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REPUBLIC OF KENYA
THE NATIONAL ASSEMBLY
THIRTEENTH PARLIAMENT – FOURTH SESSION – 2025

DIRECTORATE OF DEPARTMENTAL COMMITTEES

DEPARTMENTAL COMMITTEE ON ENVIRONMENT, FORESTRY AND MINING

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REPORT ON

CONSIDERATION OF SESSIONAL PAPER NO. 5 OF 2024

ON

THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

DIRECTORATE OF DEPARTMENTAL COMMITTEES,
CLERK'S CHAMBERS,
PARLIAMENT BUILDINGS,
NAIROBI.

SEPTEMBER, 2025

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LIST OF ABBREVIATIONS AND ACRONYMS

CIDPs	-	County Integrated Development Plans
FLLoCA	-	Financing Locally-Led Climate Action
GFIPF	-	Green Fiscal Incentives Policy Framework
GHG	-	Greenhouse Gases
KUP	-	Kenya Union Party
MSMEs	-	Micro, Small and Medium Enterprises
MTPs	-	Medium-Term Plans
NCCAPs	-	National Climate Change Action Plans
NDC	-	Nationally Determined Contribution
ODM	-	Orange Democratic Movement
PES	-	Payment for ecosystem services
PPP	-	Polluter Pays Principle
UDA	-	United Democratic Alliance
UPIA	-	United Party of Independent Alliance
WDP	-	Wiper Democratic Party

LIST OF ANNEXURES

1. Report adoption Schedule
2. Minutes
3. Copy of the Newspaper Advertisement on Public Participation
4. Letter inviting stakeholders for meetings with the Committee
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CHAIRPERSON'S FOREWORD

The Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework was laid on the Table of the House by the Leader of the Majority Party on 6th November 2024 and thereafter stood committed to the Departmental Committee on Environment, Forest and Mining.

The Paper seeks to steer Kenya's economy onto a desired low-carbon, climate-resilient green development pathway through a variety of fiscal and economic mechanisms.

The Paper contains five chapters. Chapter One gives a background on the threats posed by climate and other environmental challenges, and Chapter Two highlights the policy goals and the guiding principles underpinning the policy. Chapter three provides the situational analysis of the various sectors, including disaster risk management, water and the blue economy, health and sanitation, food, agriculture, electricity, clean cooking, manufacturing, transport and waste management. Chapter four outlines a series of green fiscal policy actions of particular interest to the government of Kenya. Lastly, Chapter Five contains a policy implementation matrix which gives the policy/fiscal action, key performance indicators, and lead actors.

Following the placement of advertisements in the print media on **6th December 2024**, seeking public and stakeholder views on the Sessional Paper pursuant to Article 118(1) (b) of the Constitution and Standing Order 127(3), the Committee did not receive any memorandum.

The Committee also invited Ministries, Department Agencies (MDAs) vide letters, **REF: NA/DDC/ EF&M/2025/41, REF: NA/DDC/ EF&M/2025/42** dated **30th July 2025, REF: NA/DDC/ EF&M/2025/46,** dated **29th July 2025,** for a meeting. The Committee received submissions from the following MDAs:

i) The National Treasury.
ii) Ministry of Environment, Forestry and Climate Change.
iii) The State Department for Forestry.
iv) The Attorney General.

The Committee, having considered the Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework, unanimously resolved that it be adopted.

The Committee is grateful to the Offices of the Speaker and the Clerk of the National Assembly for the logistical and technical support accorded to it during its sittings. Finally, I wish to express my appreciation to the Honorable Members of the Committee and Secretariat who made useful contributions towards the consideration and production of this report.

On behalf of the Departmental Committee on Environment, Forestry and Mining and pursuant to provisions of Standing Order 127 (4), it is my pleasure and honour to present to this House the Report of the Committee on its consideration of the Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework.

HON. VINCENT MUSYOKA MUSAU, CBS, MP
CHAIRPERSON, DEPARTMENTAL COMMITTEE ON ENVIRONMENT, FORESTRY AND MINING

PART ONE

1.0 PREFACE

1.1 ESTABLISHMENT OF THE COMMITTEE

1. The Departmental Committee on Environment, Forestry and Mining is one of the twenty Departmental Committees of the National Assembly established under **Standing Order 216,** whose mandate pursuant to the **Standing Order 216 (5)** is as follows:

    i. *To investigate, inquire into, and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned ministries and departments;*
    ii. *To study the programme and policy objectives of Ministries and departments and the effectiveness of their implementation;*
    iii. *On a quarterly basis, monitor and report on the implementation of the national budget in respect of its mandate;*
    iv. *To study and review all the legislation referred to it;*
    v. *To study, assess and analyse the relative success of the Ministries and departments as measured by the results obtained as compared with their stated objectives;*
    vi. *To investigate and inquire into all matters relating to the assigned Ministries and departments as they may deem necessary, and as may be referred to them by the House;*
    vii. *To vet and report on all appointments where the Constitution or any law requires the National Assembly to approve, except those under Standing Order 204 (Committee on appointments);*
    viii. *To examine treaties, agreements and conventions;*
    ix. *To make reports and recommendations to the House as often as possible, including recommendation of proposed legislation;*
    x. *To consider reports of Commissions and Independent Offices submitted to the House pursuant to the provisions of Article 254 of the Constitution; and*
    xi. *To examine any questions raised by Members on a matter within its mandate.*

1.2 MANDATE OF THE COMMITTEE

2. In accordance with the Second Schedule to the Standing Orders, the Committee is mandated to consider matters related to climate change, environment management and conservation, forestry, mining and natural resources, pollution and waste management.

3. In executing its mandate, the Committee oversees the Ministry of Environment, Climate Change and Forestry and the State Department for Mining.

1.3 COMMITTEE MEMBERSHIP

4. The Departmental Committee on Environment, Forestry and Mining was constituted by the House on 27th October 2022 and on 5th March 2025 and comprises the following Members:

Chairperson
Hon. (Eng.) Vincent Musyoka Musau, MP
Mwala Constituency
UDA Party

Vice-Chairperson
Hon. Charles Kamuren, MP
Baringo South Constituency
UDA Party

Members

Hon. Mbalu Jessica Nduku Kiko, CBS, MP
Kibwezi East Constituency
WDP Party

Hon. Mwanyanje Gertrude Mbeyu, MP
Kilifi County
ODM Party

Hon. Hiribae Said Buya, MP
Galole Constituency
ODM Party

Hon. Salim Feisal Bader, MP
Msambweni Constituency
UDA Party

Hon. Emathe Joseph Namuar, MP
Turkana Central Constituency
UDA Party

Hon. Joseph Wainaina Iraya, MP
Nominated
UDA Party

Hon. Kemei Beatrice Chepngeno, MP
Kericho County
UDA Party

Hon. Charity Kathambi Chepkwony, MP
Njoro Constituency
UDA Party

Hon. Mohamed Ali Mohamed, MP
Nyali Constituency
UDA Party

Hon. Masito Fatuma Hamisi, MP
Kwale County
ODM Party

Hon. Titus Lotee, MP
Kacheliba Constituency
KUP Party

Hon. Mohamed Tubi Bidu, MP
Isiolo South Constituency
Jubilee Party

Hon. Yakub Adow Kuno, MP
Bura Constituency
UPIA Party

1.4 COMMITTEE SECRETARIAT

5. The Committee is facilitated by the following staff:

Ms. Hellen Ekadeli
Senior Clerk Assistant/Head of Secretariat

Ms. Mercy Wanyonyi
Senior Legal Counsel

Dr. Joseph Kuria
Research Officer III

Mr. Stephen Otieno
Senior Sergeant-At-Arms

Mr. Eric Ogola
Public Communications Officer III

Mr. Hamdi Hassan Mohamed
Clerk Assistant III

Ms. Nancy Chamunga
Fiscal Analyst II

Mr. Kevin Obilo
Media Relations Officer III

PART TWO

2.0 CONSIDERATION OF SESSIONAL PAPER NO. 5 OF 2024 ON THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

2.1 BACKGROUND INFORMATION

6. Kenya has made significant progress in moving toward a green and blue development pathway, as sustainable natural resource utilization, including marine and aquatic resources, is embedded in the Constitution. The Green economy has been mainstreamed in the MTPs and County Integrated Development Plans (CIDPs).

7. Under the Climate Change Act 2016, the government is required to develop five-year NCCAPs to guide the mainstreaming of adaptation and mitigation actions into the sector functions of the national and county governments. The NCCAP, covering the period 2018 to 2022, identifies a series of actions for government and other stakeholders, with a particular focus on adaptation. The NCCA, covering 2023 to 2027, has the main goal of promoting Kenya's sustainable development by providing mechanisms and measures to achieve low-carbon, climate-resilient development. The Action Plan identifies the following eight priority areas, where actions and targeted measures need to be implemented: disaster risk management; food and nutrition security; water, fisheries and blue economy; forestry, wildlife and tourism; health, sanitation and human settlements; manufacturing; energy and transport; children and youth.

8. The National Policy on Climate Finance (2018), provided a clear direction on mechanisms for enhanced mobilization of climate finance from all sources: private, public, multilateral Agencies, bilateral, philanthropic, etc., to finance Kenya's updated NDC and NCCAPs. The policy recommended the development of green fiscal incentive policies to catalyze the private sector to finance the transition to a low-carbon and climate-resilient development path.

9. There is a range of further specific policies that provide for green growth and sustainable natural resource management, including the Environmental Management and Coordination Act, 1999 and the Sustainable Waste Management Policy and Sustainable Waste Management Act, 2022.

2.2 POLICY GOALS AND GUIDING PRINCIPLES

10. The goal of this policy is to identify and prioritize the implementation of a coherent suite of green fiscal actions that will enable Kenya to exploit the opportunities for accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability.

11. The specific objectives of the policy are to:
    i) Direct government planning, budgeting and spending/procurement toward green production and consumption.
    ii) Provide a framework for fiscal incentives to attract private sector investment into a low-carbon emission, climate-resilient and environmentally sustainable economy.
    iii) Provide a framework for generating additional revenue streams for the government.

12. In seeking to achieve this goal, nine principles have informed the development of the policy to date and will guide the implementation of the specific actions this policy framework identifies:

i) **Predictability:** The policy will provide greater certainty in government policy to encourage higher private sector investment in green growth. Sunset clauses for phasing out incentive schemes will be developed to provide certainty for the investors.
ii) **Cost-effectiveness:** The policy will promote fiscal measures that maximize value for money while ensuring sustainable growth.
iii) **Polluter-pays:** The policy will provide ways of allocating the costs of pollution prevention and control to polluters to encourage the rational use of scarce environmental resources by evoking the Polluter Pays Principle (PPP).
iv) **Coherence:** The individual actions developed under this policy will be additional. There will be a focus on both ensuring that all policies are aligned to achieve the same objective and on avoiding unnecessary policy duplication or overlap.
v) **Consultative:** The policy and its individual actions are developed in a consultative manner, drawing on the full range of expertise within Kenya and internationally, allowing those who will be both positively and negatively affected by potential changes to express their perspective and to have an opportunity to suggest improvements.
vi) **Inclusiveness:** The policy and its actions will promote the participation of private investors and communities, including small-, medium- and large-scale enterprises. This will, in turn, support the government's employment and wealth-creation initiatives. This is consistent with the BETA, which lays emphasis on leaving no one behind.
vii) **Transparency and accountability:** Spending on green fiscal policies and any revenues raised will be managed in line with the provisions of the Constitution of Kenya and the Public Finance Management (PFM) Act (2012) on sound public expenditure management.
viii) **Equity:** The policy and its individual actions will promote reallocation and redistribution of resources while taking cognizance of the needs of the most vulnerable sectors and members of society.
ix) **Sustainability:** The Policy will provide an opportunity to meet economic, environmental and social needs of the present without compromising the ability of future generations to meet their own needs.

2.3 THEMATIC POLICY AREAS IN THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

13. The policy areas in the framework include: Disaster risk management; Water and the blue economy; Health and sanitation; Food, agriculture and nutrition security; Forests, wildlife and tourism; Human settlements and infrastructure; Electricity; Clean cooking; Manufacturing; Transport and Waste management.

14. The following are policy actions in the eleven (11) sectors.

2.3.1 Disaster Risk Management

15. The national and county governments will pursue the following actions to reduce the devastating impact of climate-related disasters in Kenya.
    i) **Flood control measures:** To address the problem of perennial floods and related risks, the government will put in place measures to increase funding and strategically implement preventative resilience measures for flood control projects such as dikes, dams, catchment and riparian reserves.
    ii) **Promote crop and livestock insurance:** To cushion farmers from loss of crops and livestock, the government, in collaboration with insurance providers, will put in place

measures to scale up climate-oriented insurance programs. This will include a consideration of whether to provide additional subsidies to reduce the cost of insurance for farmers without discouraging appropriate risk-reduction behavior. It will also include options for the design of innovative weather-based insurance products. The government will also consider options for increasing awareness, education and training around the role and value of crop and livestock insurance, especially in the provision of agricultural extension services at the county level.

iii) **Disaster risk financing:** To ensure that it has sufficient funds to respond to inevitable disasters, the government will promote the use of innovative disaster risk-financing instruments like catastrophe (CAT) bonds, risk pools and contingency bonds as well as sovereign and subnational level disaster management funds. This will be complemented by the Kenya Sovereign Green Bond Framework, which provides a clear set of protocols for identifying the responsibilities of different stakeholders in relation to the use of such financing in the event of a disaster.

iv) **Climate information services:** To enhance climate information services, the national and county governments will increase funding for meteorological services and Early Warning Systems (EWS) and climate information systems, including the dissemination of weather information, and provision of tax incentives for early warning equipment.

v) **Compensation fund for climate impacts:** To cushion vulnerable and marginalized communities from the effects of extreme weather and climate-related events, the government will increase funding for resilience-building and safety net programs.

