as well as devolution.

Overall, Kenya requires USD 62 billion until 2030 to support implementation of NDC targets. Of this amount, mitigation actions for the period 2020-2030 require an estimated total of USD 17,725 million with designated sectoral financial totals as follows: Energy USD 8,890 million, Agriculture 250 million, Transport and infrastructure USD 4,240 million, LULUCF USD 4126 million, and waste USD 39 million. Of the total mitigation finance needed, Kenya intends to shoulder 21% (3,725 million USD) from domestic sources subject to national circumstances, while the balance of USD 14,000 million (79%) is to be covered by international support. Adaptation remains a key priority for Kenya. To meet its adaptation costs for the period 2020-2030, Kenya requires an estimated USD 43,927 million. Subject to national circumstances, Kenya intends to mobilize domestic resources to cater for 10% of the adaptation cost, while 90% of the adaptation cost, will require international support in the form of finance, technology development and transfer, and capacity building

6.4. Information on financial support received

Kenya has received a total of USD 507 Million in this BTR period. This constitutes both on-budget and off-budget support. The on-budget support accounts for 89% of the total sum which is USD 456 Million. USD 52 Million was delivered as grants, USD 365 million was in loans. In line with Kenya's NDC definition of climate finance, the USD 365 million received as loans (both concessional and commercial) shall be counted towards Kenya's contribution once repayments are made. Off-budget support amounted to USD 51 Million. This amount is not representative of the full support received during this period due to limitations in tracking various bilateral initiatives in Kenya. Kenya acknowledges the need to design and strengthen off-budget tracking mechanisms, and the importance of international support towards this objective within the scope of availing support for reporting and building Monitoring, Reporting and Verification systems.

6.5. Information on technology development and transfer support needed by developing country Parties under Article 10 of the Paris Agreement

Kenya's technology development and transfer support needed is included in sectoral costs indicated in section 4.3 as estimated finance needed to support technology development, and adoption. However, the methodology does not distinctly separate specific support needed for various technologies from the earmarked priority actions. Therefore, this BTR does not include specific finance needed for technology development and transfer.

Kenya considers the development of a Technology Action Plan as an important intervention to assess the technological costs of various technologies identified in the NDC.

6.6. Information on capacity-building support needed

The support required for capacity-building initiatives during this BTR period is included in the total support needed (USD 62 billion) as outlined in section 4.3. Specific costing of capacity building needs across each NDC target sector was not available.

6.7. Information on capacity-building support received

Kenya has received a total of USD 5.6 million towards capacity-building initiatives in this BTR period which was majorly from the GCF Readiness support. A total of USD 4.5 million was delivered as grants/technical assistance.

6.8. Information on support received for the preparation of the BUR

The Global Environment Facility (GEF) funding under the Enabling Activities was Kenya's only direct funding to prepare the initial BUR. Following the approval of the BUR1 project proposal, Kenya received funding support of $352,000 through the UN Environment as the implementing agency. The GEF funding enabled Kenya to compile the initial BUR. Due to internal administrative challenges that affected the disbursement of project funds from UNEP, the GEF implementing entity supporting Kenya, Kenya could not receive the required resources within time to prepare the reports. The contributions from the Transparency Accelerator Initiative, GIZ, NAP-Global, CIAT, Fauna & Flora and CBIT-GSP through technical assistance contributed to compiling the NC3 and BTR1.

Annex

Annex 1: National GHG Inventory Document.

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