2.3.2 Water and the Blue Economy

16. To both reduce the risks that climate change poses to the country's water resources and to exploit its huge blue economy potential, the national and county governments will undertake the following actions.

i) **Enhance water harvesting and storage:** To address water shortages, the national and county governments will implement fiscal measures to enhance acquisition, affordability and access of equipment used for water harvesting and storage including roof catchment, water storage tanks, ensure strict quality controls on water storage tanks, construction of underground tanks, dikes and gabions in flood-prone areas.

ii) **Promote water use efficiency:** To ensure sustainable use of the available water resources, the national and county governments will institute fiscal measures for innovations and equipment that promote water saving, efficient use, and industrial wastewater recycling and treatment. The governments will also explore the current system of water charging, with the intention of developing a set of water tariffs that provide the right incentives for water use efficiency.

iii) **Elimination of invasive species:** The national and county governments will support research, technology and innovations in the sustainable management of invasive species such as water hyacinth.

iv) **Promote sustainable fishing and restoration of coastal and freshwater ecosystems:** To address the challenge caused by uncontrolled and unsustainable fishing, the government will impose tax measures on large-scale fishing companies and trawlers. Additionally, the government will introduce fishing quotas to establish quantitative upper limits for fishing catches, with quota rights either being non-tradable or tradable. In addition, along, the government will put in place fiscal measures for the restoration of shallow coastal water ecosystems, such as mangroves, tidal marshes and seagrass beds. Second, the government

will promote sustainable fishing along the Kenyan coast. Quotas would establish quantitative upper limits for fishing catches, with quota rights either being non-tradable (as is the case in Namibia) or tradable (as is the case in Iceland). Quota policies would be budget-neutral if distributed for free, or a source of government revenue if auctioned. Similar measures will be instituted on the freshwater lakes such as Victoria, Naivasha, L. Baringo, L. Turkana, among others.

v) **Restore degraded deltas and wetlands:** Wetlands are essential life-support systems and play a vital role in controlling water cycles. However, a growing population, together with the need for increased agricultural production, has led to substantial pressure on the deltas and wetlands. In view of this, the government will develop fiscal instruments such as PES to promote private sector participation in the restoration of degraded deltas and wetlands.

vi) **Protect riparian land in arid and semi-arid areas:** In order to promote sand storage dams and water pans for livestock and small-scale cultivation, the government will provide an enabling environment through incentives towards these adaptation programs.

vii) **Provide green shore power as a viable alternative to contribute to emissions reductions at Kenya's seaports:** In order to promote investment in cold ironing as an alternative marine power to cover the energy demands of ships calling at the ports, the government will consider providing incentives to investors in green shore power supply

viii) **Provision of appropriate reception facilities for the control of emissions from ships:** To control GHG emissions from the anticipated increase in the number of vessels coming to Kenya due to the expansion of the Port of Mombasa and the construction of the Lamu Port, the government will promote the establishment of vessel reception facilities that will ensure ozone depleting substances and vessel equipment containing such are handled and disposed appropriately.

2.3.3 Health and Sanitation

17. Recognizing the threats that climate change and other environmental risks pose to the health of Kenyans, the government will undertake the following actions.

i) **Combat increased incidence of malaria and other vector-borne diseases:** Climate change has resulted in an increase in the number of cases of malaria. The national and county governments will provide funding for research and innovation to control mosquitoes in an environmentally friendly manner, to help combat the increased malaria incidence.

ii) **Handling & disposal of hazardous & toxic waste:** Hazardous waste poses a threat to both human health and the environment when handled improperly. The national government, working with county governments, will put in place and/or implement more financially punitive measures for improper handling of hazardous materials such as mercury, cyanide and lead.

iii) **Promote energy efficiency in health facilities:** Energy is a prerequisite to quality healthcare, given that most life-saving medical equipment requires power to operate. Having energy-efficient medical equipment will help improve access and availability of quality and affordable healthcare. The government will provide fiscal incentives for the importation of energy-efficient medical equipment. Additionally, the national and county governments will support the installation of renewable energy standalone mini off-grid systems in health facilities.

iv) **Promote use of organic pesticides:** The excessive use of inorganic/harmful pesticides poses a threat to human health and the environment, especially with prolonged use and exposure. In addition, using such pesticides contributes to an increase in acute respiratory

infections from the resulting air pollution. Promoting the use of environmentally friendly, bio-degradable pesticides will help reduce the effects of inorganic/harmful pesticides. The national and county governments will therefore provide fiscal incentives to promote production, preferential procurement and use of organic pesticides such as pyrethrum-based (pyrethrin).

v) **Support surveillance of climate-related health risks:** The effects of climate change will lead to increased emergence and re-emergence of disease outbreaks such as Malaria, Rift Valley Fever and the East Coast Fever. In response, the national and county governments will provide financial support by allocating funds to the surveillance of climate-related health risks.

2.3.4 Agriculture, Food, and Nutrition Security

18. The agriculture sector is both exceptionally sensitive to climate change, which in turn threatens the food security of Kenya's vulnerable population, and a significant source of GHG emissions. It is also a source of, and is exposed to, a range of further environmental risks. The government will therefore explore a range of fiscal policy response measures, as follows:

i) **Water-saving irrigation systems and strategies.** Overreliance on rain-fed agriculture and outdated non-water-saving irrigation technologies hampers adaptability to climate change for farmers. The Government will support innovations in the development of water harvesting and irrigation infrastructure, including drip irrigation systems and strategies like deficit irrigation and partial root zone drying are technologies with potential for saving water, which will be beneficial compared with the sprinkler irrigation system currently used by farmers. The government will therefore provide incentives to promote technologies for water-efficient irrigation systems.

ii) **Reduction of post-harvest losses:** To reduce post-harvest losses, the government will promote agro-processing and provide incentives that are aimed at increasing adoption of post-harvest storage technologies and equipment such as cooling plants, on-farm storage technologies, such as hermetic bags.

iii) **Green technology in crop production.** The full potential of arable land productivity in Kenya has not yet been realized. Moreover, it is rare across Kenya to apply and utilize green technologies and strategies to promote sustainable productivity, even though these measures would improve food security. The government will incentivize the use of green technology and the application of sustainable strategies in agricultural production. In particular, the policy will promote, through fiscal policy interventions the use of integrated crop management technology, organic farming and the use of low-carbon emission equipment for cultivation

iv) **Livestock production.** The government will explore opportunities and fiscal incentives to promote the adoption of improved adaptive and resilience technologies to increase livestock production and productivity by 2030. Additionally, the PES, will also have a strong impact on the land-use decisions and practices of farmers across the country.

v) **Cooperative development and climate-smart agricultural practices:** This policy will incentivize cooperative development and prudential management through the provision of performance-based cooperative grants and concessional loans. This will support advancements, including land consolidation and mechanization and, hence, promote large-scale crop, livestock and fisheries production and value addition.

vi) **Degraded land rehabilitation:** The government will also explore and introduce opportunities for government programs to protect and rehabilitate degraded lands, such as

the degraded landscape restoration deal scheme (DELARES), so that they can be used for sustainable agriculture.

2.3.5 Forestry, Wildlife and Tourism

19. Forestry, wildlife and tourism are at the forefront of both Kenya's mitigation and adaptation efforts. The proposed fiscal actions for the forestry sector include the following:
    i) **Incentivize tree growing and management.** The government will promote tree growing, management and protection of gazetted forests to increase forest cover to 10%. This would also restore and conserve water towers. The government recommends planting on both public and private land.
    ii) **Ecological Fiscal Transfers (EFTs):** The National Treasury and the Ministry of Environment and Forestry will work with the Commission on Revenue Allocation (CRA) to come up with an EFT parameter in the revenue sharing formula for allocating more resources to strengthen the capacity of the counties in preserving environmental and ecological functions.
    iii) **Payment for Ecosystem Services (PES)**: The Government shall promote responsible for environmental and ecosystem matters in collaboration with relevant sector ministries will fast track the development of PES schemes to incentivize scaling up of conservation and restoration programs.
    iv) **Integrate afforestation and reforestation into the Reducing Emissions from Deforestation and Forest Degradation (REDD+) and Carbon trading design**. As part of the design proposals for a carbon tax scheme, the government will consider opportunities for companies to reduce their tax liability by purchasing offsets from forestry projects.
    v) **Concessions and Public Private Partnerships:** The government will provide incentives and long-term concessions for promoting tree planting and growing on public and private lands; improve saw milling technologies, production of high-quality seedlings and mass timber technologies.
    vi) **Commercial Forestry:** The government will provide incentives to spur investments in commercial forestry and the importation of sustainable timber.

2.3.6 Human Settlements and Infrastructure.

20. The fiscal policy and other measures that the government will pursue to ensure that these infrastructure and buildings support low-carbon, climate-resilient development are as follows.
    i) **Enhance the climate resilience of roads:** To climate-proof the road network, the National Treasury will include climate-resilience criteria within Public Investment Management (PIM) Guidelines for funding infrastructure projects and enhance the incorporation of the concept of 'roads for water' in the design and construction of roads.
    ii) **Integrate the circular economy into infrastructure development:** To realize the sustainable development benefits, the government will provide fiscal incentives in the use of recycled materials in infrastructure development.
    iii) **Support green building development:** The government will provide incentives to developers who meet the requirements for green building specifications/codes.
    iv) **Supporting Adoption of Water and Energy-Efficient Infrastructure:** The government will incentivize the construction of water and energy-efficient buildings. Additionally, all new public building designs will incorporate water and energy-efficient measures into their construction and operation.

2.3.7 Renewable Energy

21. To promote Renewable energy production and deployment and increase consumer connectivity, the government will:

i) **Phase out fossil-fuel-based thermal electricity:** The government will provide fiscal incentives needed to lower the cost of renewable energy relative to fossil-fuel-intensive energy sources.
ii) **Accelerate geothermal development:** The government will provide targeted incentives for private investment in geothermal electricity generation and other productive uses. The fiscal incentives envisage concessional funding and public support for early-stage investments in geothermal resource assessments, which will enable private investment where geothermal is most promising.
iii) **Expand off-grid electricity solutions:** The government will incentivize off-grid renewable energy options to enable access in areas far from the national grid. Tax exemptions and credits will be considered.
iv) **Incentives for electricity connection:** The government will provide consumer-level incentives to enable more households and MSMEs to afford electricity connectivity through enhancing initiatives such as the last-mile connectivity.
v) **Continue to implement Feed-in-Tariff projects**: These are projects below 20 MW capacity for all technologies except solar and wind. The latter are targeted to be procured through renewable energy auctions. The feed-in-tariff projects are incentivized by pre-set tariff and expedited procedures.

2.3.8 Clean Cooking

22. In response to various existing global and local commitments such as Sustainable Development Goals (SDGs), Sustainable Energy for All (SEforALL) and the NDC, the government of Kenya commits to accelerate actions in clean cooking, targeting to achieve Universal Access to Modern Energy Cooking Services by 2028. A range of incentives are desired to unlock and accelerate the transition to modern and clean cooking. The options that will be considered include:

i) **Incentives for clean cooking fuels and technologies:** The government will incentivize and encourage the production, access and use of clean cooking fuels and technologies. This will include targeted incentives across the clean cooking supply and demand value chains.
ii) **Enabling Markets for clean cooking services:** To ensure a sustainable and inclusive market system for clean cooking solutions, there is need to develop standards, establish stove testing infrastructure across the country to support voluntary labelling and certification system and regulations to incentivize local production of cooking products and curb the proliferation of counterfeit imported products.
iii) **Investment in Research and Development (R&D) of renewable energy**: The Government will support investment in Research, Development and innovation on renewable energy as a means to close inherent information gaps and embrace informed policy and decision making. This will also include incentive options for the private sector to conduct R&D.
iv) **Integration of cooking into national electrification programs:** To support the mainstreaming of electric cooking, it is imperative that cooking is embedded into electrification programs to leverage from successes in both on and off-grid electrification. The government will consider duty exemptions and Value Added Tax (VAT) zero-rating for energy-efficient e-cooking appliances (such as electric pressure cookers) and establishment of dedicated e-cooking tariffs.

2.3.9 Manufacturing

23. The following fiscal incentives will be considered:
    i) **Promote efficient management of production systems.** The government will provide fiscal incentives to the private sector for innovative production, acquisition and use of efficient machinery to optimize the use of energy, materials and reduce waste.
    ii) **Develop eco-labelling schemes.** An eco-label identifies products or services that meet prescribed environmental criteria. The government will prioritize the procurement of products and services that are eco-labeled.

2.3.10 Transport

24. The Kenyan government aims to use fiscal policy to promote sustainable transportation, both public and private. The following are fiscal incentives to green the transportation sector:

    i) **Promote mass rapid transit**: The government will develop a national transitional plan to e-mobility as well as other green transport systems. This will include shifting public expenditure in the transport sector toward sustainable mass rapid transport infrastructure.
    ii) **Incentives for electric vehicles.** The government will provide incentives for import, manufacture and assembly of electric and hybrid motor vehicles, electric motorcycles, spare parts and Electric Vehicle (EV) batteries. This will be necessary to support the transition toward low-emission and clean transport systems. Options include tax incentives for electric vehicles and the operationalization of a feebate system. The Government will shift to the procurement of electric vehicles over the medium term.
    iii) **Expansion of e-mobility infrastructure.** The government will put in place fiscal measures to develop and expand infrastructure across the country to support e-mobility and non-motorized transport.
    iv) **Congestion charging.** The government will explore the development of a congestion charging scheme in the cities.
    v) **Development of alternative transport fuels**. Incentivize production of alternative transport fuel sources such as biofuels (biogas, bioethanol, bio-Liquefied Petroleum Gas (LPG), biodiesel) and green hydrogen.

2.3.11 Waste Management

25. The government's actions in greening the waste management value chain will be consistent with the Sustainable Waste Management Policy of 2021 and the **Sustainable Waste Management Policy Act, 2022**. The government will provide the following fiscal actions:
    i) **Development of Material Recovery Facilities (MRF)**: Provide incentives for waste recovery facilities, the circular economy, incentivize sanitary landfills and disincentivize dumpsites
    ii) **Incentives for private sector engagement in waste management:** The government will provide incentives to promote private sector involvement in the waste management sector, including tax incentives, removal of investment barriers, creation of a conducive investment climate, and incentivize access to finance.
    iii) **Encouraging circular business models**: The government is keen on providing a range of incentives to promote circular business models. These include incentivizing adoption of EPR regulations, encouraging recycling, offering preferential use of recovered materials over

virgin materials, and promote the procurement and use of recycled goods. Support innovative waste-to-energy technologies.

2.2.2 Enhanced green financial intermediation actions:

i) **Green investment bank:** The government will develop a green investment bank that will provide a range of funding instruments and associated incentives to support the public and private sector in overcoming barriers to making green investments at scale. The institution will help address the perception and/or reality that the capital costs and risks of green investments are too high, and the returns too low. It would provide a range of financial instruments which could potentially include *credit guarantees, risk-reduction facilities, debt equity and blended finance*.

ii) **Carbon tax:** Recognizing the ability of carbon taxes to both cost-efficiently reduce GHG emissions and also to provide a revenue stream that can be used to meet broader government objectives, the government will explore the viability and design of a carbon tax in Kenya.

PART FOUR

4.0 PUBLIC PARTICIPATION/STAKEHOLDERS CONSULTATION

26. Following the call for memoranda from the public through placement of adverts in the print media on **6th December 2024** and vide letters **REF: NA/DDC/ EF&M/2025/41, REF: NA/DDC/ EF&M/2025/42** dated **30th July 2025, REF: NA/DDC/ EF&M/2025/46,** dated **29th July 2025,** inviting stakeholders for a meeting, the Committee received submissions from the following stakeholders:
    i) The National Treasury
    ii) Ministry of Environment, Forestry and Climate Change
    iii) The State Department for Forestry
    iv) The Attorney General.

4.1 SUBMISSIONS BY THE NATIONAL TREASURY

27. In a meeting with the Committee held on **Friday, 8th August 2025, Mr. Peter Odhengo,** Head of the Climate Finance and Green Economy Unit at the National Treasury, on behalf of the Principal Secretary, made the following submissions:

Background

28. The Green Fiscal Incentives Policy Framework seeks to steer Kenya's economy onto a desired low-carbon, climate-resilient green development pathway through a variety of fiscal and economic mechanisms. Green fiscal reforms can help shift consumption patterns, generate additional revenue, and drive private investment in projects and programs that adopt climate-friendly production mechanisms.

29. The policy sets out how the government Ministries, Departments and Agencies can enhance mobilization of climate Finance from all sources: private, public, multi-lateral agencies, bilateral, philanthropic, etc. to finance Kenya's updated NDC and NCCAPs.

30. The Policy Framework considers green fiscal reforms as mechanisms that have been used by governments to correct environmental externalities, support national climate change goals, and promote clean energy investments.

31. The mechanisms range from tax policies, subsidies and expenditure programs, and regulatory instruments with fiscal components all of which have revenue implications. As such: government taxes can be used to stimulate a shift in production, consumption and investment in low-carbon climate-resilient and environmentally sustainable practices; concessional loans, guarantees and interest rate subsidies can be effective tools in overcoming investment barriers and leveraging private sector green investments; and government spending can directly target the delivery of environmental outcomes that the private sector might otherwise ignore.

Policy Context

32. Recognizing the threats posed by climate change and other environmental challenges, the world is now taking more rapid action. Investors are rapidly shifting from dirty to clean assets, and key technologies needed for environmental sustainability are experiencing rapid cost reductions.

33. The world's largest emitter, China, in 2020 pledged to reduce carbon dioxide (CO_2) emissions to net zero by 2060. The United Nations Call for Action on Adaptation and Resilience spelled an urgent need for enhanced resilience and also recently adopted a landmark framework that considers the contribution of nature when measuring economic prosperity and human wellbeing.

34. In accordance with the updated NDCs that build on national policies, plans and legal frameworks, it is essential for Kenya to play a full and active part in this global transition to a low-carbon climate resilience development path.

35. A development path characterized by continued low emissions, enhanced climate resilience and environmental sustainability.

36. Formulation of this Policy was initiated within the framework of the Climate Change Act, 2016 and the National Climate Change Action Plans whose objective is to encourage low carbon climate climate-resilient development through implementation of the National Climate Change Response Strategy, 2010.

Goals and Objectives of the Policy

37. He noted that the goal of this policy is to identify and prioritize the implementation of a coherent suite of green fiscal actions that will allow Kenya to exploit the opportunities of accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability. In doing this, the policy will:
    i) Direct government planning, budgeting and spending/procurement toward green and consumption.
    ii) Provide a framework for fiscal incentives to attract private sector investment into a low-carbon emission, climate-resilient and environmentally sustainable economy.
    iii) Provide a framework for generating additional revenue streams for the government.

Benefits of the Policy to Kenya

38. The Policy is an important part of accelerating the implementation of the Constitution of Kenya, 2010, where a clean and healthy environment (Articles 42, 69 and 70) are fundamental right.

39. The policy will encourage private sector participation in climate-relevant financing opportunities.

40. The policy will enhance resilience to climate change and other shocks.

41. The policy is essential for Kenya to manage transition risks. Failure to align with global low-emissions trends may lead to international marginalization, impacting trade and capital flows

42. The policy will provide for the Establishment of the Kenya Green Investment Bank that will provide a range of funding instruments and associated incentives to support climate action.

4.2 SUBMISSIONS BY THE MINISTRY OF ENVIRONMENT, CLIMATE CHANGE, AND FORESTRY

43. In a meeting with the Committee held on **Friday, 8th August 2025**, the **Cabinet Secretary, Dr. Beborah Barasa,** highlighted the following:

    i) The development of the National Green Fiscal Incentives Policy Framework, 2022, was led by an Interagency Taskforce under the leadership of the National Treasury and Economic Planning.
    ii) The framework is a critical policy tool to support Kenya's climate agenda, including the implementation of the Nationally Determined Contribution (NDC).
    iii) The framework proposes a balanced mix of incentives to encourage investment in green, low-carbon, and climate-resilient initiatives, as well as disincentives aimed at phasing out environmentally harmful and unsustainable practices.
    iv) That similar green fiscal approaches have been successfully implemented in developed countries and economies in transition.
    v) Given the far-reaching implications of this policy, the National Treasury, as the custodian of fiscal policy, needs to undertake a comprehensive financial assessment of the proposed measures. This will ensure that the incentives and disincentives are not only aligned with national development priorities but are also fiscally sustainable and effective in delivering the desired environmental and climate outcomes.

4.3 SUBMISSIONS BY THE STATE DEPARTMENT FOR FORESTRY

44. In a meeting with the Committee held on **Friday, 8th August 2025**, the **Principal Secretary, Mr. Gitonga Mugambi,** submitted as follows:

45. The Green Fiscal Incentives Framework Policy (GFIPF) recognizes forestry as a critical sector for driving Kenya's transition to a low-carbon, climate-resilient economy. It acknowledges forests' role in regulating water resources, supporting biodiversity, sequestering carbon, and sustaining livelihoods. Deforestation, forest degradation and desertification are significant challenges, primarily driven by poverty, agricultural expansion, unsustainable exploitation, and climate change effects.

46. The Policy supports tree growing through a Tree Growing Guarantee Scheme, allowable tax deductions for costs related to nursery establishment and planting on public land. Tradable carbon credits for tree planting on private land, and Concessionary loans and government grants to growers. This aligns with the national forest policy's goal to incentivize forest-based livelihoods and commercial forestry.

47. He noted that the Policy aligns with the Kenya Industrial Wood Sector Vision 2020 through the following key areas:
    i) **Private Sector Investment:** The GFIPF aims to provide a framework for fiscal incentives to attract private sector investment into a low-carbon, climate-resilient economy. This directly supports the Vision's need for significant private investment to expand production and upgrade processing capacity.
    ii) **Enhanced Productivity and Sustainable Management:** The GFIPF proposes measures to incentivize the efficient management of production systems, including the use of innovative and efficient machinery. This aligns with the Vision's objective to increase productivity per

unit area through innovative silvicultural practices and improve wood processing systems for better efficiency and higher recovery rates.

iii) **Carbon Sequestration:** The GFIPF's focus on a low-carbon and climate-resilient pathway that is supported by the Vision's environmental goals.

48. The GFIPF does not explicitly mention agroforestry, but the provisions on Carbon credits for diversified trees on private land (up to 50% land cover), Grants for commercial plantations, Promotion of clean cooking to reduce forest pressure, could be extended to support agroforestry systems. However, the lack of explicit agroforestry is a gap, considering its policy prominence.

49. The GFIPF proposes the Degraded Landscape Restoration Deal Scheme (DELARES), Ecological Fiscal Transfers (EFTs) to counties based on restoration efforts, and Payment for Ecosystem Services (PES) schemes. These fiscal tools align with the National Landscape and Ecosystem Restoration Strategy (NLERS's) call for innovative financing and incentivizing subnational governments and communities.

50. The GFIPF seeks to steer Kenya's economy onto a desired low-carbon, climate-resilient green development pathway. It recognizes forests as critical carbon sinks for the country and recommends the development of PES schemes to incentivize the scaling up of conservation and restoration programs.

51. The Reducing Emissions from Deforestation and Forest Degradation (REDD+) strategy describes the approach for achieving low emissions development through REDD+, which is an international framework to mitigate climate change by incentivizing developing countries that address the problem of deforestation and forest degradation and those that promote conservation, sustainable forest management and afforestation and reforestation.

52. He noted that the Policy outlines several positive impacts in the forestry sector, including:

i) **Afforestation/Reforestation:** Promotion of direct government investment in large-scale tree planting and land rehabilitation.

ii) **Carbon Sequestration Incentives:** Opportunity to use carbon offsets from afforestation/reforestation under emissions trading or carbon tax.

iii) **Payments for Ecosystem Services (PES)**: Adoption of international models like Ecuador's Socio Bosque program or India's ecological fiscal transfers (EFTs) that reward conservation efforts with fiscal transfers to communities or counties.

iv) **Revenue Generation:** Introduction of green bonds and fiscal tools to mobilize private sector and donor investments for forest restoration.

v) **Incentivized Private Participation:** Carbon credits, concessional loans, and tax incentives encourage private sector and farmer investment in tree growing.

vi)) **Subnational Empowerment:** EFTs linked to environmental outcomes empower counties to invest in restoration and sustainable forest management.

vii) **Restoration Financing:** Instruments like DELARES and PES provide new avenues for funding landscape restoration.

viii) **Diversification of Forest Products:** Support for commercial plantations may boost wood value chains and relieve pressure on natural forests.

53. He also highlighted the following are some of the gaps relating to the forest sector:

i) **Insufficient Focus on Community Forest Associations (CFAs):** The role of CFAs in conserving and managing forests under the Forest Conservation and Management Act (2016) is not emphasized in the incentives design.
ii) **No Direct Incentives for Agroforestry:** Although mentioned under agriculture, there is limited focus on integrating forestry into farming landscapes to improve land productivity and tree cover.
iii) **Tourism Linkages Underexplored:** While tourism is discussed, there's no concrete proposal to tie fiscal incentives for wildlife and ecotourism directly to forest conservation outcomes.
iv) **Tree seed systems and certification:** Though nursery registration is mentioned, broader support for quality seed systems is absent, which is key for landscape-scale restoration.
v) **Forestry contribution to Gross Domestic Product (GDP):** under-valuation of the forestry contribution to the GDP. Forestry plays a critical role in Kenya's economy and environmental sustainability. However, its contribution to GDP is grossly undervalued in official statistics, typically reported as less than 1.6% of GDP. This figure fails to reflect the full economic, social, and ecological value of forests and forest-related activities.

54. To bridge the forest valuation gap and reflect its real contribution to the economy, he proposed the following fiscal and policy measures:
i) Institutionalize Forest Natural Capital Accounting (NCA) to capture both market and non-market forest benefits, including: Carbon storage and offsets, Hydrological regulation, Soil protection and erosion control, and Biodiversity services.
ii) Broaden GDP Metrics to include Ecosystem Services by promoting the adoption of "Green GDP" or adjusted indicators that reflect natural capital and ecosystem services. Use these metrics to guide national budget allocations and performance monitoring.
iii) Create a Forest Ecosystem Services Valuation Framework by establishing a standard methodology for valuing forest ecosystem services (e.g., through contingent valuation, cost-benefit analysis, or replacement cost methods). This can be linked to fiscal planning tools such as Medium-Term Expenditure Frameworks (MTEF).
iv) Development of a Forest Sector Satellite Account in Kenya National Bureau of Statistics (KNBS) to capture informal sector forestry employment, Household-level fuelwood and Non-Timber Forest Products (NTFP) use, Community Forest association (CFA) contributions, and Forest-based tourism revenues.
v) Link Forest Valuation to Climate Finance by leveraging accurate forest valuation to mobilize climate and biodiversity finance, including REDD+, carbon markets, and ecosystem payment schemes.
vi) Incentivize private sector and community investments. Once true forest value is known, it can justify: Tax credits for private reforestation, Subsidies for community forest enterprises, and tie PES schemes to forest protection and restoration.
vii) Integrate valuation into planning and budgeting. Mandate that all forest-related projects and policies undergo economic valuation to inform cost-benefit and policy design.
viii) Include forests in Public Investment Management (PIM) systems and climate budget tagging frameworks.
ix) Strengthen the monitoring and evaluation framework by generating specific metrics or baselines for forest cover, biodiversity health, or restoration success.

55. To enhance the forestry component on the Green Fiscal Incentives Policy Framework and align it with national development and environmental goals, he made the following recommendations:
i) **Develop Forest-Specific Fiscal Instruments:** Introduce targeted fiscal tools such as reforestation tax reliefs or rebates, Payments for Ecosystem Services (PES) schemes, and

green insurance products specifically tailored for forest-based enterprises. These instruments would help de-risk investment and encourage sustainable forest management practices.

ii) **Strengthen Community-Based Forest Management (CBFM)**: Provide dedicated fiscal support including grants and subsidies to Community Forest Associations (CFAs) to enhance their capacity in nursery development, forest conservation, and implementation of benefit-sharing mechanisms, in line with the Forest Conservation and Management Act, 2016.

iii) **Promote Agroforestry through Targeted Incentives:** Institutionalize agroforestry within the policy by offering specific incentives such as input subsidies, access to extension services, and eligibility for carbon credits. This will support the integration of trees into farming systems, contributing to increased tree cover and income diversification as well as food security.

iv) **Implement Ecological Fiscal Transfers (EFTS):** Design and pilot EFT mechanisms that allocate fiscal resources to counties based on measurable environmental outcomes such as forest and tree cover retention, restoration efforts, and biodiversity conservation. This will encourage county governments to invest in sustainable landscape management.

v) **Support Tree Seed Germplasm Systems:** Expand fiscal support for the certification of tree seed sources, establishment of seed banks, integrate research in the development of climate resilient seedlings and development of a national Centre of Excellence for tree seed systems. Strengthening the seed supply chain is vital for achieving landscape-scale restoration and maintaining genetic diversity.

vi) **Revitalize the Industrial Wood Sector:** Introduce fiscal incentives to promote domestic industrial forestry by offering VAT/duty exemptions on imported machinery and equipment for wood processing. Additionally, provide income tax exemptions for investors establishing industrial wood plantations to stimulate value addition and job creation.

vii) **Facilitate Private Sector Participation in Public Forest Management:** Promote concessions in public forests to allow responsible private sector involvement. This will leverage private capital and technical expertise to enhance the productivity, protection, and sustainability of state-managed forest resources.

viii) **Re-Evaluate Forestry's Contribution to GDP**: Institutionalize natural capital accounting to ensure accurate valuation of forest ecosystem services, such as carbon sequestration, water regulation, and biodiversity conservation. These values should be integrated into national GDP computation to reflect forestry's true economic contribution.

ix) **Introduce Incentives for Green Construction and Public Procurement**.: Encourage the use of sustainably sourced wood in construction by offering duty exemptions for certified timber products and green building materials. Public procurement policies should prioritize environmentally friendly building practices to promote demand for forest products.

x) **Establish a Robust Monitoring, Reporting, and Verification (MRV) Framework.**: Develop a comprehensive MRV system incorporating satellite imagery, forest inventories, and carbon accounting methodologies. This framework will be essential for tracking the effectiveness of fiscal incentives, measuring forest cover changes, and ensuring transparency and accountability in policy implementation.

4.4 SUBMISSION BY THE ATTORNEY GENERAL

56. In a meeting with the Committee held on **Friday, 8th August 2025**, **Ms. Olivia Simiyu,** representative of the Solicitor General, submitted that the development of the National Green Fiscal Incentives Policy Framework, 2022, was led by an Interagency Taskforce under the leadership of the National Treasury and Economic Planning and the Office of the Attorney General was fully involved.

PART FIVE

5.0 COMMITTEE OBSERVATIONS

57. Upon studying the Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework, the Committee made the following observations:

i) The goal of this policy is to identify and prioritize the implementation of a coherent suite of green fiscal actions that will enable Kenya to exploit the opportunities for accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability.
ii) The framework identifies sector-specific fiscal measures covering areas such as disaster risk management, agriculture, renewable energy, transport, waste management, and forestry, thereby ensuring a comprehensive approach to climate action.
iii) The policy proposes a balanced mix of incentives to encourage investment in green, low-carbon, and climate-resilient initiatives, while introducing disincentives aimed at phasing out environmentally harmful and unsustainable practices.
iv) The policy will encourage private sector participation in climate-relevant financing mechanisms, including green bonds, Payment for Ecosystem Services (PES), and Ecological Fiscal Transfers (EFTs)that will enhance resilience to climate change and other shocks; and
v) The policy is essential for Kenya to manage transition risks, where failure to align with global low-emissions trends may lead to international marginalization, impacting trade and capital flows.
vi) The establishment of a Kenya Green Investment Bank will de-risk green investments, making them more attractive to the private sector through blended finance, guarantees, and concessional funding.

PART SIX

6.0 COMMITTEE RECOMMENDATION

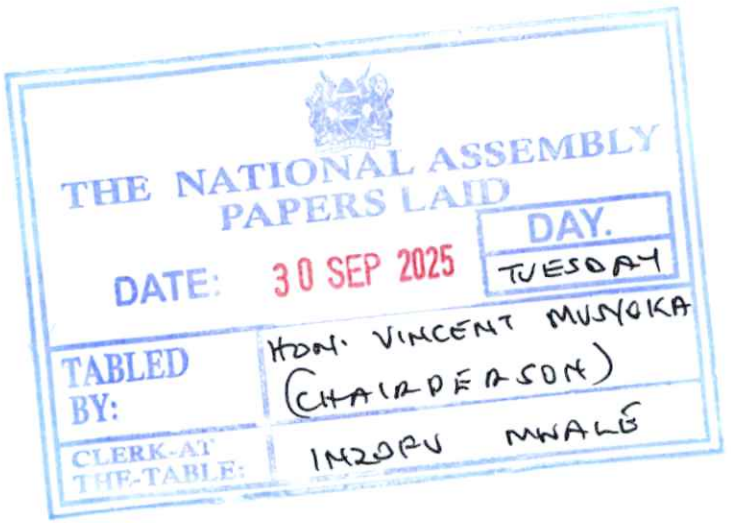
58. The Committee recommends that-

i) **The House adopts this Report on Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework;**

ii) **Following the adoption of this Policy, all proposed legislation and regulations to be guided by the provisions of the National Green Fiscal Incentives Policy Framework.**

SIGNED..... **DATE**..25/09/2025.....

HON. VINCENT MUSYOKA MUSAU, CBS, M.P.
CHAIRPERSON,
DEPARTMENTAL COMMITTEE ON ENVIRONMENT, FORESTRY AND MINING.



ANNEXURES

Annexure 1:
Adoption Schedule

REPUBLIC OF KENYA
THE NATIONAL ASSEMBLY
THIRTEENTH PARLIAMENT – FOURTH SESSION, 2025

DEPARTMENTAL COMMITTEE ON ENVIRONMENT, FORESTRY AND MINING

ADOPTION OF THE REPORT ON THE SESSIONAL PAPER No.5 of 2024 ON THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

We, the undersigned Honorable Members of the Departmental Committee on Environment, Forestry and Mining on Thursday 25th September, 2025 do hereby affix our signatures to the Report on consideration of **the Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework** to affirm our approval and confirm its accuracy, validity and authenticity.

NO.	NAME	SIGNATURE
1.	The Hon. Vincent Musyoka Musau, CBS- **Chairperson**	
2.	The Hon. Charles Kamuren, MP - **Vice-Chairperson**	
3.	The Hon. Mohamed Ali Mohamed, CBS, MP	
4.	The Hon. Mbalu Jessica Nduku Kiko, CBS, MP.	
5.	The Hon. Mwanyanje Gertrude Mbeyu, MP.	
6.	The Hon. Hiribae Said Buya, MP.	
7.	The Hon. Charity Kathambi Chepkwony, MP	
8.	The Hon. Salim Feisal Bader, MP.	
9.	The Hon. Emathe Joseph Namuer, MP.	
10.	The Hon. Joseph Wainaina Iraya, OGW, MP.	
11.	The Hon. Kemei Beatrice Chepngeno, MP.	
12.	The Hon. Masito Fatuma Hamisi, MP.	
13.	The Hon. Mohamed Tubi Bidu, MP.	
14.	CPA Hon. Yakub Adow Kuno, MP.	
15.	The Hon. Titus Lotee, MP.	

Annexure 2: Minutes

THE NATIONAL ASSEMBLY

THIRTEENTH PARLIAMENT – FOURTH SESSION, 2025
DIRECTORATE OF DEPARTMENTAL COMMITTEES

MINUTES OF THE 42nd SITTING OF THE DEPARTMENTAL COMMITTEE ON ENVIRONMENT, FORESTRY, AND MINING HELD IN COMMITTEE ROOM No. 22, 5th FLOOR, BUNGE TOWER, PARLIMAENT BUILDING ON THURSDAY, 25TH SEPTEMBER 2025, AT 11.40 AM.

PRESENT

1. **The Hon. (Eng.) Vincent Musyoka Musau, CBS, MP.** **-Chairperson**
2. The Hon. Charles Kamuren, MP. -Vice-Chairperson
3. The Hon. Charity Kathambi Chepkwony, MP
4. The Hon. Mwanyanje Gertrude Mbeyu, MP
5. The Hon. Hiribae Said Buya, MP
6. The Hon. Dr. Joseph Wainaina Iraya, **OGW**, MP
7. The Hon. Yakub Adow Kuno, MP
8. The Hon. Kemei, Beatrice Chepngeno, MP
9. The Hon. Titus Lotee, MP

APOLOGY

1. The Hon. Mbalu, Jessica Nduku Kiko, **CBS**, MP
2. The Hon. Mohamed Ali Mohamed, **CBS**, MP
3. The Hon. Salim Feisal Bader, MP
4. The Hon. Masito Fatuma Hamisi, MP
5. The Hon. Mohamed Tubi Bidu, MP
6. The Hon. Emathe Joseph Namuar, MP

IN ATTENDANCE: NATIONAL ASSEMBLY SECRETARIAT

1.	Ms. Hellen Ekadeli	-	Senior Clerk Assistant
2.	Mr. Hamdi Mohamed	-	Clerk Assistant III
3.	Ms. Mercy Wanyonyi	-	Senior Legal Counsel
4.	Ms. Nancy Chamunga	-	Fiscal Analyst II
5.	Dr. Joseph Kuria	-	Research Officer III
6.	Ms. Rehema Koech	-	Audio Officer III
7.	Mr. Obilo Ojiambo	-	Media Relations Officer

AGENDA:

1. Prayers/ Preliminaries/Introductions
   i. Adoption of the Agenda
   ii. Remarks by the Chairperson
2. Confirmation of Minutes/Matters Arising
3. **Consideration and Adoption of the following Reports;**
   i. **The Privileges and Immunities (the Global Centre for Adaptation) Order, 2025**
   ii. **The Sessional Paper No.5 of 2024 on the National Green fiscal Incentives Policy Framework**
4. Any other Business

5. Adjournment/Date of the next meeting

MIN/NO.NA/DC/EF&M/185/2025: **PRELIMINARIES & ADOPTION OF AGENDA**

The Chairperson called the meeting to order at a quarter to noon followed by a prayer. The agenda of the meeting was adopted as listed above, having been proposed and seconded by the Hon. the Hon. Wainaina Iraya, OGW, MP and the Hon. Said Buya Hiribae, MP respectively

MIN/NO.NA/DC/EF&M/186/2025: **CONFIRMATION OF THE PREVIOUS MINUTES**

Confirmation of the minutes of the previous sitting was deferred to the next sitting.

MIN/NO.NA/DC/EF&M/187/2025: **CONSIDERATION OF THE REPORT ON THE PRIVILEGES AND IMMUNITIES (THE GLOBAL CENTRE FOR ADAPTATION) ORDER, 2025**

Upon scrutinizing the Privileges and Immunities (Global Centre for Adaptation) Order, 2025, the Committee made the following observations:

(i) The Host Country Agreement (HCA) between the Government of Kenya and the Global Centre for Adaptation (GCA) does not require ratification by Parliament in accordance with Article 2(6) of the Constitution which integrates international agreements into law.
(ii) The Privileges and Immunities (Global Centre for Adaptation) Order, 2025, Legal Notice No. 82 of 2025 is a statutory instrument and has the force of law within the meaning of section 2 of the Statutory Instruments Act, Cap 2A to the extent that it is an Order made pursuant to the powers conferred to the Cabinet Secretary under section 9 of the Privileges and Immunities Act, Cap 179.
(iii) The Order was submitted to the Clerk of the National Assembly within the statutory timelines set out under section 11(1) of the Statutory Instruments Act, Cap. 2A. The Order was published in the *Gazette* as Legal Notice No. 82 of 2025 on 2nd May, 2025 and tabled on the 4th of June, 2025.
(iv) In compliance with section 5A of the Statutory Instruments Act, Cap 2A, the Order was accompanied by an explanatory memorandum.
(v) The Ministry of Foreign and Diaspora Affairs considered the views of the key stakeholders on the Host Country Agreement (HCA) between the Government of Kenya and the Global Centre for Adaptation (GCA) such as the National Treasury and Economic Planning, Office of the Attorney General, the Directorate of Immigration, Kenya Revenue Authority and the Ministry of Environment, Climate Change and Forestry.

MIN/NO.NA/DC/EF&M/188/2025: **ADOPTION OF THE REPORT ON THE PRIVILEGES AND IMMUNITIES (THE GLOBAL CENTRE FOR ADAPTATION) ORDER, 2025**

Having examined the Privileges and Immunities (Global Centre for Adaptation) Order, 2025 in accordance with the Constitution of Kenya, the Interpretation and General Provisions Act, Cap 2, the Privileges and Immunities Act, Cap 179, and the Statutory Instruments Act, Cap 2A, the Committee Adopted its Report unanimously as proposed and seconded by the Hon .Joseph Wainaina Iraya, OGW, MP and The Hon. Said Buya Hiribae, MP and recommends that the House APPROVES the Privileges and Immunities (Global Centre for Adaptation) Order, 2025 (Legal Notice No. 82 of 2025) in its entirety pursuant to section 11 of the

Privileges and Immunities Act, Cap 179 and section 11(4) of the Statutory Instruments Act, Cap 2A.

MIN/NO.NA/DC/EF&M/189/2025 **CONSIDERATION OF THE SESSIONAL PAPER No. 5 OF 2024 ON GREEN FISCAL INCENTIVES POLICY FRAMEWORK**

Upon studying and considering the Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework, the Committee made the following observations:

i) The goal of this policy is to identify and prioritize the implementation of a coherent suite of green fiscal actions that will enable Kenya to exploit the opportunities for accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability.
ii) The framework identifies sector-specific fiscal measures covering areas such as disaster risk management, agriculture, renewable energy, transport, waste management, and forestry, thereby ensuring a comprehensive approach to climate action.
iii) The policy proposes a balanced mix of incentives to encourage investment in green, low-carbon, and climate-resilient initiatives, while introducing disincentives aimed at phasing out environmentally harmful and unsustainable practices.
iv) The policy will encourage private sector participation in climate-relevant financing mechanisms, including green bonds, Payment for Ecosystem Services (PES), and Ecological Fiscal Transfers (EFTs)that will enhance resilience to climate change and other shocks; and
v) The policy is essential for Kenya to manage transition risks, where failure to align with global low-emissions trends may lead to international marginalization, impacting trade and capital flows.
vi) The establishment of a Kenya Green Investment Bank will de-risk green investments, making them more attractive to the private sector through blended finance, guarantees, and concessional funding.

MIN/NO.NA/DC/EF&M/190/2025: **ADOPTION OF THE REPORT ON THE SESSIONAL PAPER No. 5 OF 2024 ON GREEN FISCAL INCENTIVES POLICY FRAMEWORK**

The Committee considered and unanimously adopted its Report having proposed and seconded by the Hon. Charity Kathambi, MP and The Hon. Joseph Wainaina Iraya, MP respectively with the following recommendations-

i) **The House adopts this Report on Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework;**
ii) **Following the adoption of this Policy, all proposed legislation and regulations to be guided by the provisions of the National Green Fiscal Incentives Policy Framework.**

MIN/NO.NA/DC/EF&M/191/2025: **ANY OTHER BUSINESS**

The Committee canvassed the following;

1) To conduct field visits in the following areas following a Statements referred to the Committee pursuant to Standing Orders 44 (2C)
   i. Forests in Magadi area, Kajiado County to assess the level of forest destruction
   ii. Turkana South Constituency to establish the adverse effect of illegal mining

MIN/NO.NA/DC/EF&M/192/2025: **ADJOURNMENT AND DATE OF THE NEXT SITTING**

There being no other business, the meeting was adjourned at 12 45pm The next meeting will be held on notice

Signed.....: Date 25/09/2025

HON. ENG. VINCENT MUSAU MUSYOKA, CBS, M.P.
(CHAIRPERSON)

Annexure 3: NEWSPAPER ADVERT

Wandayi: What I have achieved in 100 days

- Energy CS says he had initiated several projects since he took office in August.
- The ODM politician faced critisism over his defence of the Adani deal with Ketraco.

OKUMU MODACHI, NAIROBI

Energy and Petroleum Cabinet Secretary Opiyo Wandayi has outlined what he terms as notable milestones achieved within his first 100 days in office.

Wandayi, who assumed office in early August, said he has spearheaded the launch of new projects and reactivated stalled ones to address the high cost of electricity and ease the financial burden on taxpayers.

In an interview with *The Standard* on Thursday, Wandayi stated that the ministry had prioritised transitioning Kenya to renewable energy consumption, a move aimed at reducing electricity costs.

He said the ministry had initiated several projects, including installing solar grids in public institutions such as schools and hospitals to provide clean energy.

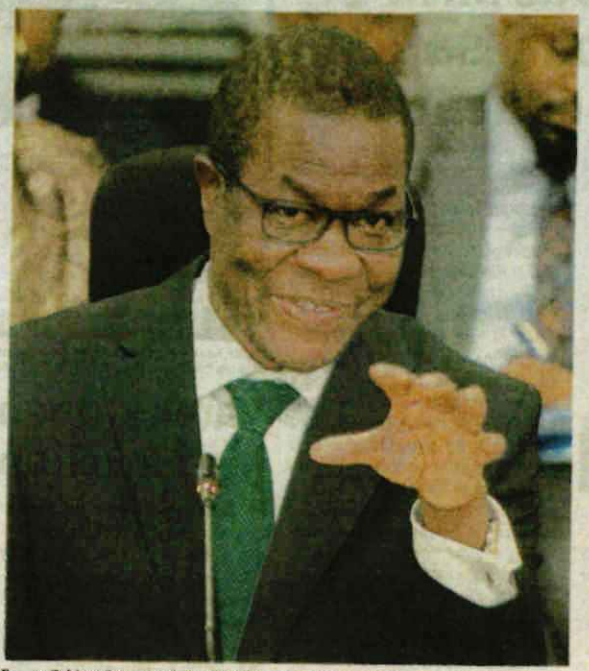
"The ministry has unlocked the processing of tenders for the implementation of the Kenya Off-Grid Access Project (KOSAP), a World Bank-funded initiative to provide electricity access in underserved counties. This includes 114 solar mini-grids in 12 counties and solar installations in 343 public institutions, including schools, health facilities, and administration offices, across 14 counties," he said.

Despite these initiatives, the ODM politician, who serves in President William Ruto's "broad-based" government, has faced criticism. His defence of the controversial Adani Group deal with the Kenya Electricity Transmission Company (Ketraco) drew public ire. The project was later cancelled by President Ruto.

Parliament has also accused the energy sector of contributing to high power costs, which it says are driving away investors and exacerbating economic struggles for Kenyans.

Amid frequent nationwide power outages in recent months, Wandayi pledged to bring stability to the energy supply.

His ministry, he noted, has overseen the commencement of the 35 MW OrPower Geothermal Power Plant in Menengai after facilitating the approval for a change in ownership to Kaishan and utilising insurance risk guarantees.



Energy Cabinet Secretary Opiyo Wandayi before the Senate Energy Committee on November 21 to answer questions on the Adani-Ketraco deal. [Elvis Ogina, Standard]

Additionally, Wandayi highlighted measures to stabilise power supply in Western Kenya, which often experiences prolonged blackouts. These include the completion of the 90-kilometre 220kV Ortum-Kitale transmission line and the Kitale Substation.

"We have also facilitated the completion of the 120-kilometre 132kV Sultan Hamud-Oloitoktok transmission line and signed an Sh11.2 billion concessional loan agreement with AFD and the French Treasury to support the construction of the National Control Centre by KETRACO," he said.

On clean energy, Wandayi announced the ministry's efforts to consolidate inter-agency collaboration to enhance bioethanol production from sugar factories and other feedstocks. The bioethanol will be used for clean cooking and blended with petroleum for transportation.

Regionally, Wandayi said he had facilitated the stabilisation of oil importation arrangements for Uganda, allowing the country to ship all its petroleum products through the Port of Mombasa.

"They will now import all product grades—petrol, diesel, and jet fuel—independently. This has significantly improved bilateral relations between our two governments," he said.

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REPUBLIC OF KENYA
THE NATIONAL TREASURY AND ECONOMIC PLANNING

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FINANCE – NAIROBI
Fax No. 315779
Telephone: 2252299

THE NATIONAL TREASURY
P.O. Box 30007 - 00100
NAIROBI
KENYA

Ref No: TNT/ZZ/257/05/A(58)

7th August, 2025

Samuel Njoroge, CBS
Clerk of the National Assembly
Parliament Buildings
NAIROBI

Dear Clerk

RE: RETREAT WITH THE DEPARTMENTAL COMMITTEE ON ENVIRONMENT AND MINING

Reference is made to letter No. NA/DDC/EF$M/2025/46 dated 29th July, 2025 from the Clerk of the National Assembly with the above subject matter. The Departmental Committee on Environment, Forestry and Mining has invited me to a retreat scheduled for **8th and 9th August 2025 in Machakos County** to make submissions on **Sessional Paper No. 5 of 2024 on the Green Fiscal Incentives Framework Policy.**

However, given other official engagements I am not in a position to attend the retreat as scheduled. The purpose of this letter is to inform you of this situation and seek your indulgence to request the Honourable Committee to allow my office to represented by **Mr. Peter Odhengo, Head of Financing Locally-Led Climate Action (FLLoCA)** who is well versed with the subject matter in the said meeting.

Please Consider.

Yours Sincerely

DR. CHRIS K. KIPTOO, CBS
PRINCIPAL SECRETARY/THE NATIONAL TREASURY

Copy: **Mr. Peter Odhengo**
Head of Financing Locally-Led Climate Action (FLLoCA)
The National Treasury
NAIROBI

GREEN FISCAL INCENTIVES POLICY FRAMEWORK

The Policy Actions

The Green Fiscal Incentives Policy Framework seeks to steer Kenya's economy onto a desired low-carbon climate-resilient green development pathway through a variety of fiscal and economic mechanisms.

I. Sector-specific fiscal actions

A. Disaster risk management

- **Flood control measures**: The government plans to increase funding and implement preventative measures for flood control projects like dikes, dams, catchment, and riparian reserves to combat perennial floods.
- **Disaster risk financing**: The Kenyan government plans to use innovative disaster risk-financing instruments like catastrophe bonds, risk pools, and contingency bonds, along with sovereign and subnational disaster management funds, and the Kenya Sovereign Green Bond Framework.
- **Climate information services**: The national and county governments plan to boost funding for meteorological services, Early Warning Systems, and climate information systems, including weather dissemination and tax incentives for early warning equipment.
- **Compensation fund for climate impacts:** The government plans to increase funding for resilience building programs like the Hunger Safety Net Program to protect vulnerable communities from extreme weather and climate-related events.

B. Water and the blue economy

- **Enhance water harvesting and storage**: The government plans to enhance affordability of water harvesting and storage equipment, enforce strict quality controls, and make mandatory water harvesting for public and household buildings to combat water shortages.
- **Promote water use efficiency:** Kenyan governments plan to implement fiscal measures for water efficiency and preservation, explore current charging systems, and develop water tariffs to support Kenya's vulnerable population and promote sustainable water resource use.
- **Elimination of invasive species:** To sustainably eliminate the threat of invasive species such as water hyacinth the national and county governments will support research technology and innovations in the management of these invasive species.
- **Promote sustainable fishing and restoration of coastal ecosystems:** Kenyan government plans to combat unsustainable fishing practices by introducing tax measures, fishing quotas, and coastal ecosystem restoration through fiscal measures.

RS/CC

- **Restore degraded deltas and wetlands:** Government develops fiscal instruments like PES to promote private sector participation in restoring degraded deltas and wetlands due to growing population and agricultural production pressure.
- **Protect riparian land in arid and semi-arid areas:** The government plans to incentivize adaptation programs to build sand storage dams for livestock and small-scale cultivation.
- **Provide green shore power as a viable alternative to contribute to emissions reductions at Kenya's seaports:** The government plans to incentivize green shore power supply investors to invest in cold ironing as an alternative marine power source to meet energy demands of ships at ports.
- **Provision of appropriate reception facilities for the control of emissions from ships:** Kenya's government plans to establish vessel reception facilities to manage GHG emissions from anticipated vessel growth due to Port of Mombasa expansion and Lamu Port construction.

C. Health and sanitation

- **Combat increased incidence of malaria:** Climate change is causing an increase in malaria cases, prompting governments to allocate funds for research and innovation to combat this issue environmentally.
- **Discourage improper handling of hazardous waste:** The national government and county governments are implementing more financial punitive measures to address the issue of improper handling of hazardous materials like mercury and lead
- **Promote energy efficiency in health facilities:** The government is implementing tax exemptions and a health facility grant scheme to promote the importation of energy-efficient medical equipment and the installation of renewable energy mini off-grid systems in remote health facilities.
- **Promote use of organic pesticides:** Excessive use of harmful pesticides threatens human health and the environment, increasing acute respiratory infections. Promoting environmentally friendly bio-degradable pesticides, such as pyrethrum-based ones, can be achieved through fiscal incentives and public procurement.
- **Support surveillance of climate-related health risks:** Climate change will increase disease outbreaks like Malaria, Rift Valley Fever, and East Coast Fever, prompting governments to allocate funds for climate-related health risk surveillance.

D. Agriculture, Food, and Nutrition Security

- **Water-saving irrigation systems and strategies:** The government is promoting water-efficient irrigation systems, such as drip irrigation and deficit irrigation, to help farmers adapt to climate change by reducing their reliance on outdated, non-water-saving technologies.

- **Reduction of post-harvest losses:** The government plans to boost agro-processing and encourage the use of post-harvest storage technologies like cooling plants and hermetic bags to minimize post-harvest losses.
- **Green technology in crop production:** The policy will promote the use of integrated crop management technology, organic farming and the use of low carbon emission equipment for cultivation.
- **Livestock production:** The government will explore opportunities and fiscal incentives to promote the adoption of improved adaptive and resilience technologies to increase livestock production and productivity by 2030.
- **Cooperative development for sustainable agriculture:** This policy will incentivize cooperative development and prudential management through provision of performance based cooperative grants and concessional loans.

E. Forestry, wildlife and tourism

- **Incentivize tree growing and management:** The government recommends tree planting on public and private land, offering options like a tree-growing guarantee scheme (T2GS), tax deductions, tradable carbon credits, incentives, government recognition, concessionary loans, and government grants. Private land requires at least 10% tree cover, with diversified trees earning carbon credits up to 50% of the owned land.
- **Reduce pressure on forests:** The government plans to encourage investments in bioenergy and clean cooking solutions for households, institutions, schools, and commercial enterprises.
- **Ecological fiscal transfers (EFTs):** The National Treasury, Ministry of Environment and Forestry, and CRA will collaborate on an EFT parameter in revenue sharing to enhance county capacity for preserving environmental functions.
- **Payment for ecosystem services (PES):** The Ministry of Environment and Ecosystems will expedite the development of PES schemes to boost conservation and restoration programs, benefiting the poorest households, using carbon pricing proceeds.
- **Integrate afforestation and reforestation into carbon tax design:** The government plans to consider reducing tax liability for companies by purchasing offsets from forestry projects, extending the carbon price signal across various sectors and leveraging existing forestry project management capacity, as seen in other jurisdictions.
- **More support for ecotourism and wildlife:** The government will review fiscal options for enhancing ecotourism in Kenya.

F. Human settlements and infrastructure

- **Enhance the climate resilience of roads:** Kenya's road network is vulnerable to climate change impacts like floods due to imbalance between natural ecosystem and built-in infrastructure. To mitigate this, the National Treasury will include climate-resilience criteria in PIM Guidelines and promote bioengineering adoption through collaboration.

Pslak

- **Integrate the circular economy into infrastructure development:** Kenya's government plans to provide fiscal incentives for the use of recycled materials in infrastructure development to enhance sustainability and resilience.
- **Support the circular economy in construction:** The government plans to incentivize local construction materials with over 40% recycled content, establish facilities for waste collection and resale, and impose fees on contractors for non-compliant waste disposal procedures.
- **Support green building development:** The government will incentivize developers to meet green building specifications, including design, production, importation, and sale of alternative technologies, and research and development for innovative green building technologies.
- **Supporting Adoption of Water and Energy Efficient Infrastructure:** The government will incentivize construction of water and energy efficient buildings. In addition, all the design of new public buildings will integrate water and energy efficient measures in their construction and functioning.

G. Electricity

- **Phase-out fossil-fuel-based thermal electricity:** The government plans to offer fiscal incentives to reduce renewable energy costs, thereby accelerating the development of green energy alternatives and technologies for variable renewable energy power integration.
- **Accelerate geothermal development:** The government plans to offer fiscal incentives for private investment in geothermal electricity generation and other productive uses, including concessional funding and public support for early-stage investments.
- **Expand off-grid electricity solutions:** The government will incentivize off-grid renewable energy options to enable access in areas far from the national grid. Tax exemptions and credits will be considered.
- **Incentives for electricity connection:** The government will provide consumer-level incentives to enable more households and MSMEs afford electricity connectivity through enhancing initiative such as the last mile connectivity.

H. Clean cooking

- **Incentives for clean cooking fuels and technologies:** The government plans to introduce incentives to promote clean cooking fuels and technologies, aiming to enhance affordability, availability, safety, efficiency, and reduce household air pollution. Innovative

approaches include "pay-as-you-go" models, "Mwananchi gas" programs, and smart metering for LPG.

- **Enabling Markets for clean cooking services:** To promote clean cooking solutions, standards, stove testing infrastructure, voluntary labeling, certification, local production, and regulations are needed to ensure a sustainable market system.
- **Investment in R&D of renewable energy:** The Government will consider increasing investment in Research, Development and innovation on renewable energy as a means to close inherent information gaps and embrace informed policy and decision making.

I. Manufacturing

- **Promote efficient management of production systems:** The government plans to offer fiscal incentives to the private sector for innovative production, acquisition, and efficient machinery use to optimize energy, materials, and reduce waste.
- **Develop eco-labelling schemes:** The government will prioritize procurement of eco-labeled products and services, as they meet environmental criteria.

J. Transport

- **Promote mass rapid transit:** The government plans to transition to e-mobility and green transport systems, shifting public expenditure towards sustainable infrastructure, aiming to reduce emissions and congestion.
- **Incentives for electric vehicles:** The government plans to offer incentives for the import, manufacturing, and assembly of electric and hybrid vehicles, including spare parts, to facilitate a transition towards low-emission transport systems.
- **Expansion of e-mobility infrastructure:** The government will provide incentives to develop and expand infrastructure that supports e-mobility and non-motorized transport.
- **Congestion charging:** The government will explore development of a congestion charging scheme in the cities, as a source of revenue for greening the sector.
- **Development of alternative transport fuels:** Incentivize production of alternative transport fuel sources such as bio fuels (biogas, bioethanol, bioLPG, biodiesel) and green hydrogen.

K. Waste management

PSCK

- **Development of Material Recovery Facilities (MRF):** Provide incentives for waste recovery facilities, circular economy, incentivize sanitary landfills and dis-incentivize dumpsites.
- **Incentives for private sector engagement in waste management:** The government plans to encourage private sector involvement in waste management through tax incentives, investment removal, fostering a favorable investment environment, and promoting finance access.
- **Encouraging circular business models:** The government is promoting circular business models through incentives like EPR regulations, recycling, preferential use of recovered materials, and support for innovative waste-to-energy technologies.

II. Enhanced green financial intermediation actions:

a) Green investment bank

- The government plans to establish a green investment bank to aid the public and private sectors in overcoming obstacles to large-scale green investments. The government plans to explore various complementary fiscal actions to promote green investments:
    (i) The Kenyan government plans to establish the Green Investment Register (GIR) to direct investment towards environmentally friendly products and projects. The GIR will include national priority green sector projects, flagship projects, and green public-private partnerships.
    (ii) The government plans to enhance green public procurement at both national and county levels by creating guidelines that incorporate environmental parameters.
    (iii) The government plans to expand public funds like NRF, NETFUND, and NCCF to support green technology innovation and local production, ensuring complementarity with KeGIB initiatives.
    (iv) The government will collaborate with industry leaders to identify green innovation and technology needs, review research policies and strategies, and align them with prioritized green research gaps.
    (v) The government plans to establish regulatory's and boxes' for green technology firms to test their innovative products and services in a live market environment.

(vi) The government will develop and provide financial and technical support to green innovation and incubation hubs for innovators and nascent green technologies.

(vii) The government will establish and finance Green Special Economic Zone in all the 47 counties through KeGIB.

b) Carbon tax

- The Kenyan government plans to explore the feasibility and design of a carbon tax, recognizing its potential to efficiently reduce GHG emissions and generate revenue.

8/8/23

Dr Chris Kiptoo
Principal Secretary
National Treasury

REPUBLIC OF KENYA

BRIEF

ON

THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

ps/ac

I. PURPOSE

1. The purpose of this Brief is to apprise you of Kenya's National Green Fiscal Incentives Policy Framework;

II. BACKGROUND

2. The Green Fiscal Incentives Policy Framework seeks to steer Kenya's economy onto a desired low-carbon climate-resilient green development pathway through a variety of fiscal and economic mechanisms. Green fiscal reforms can help shift consumption patterns, generate additional revenue, and drive private investment in projects and programs that adopt climate-friendly production mechanisms.

3. The policy sets out how the government Ministries, Departments and Agencies can enhance mobilization of climate Finance from all sources: private, public, multi-lateral agencies, bilateral, philanthropic, etc. to finance Kenya's updated NDC and NCCAPs.

4. The Policy Framework considers green fiscal reforms as mechanisms that have been used by governments to correct environmental externalities, support national climate change goals, and promote clean energy investments.

5. The mechanisms range from tax policies, subsidies and expenditure programs, and regulatory instruments with fiscal components all of which have revenue implications. As such: government taxes can be used to stimulate a shift in production, consumption and investment in low-carbon climate-resilient and environmentally sustainable practices; concessional loans, guarantees and interest rate subsidies can be effective tools in overcoming investment barriers and leveraging private sector green investments; and government spending can directly target the delivery of environmental outcomes that the private sector might otherwise ignore.

III. POLICY CONTEXT

6. Recognizing the threats posed by climate change and other environmental challenges, the world is now taking more rapid action. Investors are rapidly shifting from dirty to clean assets, and key technologies needed for environmental sustainability are experiencing rapid cost reductions.

7. The world's largest emitter, China, in 2020 pledged to reduce CO2 emissions to net zero by 2060. The United Nations Call for Action on Adaptation and Resilience spelled an urgent need for enhanced resilience and also recently adopted a landmark framework that considers the contribution of nature when measuring economic prosperity and human wellbeing.

8. In accordance with the updated NDCs that build on national policies, plans and legal frameworks, it is essential for Kenya to play a full and active part in this global transition to a low-carbon climate resilience development path.

9. A development path characterized by continued low-emissions, enhanced climate resilience and environmental sustainability.

10. Formulation of this Policy was initiated within the framework of the Climate Change Act, 2016 and the National Climate Change Action Plans whose objective is to encourage low carbon climate resilient development through implementation of the National Climate Change Response Strategy, 2010.

IV. GOALS AND OBJECTIVES OF THE POLICY

11. The goal of this policy is to identify and prioritize the implementation of a coherent suite of green fiscal actions that will allow Kenya to exploit the opportunities of accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability. In doing this, the policy will:

    a. Direct government planning, budgeting and spending/procurement toward green and consumption.

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V. BENEFITS OF THE POLICY TO KENYA

12. The Policy is an important part of accelerating the implementation of the Constitution of Kenya, 2010 where a clean and healthy environment (Articles 42, 69 and 70) are fundamental rights.
13. The policy will encourage private sector participation in climate relevant financing opportunities.
14. The policy will enhance resilience to climate change and other shocks.
15. The policy is essential for Kenya to manage transition risks. Failure to align with global low-emissions trends may lead to international marginalization, impacting trade and capital flows
16. The policy will provide for the Establishment of the Kenya Green Investment Bank that will provide a range of funding instruments and associated incentives to support climate action

REPUBLIC OF KENYA

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PS/AC

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REPUBLIC OF KENYA
THE NATIONAL TREASURY AND ECONOMIC PLANNING

Telegraphic Address: 22921
FAX NO. 310833
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THE NATIONAL TREASURY
P O BOX 30007 – 00100
NAIROBI

When Replying Please Quote:

Ref: TNT/ZZ/257/05/B (52)

Date: 9 OCTOBER, 2024

Mr. Samuel Njoroge, CBS
Clerk of the National Assembly
Clerk's Chambers
Parliament Buildings
NAIROBI

Ms. Hellen Ekadeli

Pls process policy for consideration by the Dept. Committee on Environment including preparation of an advert for submission of Memoranda on the same. Due 7/11/24

Dear Samuel

SUBMISSION OF THE GREEN FISCAL INCENTIVES POLICY TO THE NATIONAL ASSEMBLY

Reference is made to the captioned subject matter and the letter from the National Assembly (NA) Ref: NA/DLP/TBO/SESP/2024 (004) dated 30th May 2024 notifying The National Treasury of the allocated Sessional Paper No. for the Green Fiscal Incentives Policy Framework, and recommending submission of the Policy to the NA for consideration.

The purpose of this letter, therefore, is to submit Sessional Paper No. 5 of 2024 on the National Green Fiscal Incentives Policy Framework to the National Assembly for consideration.

Yours sincerely

NATIONAL ASSEMBLY RECORDS
04 NOV 2024

HON.CPA JOHN MBADI NG'ONGO, EGH
CABINET SECRETARY

Encl

REPUBLIC OF KENYA

NATIONAL ASSEMBLY MEMORANDUM

ON

THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

MEMORANDUM ON THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

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8. In accordance with the updated NDCs that build on national policies, plans and legal frameworks, it is essential for Kenya to play a full and active part in this global transition to a low-carbon climate resilience development path.

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14. The policy will enhance resilience to climate change and other shocks.

15. The policy is essential for Kenya to manage transition risks. Failure to align with global low-emissions trends may lead to international marginalization, impacting trade and capital flows

VI. FINANCIAL IMPLICATION

16. Approximately Ksh.200 million annually will be required over five years to support the operationalization of the policy so as to meet the stated objectives and its related laws and regulations.

VII. RECOMMENDATIONS TO THE NATIONAL ASSEMBLY

17. The National Assembly is requested to note the contents of this Memorandum, and if agreeable, adopt the National Green Fiscal Incentives Policy Framework as a sessional paper.

Sign.....

HON.CPA JOHN MBADI NG'ONGO, EGH

Cabinet Secretary

The National Treasury and Economic Planning

Dated....3.6.15.24.....

REPUBLIC OF KENYA

THE NATIONAL TREASURY

SESSIONAL PAPER NO. 5 OF 2024

ON

THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

EXECUTIVE SUMMARY

This policy document is organized into five chapters, with the first chapter providing the policy background. The second chapter outlines the policy goals and guiding principles while chapter three gives a situational analysis of green fiscal reforms across key sectors in Kenya and internationally. Chapter four highlight green fiscal policy interventions for each sector based on international experience and the current Kenyan context described in the previous chapter. The fifth chapter concludes with an overview of the governance structures to implement the policy.

The Green Fiscal Incentives Policy Framework seeks to steer Kenya's economy onto a desired low-carbon climate-resilient green development pathway through a variety of fiscal and economic mechanisms. Green fiscal reforms can help shift consumption patterns, generate additional revenue, and drive private investment in projects and programs that adopt climate-friendly production mechanisms. The policy sets out how the government Ministries, Departments and Agencies can enhance mobilization of climate finance from all sources: private, public, multi-lateral and bilateral agencies, philanthropic, etc. to finance Kenya's National Determined Contributions and County and National Climate Change Action Plans.

The Policy Framework considers green fiscal reforms as mechanisms that have been used by governments to correct environmental externalities, support national climate change goals, and promote clean energy investments. The mechanisms range from tax policies, subsidies and expenditure programs, and regulatory instruments with fiscal components all of which have revenue implications. As such: **government taxes** can be used to stimulate a shift in production, consumption and investment in low-carbon climate-resilient and environmentally sustainable practices; **concessional loans, guarantees and interest rate subsidies** can be effective tools in overcoming investment barriers and leveraging private sector green investments; and **government spending** can directly target the delivery of environmental outcomes that the private sector might otherwise ignore.

Recognizing the threats posed by climate change and other environmental challenges, the world is now taking more rapid action. Investors are rapidly shifting from dirty to clean assets, and key technologies needed for environmental sustainability are experiencing rapid cost reductions. The world's largest emitter, China, in 2020 pledged to reduce CO_2 emissions to net zero by 2060. Further progress is soon expected from the USA. The United Nations Call for Action on Adaptation and Resilience spelled an urgent need for enhanced resilience and also recently adopted a landmark framework that considers the contribution of nature when measuring economic prosperity and human wellbeing.

In accordance with the updated National Determined Contributions that build on national policies, plans and legal frameworks, it is essential for Kenya to play a full and active part in this global transition to a low-carbon-climate resilience development path. A development path characterized

by continued low emissions, enhanced climate resilience and environmental sustainability will provide Kenya with a wide range of benefits including: stronger growth, greener investment and higher innovation; enhanced natural capital; avoidance of transition risks; enhanced resilience to climate and other shocks; meet international obligations, among others.

The goal of this policy is to identify and prioritize the implementation of a coherent suite of green fiscal actions that will allow Kenya to exploit the opportunities of accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability. In doing this, the policy will:

i. Direct government planning, budgeting and spending/procurement toward green production and consumption.
ii. Provide a framework for fiscal incentives to attract private sector investment into a low-carbon emission, climate-resilient and environmentally sustainable economy.
iii. Provide a framework for generating additional revenue streams for the government.

The policy sets out a series of green fiscal policy actions of particular interest to the government of Kenya. The key sectors identified in the policy have the greatest potential to green Kenya's economy and are in line with the National Climate Change Action Plan (2018–2022). These sectors include agriculture, food and nutrition security, water and sanitation, blue economy, disaster risk financing, health and sanitation, forestry, human settlement and infrastructure, energy, transport, manufacturing and waste management. The policy also identifies some key cross-cutting policy actions that would have an important impact in support of Kenya's green development agenda.

The National Treasury will lead and facilitate the implementation of this policy, working with partners to develop required laws and regulations. Capacity development for relevant stakeholders, including county governments, will be a critical element of implementation. A continuous program for monitoring and evaluation will be developed; and the policy shall be reviewed within five years to assess its effectiveness and relevance.

LIST OF TABLES

CHAPTER 1: INTRODUCTION

1.1 The call for action

Recognizing the threats posed by climate change and other environmental challenges, the world is now taking more rapid action. Building on the momentum created by the Paris Agreement (PA) and agreement on the Global Goals (the Sustainable Development Goals, SDGs), and recognizing the urgent need to Build Back Better from the coronavirus disease 2019 (COVID-2019) crisis, countries around the world are committing to combat climate change and environmental risks. In 2020, the world's largest emitter, China, pledged to reduce CO_2 emissions to net zero by 2060. Further progress is soon expected from the US. The urgent need for enhanced resilience is reflected in the United Nations Call for Action on Adaptation and Resilience. Investors are rapidly shifting from dirty to clean assets, and key technologies needed for environmental sustainability are experiencing rapid cost reductions. The United Nations recently adopted a landmark framework that considers the contribution of nature when measuring economic prosperity and human wellbeing.[1]

In accordance with the updated National Determined Contributions (NDCs) that build on national policies, plans and legal frameworks, it is essential for Kenya to play a full and active part in this global transition to a low-carbon and climate-resilient development path. A development path characterized by continued low emissions, enhanced climate resilience and environmental sustainability will provide Kenya with a wide range of benefits:

Stronger growth, greener investment and higher innovation. UNEP's 2014 Kenya Green Economy Assessment Report shows that pursuing a green economy scenario will result in faster economic growth.[2] By 2030, gross domestic product (GDP) could be 12% higher by taking a green growth pathway compared with continuing a business-as-usual (BAU) scenario. This reflects the high positive spillovers from climate-related innovation, the savings and yield increases provided by a focus on resource productivity, and the ever-lower costs of many key low-carbon and climate-resilient technologies. Kenya has abundant renewable energy resources, a thriving green finance sector and an enviable reputation as a climate action leader globally. Kenya has the potential to sequester, reduce, or avoid about 30 metric tons of carbon dioxide equivalent per year and mobilize up to $600 million annually from regulatory compliance and voluntary carbon market (VCM) projects by 2030 using an average price of $20 per ton. Kenya has also emerged as one of the largest issuers of carbon credits - 8th largest in the world in 2021. All these advantages can be exploited in a green growth pathway. There are also benefits from low-carbon, climate resilient

[1] The System of Environmental-Economic Accounting- Ecosystem Accounting (SEEA EA)

[2] UNEP (2014), Green Economy Assessment Report: Kenya. Available:

growth that enhance human wellbeing but which are not fully reflected in GDP statistics, including lower air pollution and better health, reduced congestion, and the opportunity to live in a more attractive environment.

Enhanced natural capital. An estimated 42% of Kenya's GDP is derived from natural resource sectors, such as agriculture, mining, forestry, fishing and tourism, while 42% of the total employment comes from small-scale agriculture and pastoralism. A strong focus on preserving and enhancing the natural capital that these activities depend upon can ensure they provide sustainable, flourishing livelihoods for both current and future generations. The recent Dasgupta Review provides a salutary reminder that all human activity is ultimately reliant on strong and healthy ecosystems and natural capital.[3]

Enhanced resilience to climate and other shocks. At present, Kenya is in the top 20% of countries that are most vulnerable to climate change. It poses a major threat to Kenya's socio-economic wellbeing and the attainment of the Vision 2030 and its Medium-Term Plans, the NCCAP, the Bottom up Economic Transformation Agenda (BETA) model, among others.[4][5] A specific focus is needed to recognize, reduce and adapt to these risks. In so doing, the country designed a comprehensive program referred to as Financing Locally-Led Climate Action Program (FLLoCA) which is aimed at building resilience to climate related risks, vulnerability and shocks. Other interventions are also being developed to address other shocks (such as infectious diseases or cybersecurity) that threaten Kenya's development.

Reduced transition risks. As noted above, the world is moving toward a low-emissions pathway. A failure by Kenya to move in line with (and potentially help lead) this transition could instead result in Kenya being sidelined by international partners as trade and capital flows increasingly take account of climate considerations. Most carbon-intensive industries and fossil fuel exporters are already worrying about how to respond to this existential threat. A 20th-century growth model will not serve Kenya well in a 21st-century world.

Enhanced compliance with international obligations. Under the Paris Agreement (PA), countries have agreed to limit the increase in the global average temperature to 'well below 2°C above pre-industrial levels', and to pursue efforts to 'limit the temperature increase to 1.5°C above

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[3] Partha Dasgupta (2021), The Economics of Biodiversity: The Dasgupta Review. United Kingdom HM Treasury. Available: [illegible]

[4] Bottom-Up Economic Model aims to boost economic growth by prioritizing investment in the grassroots economy, particularly in the agricultural sector, and empowering small and medium-sized enterprises (SMEs) to create jobs and reduce poverty.

[5] 'Big Four' refers to the name given to the four pillars of the economy (manufacturing, food security and nutrition, universal healthcare, and housing) that the President of Kenya planned to support in order to deliver on promises made to citizens during his second term (2017–2022). Subsequently, the four sectors were prioritized in Kenya's Medium Term Plan III.

pre-industrial levels. Kenya's contribution to this goal is formally reflected in its recently updated NDC, which enhanced its ambition by setting a goal to reduce its emissions by 32% relative to BAU by 2030, and included, for the first time, a commitment that some of this action would no longer be conditional on the provision of support by the international community.

Cooking poverty: Cooking poverty is a national development issue that mainly affects the poor households. Incentives are needed to develop and deliver cooking decency for all. For long-term sustainability, interventions must be guided by principles that put cooking needs and aspirations of poor households at the center and fully integrate the universal access goal into national strategies and roadmaps underpinned by high-level political support and investments.

There are inherent benefits of access to clean cooking: Improving access to clean cooking can accrue large socioeconomic and environmental benefits for society. However, progress has been stymied due to a lack of prioritization at all levels, including donors, national governments, the private sector, and households.

1.2 New green fiscal policies to build on a strong planning foundation

Kenya has made significant progress in moving toward a green and blue development pathway as sustainable natural resource utilization including marine and aquatic resource is embedded in the Constitution. The Green economy has been mainstreamed in the MTPs and County Integrated Development Plans (CIDPs). Under the Climate Change Act 2016, the government is required to develop five-year NCCAPs to guide the mainstreaming of adaptation and mitigation actions into the sector functions of the national and county governments. The NCCAP, covering the period 2018 to 2022, identifies a series of actions for government and other stakeholders, with a particular focus on adaptation. The National Policy on Climate Finance (2018), provided a clear direction on mechanism for enhanced mobilization of climate finance from all sources: private, public, multi-lateral Agencies, bilateral, philanthropic, etc. to finance Kenya's updated NDC and NCCAPs. The policy recommended the development of green fiscal incentive policies to catalyze the private sector to finance transition to a low-carbon and climate-resilient development path.

A range of further specific policies provide for green growth and sustainable natural resource management including the Environmental Management and Coordination Act, 1999 and the Sustainable Waste Management Policy and Sustainable Waste Management Act, 2022.

However, the government has identified that more needs to be done to realize the benefits of transitioning to a low-emissions development pathway, while enhancing climate resilience and environmental sustainability. In particular, it recognizes the need for new and additional green fiscal policies – i.e., to use policies relating to the way in which it raises and spends financial

resources to steer the economy onto the desired green pathway. There are several reasons why these policies are powerful and important:

Taxes and subsidies can influence the costs, prices and profits in a wide range of markets. They can be used to stimulate a shift in production, consumption and investment in low-carbon, climate-resilient and environmentally sustainable practices. Such instruments are often the most cost-effective way to deliver environmental outcomes and can uncover innovative solutions to environmental challenges that would otherwise be ignored.

Some fiscal instruments – such as concessional loans, guarantees and interest rate subsidies can be effective tools in overcoming investment barriers and leveraging private sector green investments. These instruments have consistently leveraged private capital that is many multiples of the committed public spending. This has been achieved across multiple country contexts and economic sectors.

In other cases, government spending can directly target the delivery of environmental outcomes that the private sector might otherwise ignore. Some (largely adaptation) solutions – for example, disaster risk reduction and management activities, or the restoration of degraded lands – may never attract sufficient private spending. Direct government spending may be the quickest and easiest way to achieve the desired outcomes.

The way in which the government raises capital (including through green bonds, etc.) can signal to stakeholders the importance that the government attaches to delivering particular outcomes.

Green fiscal reforms have been applied successfully around the world, from economy-wide solutions like ***carbon taxes*** in South Africa and ***Ecological Fiscal Transfers (EFTs)*** in India and Brazil, to narrower and more direct measures like government investment in afforestation and land protection seen in Ethiopia and the African Union's Great Green Wall. This experience clearly demonstrates that ***Green Fiscal Reform*** in Kenya can enhance private sector financing of climate actions, spur green innovation and technology development, improve fiscal consolidation, correct market failures, and help identify smarter ways for government taxation and spending.

CHAPTER 2: POLICY GOALS AND GUIDING PRINCIPLES

The goal of this policy is to **identify and prioritize implementation of coherent suite of green fiscal actions that will enable Kenya to exploit the opportunities for accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability.**

The specific objectives of the policy are to:

i. Direct government planning, budgeting and spending/procurement toward green production and consumption

ii. Provide a framework for fiscal incentives to attract private sector investment into a low-carbon emission, climate-resilient and environmentally sustainable economy
iii. Provide a framework for generating additional revenue streams for the government.

In seeking to achieve this goal, there are nine principles that have informed the development of the policy to date and will guide the implementation of the specific actions this policy framework identifies:

Predictability: The policy will provide greater certainty in government policy to encourage higher private sector investment in green growth. Sunset clauses for phasing out incentive schemes will be developed to provide certainty for the investors.

Cost-effectiveness:
The policy will promote fiscal measures that maximize value for money while ensuring sustainable growth.

Polluter-pays: The policy will provide ways of allocating the costs of pollution prevention and control to polluters to encourage the rational use of scarce environmental resources by evoking the Polluter Pays Principle (PPP).

Coherence: The individual actions developed under this policy will be additional. There will be a focus on both ensuring that all policies are aligned to achieve the same objective, and on avoiding unnecessary policy duplication or overlap.

Consultative: The policy and its individual actions are developed in a consultative manner, drawing on the full range of expertise within Kenya and internationally, allowing those who will be both positively and negatively affected by potential changes to express their perspective and to have an opportunity to suggest improvements.

Inclusiveness: The policy and its actions will promote the participation of private investors and communities, including small-, medium- and large-scale enterprises. This will, in turn, support the government's employment and wealth-creation initiatives. This is consistent with the BETA which lays emphasis on leaving no one behind.

Transparency and accountability: Spending on green fiscal policies and any revenues raised will be managed in line with the provisions of the Constitution of Kenya and the Public Finance Management (PFM) Act (2012) on sound public expenditures management.

Equity: The policy and its individual actions will promote reallocation and redistribution of resources while taking cognizance of the needs of the most vulnerable sectors and members of society.

Sustainability: The Policy will provide opportunity to meet economic, environmental and social needs of the present without compromising the ability of future generations to meet their own needs

CHAPTER 3: SITUATIONAL ANALYSIS

Kenya has already created a strong foundation for low-carbon, climate-resilient growth through a range of fundamental documents and legislation. This starts with the country's Constitution which, under Article 42, guarantees every Kenyan the right to a clean and healthy environment and encourages participatory resource management and equitable benefits. This is reinforced by the Environmental Management and Coordination Act, 1999, which includes a provision (under Section 57) for fiscal incentives, disincentives or fees to induce or promote the proper management of the environment and natural resources or the prevention or abatement of environmental degradation. Similarly, the Climate Change Act, 2016 provides a regulatory framework for an enhanced response to climate change, allowing for mechanisms and measures to achieve low-carbon climate development, and for connected purposes. A range of strategies, policies, and action plans are detailed in subsequent government documents including the National Climate Change Framework Policy (2016), the National Policy on Climate Finance (2018), the NCCAP (2018–2022), and the Green Economy Strategy and Implementation Plan (2016–2030). They highlight the need for a fiscal incentives policy to accelerate transition to a green and circular economy through increased financing from alternative sources such as the private sector.

A critical document reflecting Kenya's domestic ambition in the international arena is its updated NDC. This was submitted in 2020 to the United Nations Framework Convention on Climate Change (UNFCCC), and specifies both mitigation and adaptation actions. It confirms Kenya's ambition to transition to a low-carbon society and reduce its greenhouse gas (GHG) emissions far beyond 32% by 2030 (with milestone targets at 2025) relative to the BAU scenario of 143 Million Tons of Carbon Dioxide Equivalent ($MtCO_2eq$) outlined in the updated NDC. Emission reductions are to be undertaken based on equity and in the context of sustainable development and efforts to eradicate poverty, which are critical development priorities for many developing countries including Kenya.

There have been a range of important fiscal developments and initiatives across many of Kenya's key economic sectors, which are detailed below. In each section, there is a brief discussion of the key challenges and opportunities that Kenya faces in that sector, a summary of the current fiscal policies that are encouraging green economic growth, as well as a summary of relevant international experience. A separate annex provides more detail on the international experience.

The 11 sectors considered in this section are:

- Disaster risk management
- Water and the blue economy
- Health and sanitation
- Food, agriculture and nutrition security
- Forests, wildlife and tourism

- Human settlements and infrastructure
- Electricity
- Clean cooking
- Manufacturing
- Transport
- Waste management

3.1 Disaster risk management

Situational context

Disasters significantly impact lives, livelihoods and economies across the globe and impede progress toward sustainable development. Disaster risk associated with natural hazards, including extreme climate events continue to attain elevated levels often leading to, for example, to a loss of life and property from floods and landslides, the destruction of infrastructure by floods, and a loss of life and livelihoods because of drought.

Kenya is particularly vulnerable to diverse disasters, some of these have had a significant negative impact on GDP as outlined in Table 1 with the trend for droughts showing increasing frequency since 2011. Widespread environmental degradation together with the emergence of new pests and diseases as well as the resurgence of others all contribute to further expansion of the disaster risk dimensions. All these push factors represent likely consequences of climate change.

Table 1: Damages and losses from selected climate-related shocks as recorded by different sources

Year	Event	Damages and losses US$ billion	Annual GDP (%)
1997–1998	El Niño floods	0.8–1.2	2.9–4.4
1999–2002	Drought	2.5	4.8
2005–2006	Drought	0.45	1.0
2008	Drought	1.4	3.9
2009	Drought	4.1	11.1
2010	Drought	2.8	7.0
2011	Drought	3.7	8.8

Source: Government of Kenya, 2012

Current fiscal and other policies

The government has made significant strides in strengthening disaster risk management systems in the country. The Disaster Risk Financing Strategy outlines the various disaster risk financing instruments that are available for responding to the vagaries of drought, floods and other disasters. These disaster risk financing instruments include the Kenya Livestock Insurance Program (KLIP), Kenya Agriculture and Crop Insurance Management Program (KAIRMP), Hunger Safety Net Program (HSNP), Contingencies Fund, County-Level Emergency Funds, and the Development Policy Credit with a Catastrophe Deferred Draw Down Option (Cat DDO).

The government has also made significant investments in the development of drought-tolerant crop varieties and livestock breeds. Some public investments have been targeted at building flood control infrastructure such as that constructed in Budalangi, water storage and harvesting infrastructure of varied scales, such as Thwake Dam, to improve access to water for domestic and livelihood uses.

International experience

Kenya's experience largely matches the international experience, which has emphasized the role of national disaster funds, and developing plans for using those resources, with roles and responsibilities between different actors clearly stated and understood. Mexico's disaster fund, FONDEN, is often stated as a good practice example.[6]

Other approaches suggested by international experience include:

Purchase of insurance. Insurance products are increasingly available to preserve ecosystems in the event of natural disasters. For example, in 2019, the state government of Quintana Roo, Mexico, developed and financed a parametric insurance product to help maintain coral reefs and beaches along 160 km of its coastline. The state is currently developing a mechanism to extend the coverage to include mangrove protection as well.

Catastrophe bonds (CAT bonds). This security raises capital for a government in the same way as a normal government bond, but if an event protected by the bond occurs, the obligation to pay interest and repay the principal is either deferred or completely forgiven. In this way, the government pays interest on the principal in exchange for the possibility of claiming a payout from the bond in the case of a disaster. Mexico was the first country to issue CAT bonds and it has since become commonplace among countries vulnerable to natural disasters. Most recently, the

[6] Clarke,Daniel Jonathan; Dercon,Stefan (2016) Dull disasters? How planning ahead will make a difference (English). Washington, D.C. World Bank Group.

Philippines issued a CAT bond with US$150 million in tropical cyclone disaster insurance protection.[7]

Environmental Deposit Bond

An environmental deposit bond (EDB) is a financial instrument issued by a company or organization to ensure that they have the financial resources to carry out environmental remediation or rehabilitation activities in the future. EDBs serve as a guarantee that the company will be financially responsible for its environmental impacts and have the resources to address them in case of default or insolvency. EDBs have been implemented in several countries, including Australia, the United States, Canada, and South Africa, where they are required for industries such as mining and hazardous waste management.[8]

3.2 Water and the blue economy

Situational context

Kenya faces serious challenges regarding its current and future water resources and water service provision. According to the Kenya Water Services Strategy, these challenges include deterioration of existing facilities such as harvesting and storage facilities, and increased service demand due to population growth, particularly in many rural areas and the very rapidly growing settlements of the urban poor. Further to this, the National Water Master Plan 2030 points out that climate change will continue to affect water resources, including disruptions in rainfall patterns leading to frequent flooding and droughts in the country. Additionally, water resources are distributed unevenly in the country in terms of timing and geography therefore, usable water resources are considered limited and lower than the total amount of available water resources in Kenya.

Nevertheless, the blue economy offers huge potential. New sustainable ocean industries, such as sustainable fisheries, aquaculture and marine renewable energy, present opportunities to generate new sources of employment and growth, diversify the economy, build climate resilience, reduce dependency on fossil energy, and enhance food security.

However, the blue economy will need to be sustainably managed. Population growth and the resultant demand for seafood has led to uncontrolled and unsustainable fishing. A recent study found that 38% of the coral reefs surveyed in the region had fish stocks below sustainable levels.[9]

Current fiscal and other policies

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[7] Evans, S, Philippines Gov requests cat bond loss calculation for typhoon Goni. 6 November 2020, Available:

[8] https://www.nema.go.ke/images/Docs/Regulations/EMC%20(Deposit%20Bonds)%20Regulations%202014-1.pdf

[9] McClanahan, T. R. (2019). Coral reef fish communities, diversity, and their fisheries and biodiversity status in East Africa. Marine Ecology Progress Series, 632, 175-191. doi:10.3354/meps13153

Fiscal considerations are crucial for protecting sensitive ecosystems and biodiversity hotspots in Kenya. The allocation of financial resources towards conservation efforts can provide the necessary support for research, monitoring, and implementation of conservation strategies. In addition, financial incentives can encourage local communities to engage in conservation activities, reducing the pressure on ecosystems and biodiversity hotspots.

Kenya has already taken some action to address water resource and quality issues. For example, the 2006 Environmental Management and Coordination (Water Quality) regulations prohibit discharge of effluent into the environment that is in breach of the established standards. The National Environment Management Authority (NEMA) regulates discharge of all effluent into the environment and issues effluent discharge licenses for a fee.

Similarly, the Fisheries Act (2016) requires registration and licensing for both local and foreign vessels for fishing in the Kenya fishery waters for a fee. It also imposes fines and penalties for fishing without a license or in contravention of conditions imposed by a license under the Act. This aims to ensure sustainable fishing practices to preserve the blue economy ecosystem, although, as noted above, challenges remain.

International experience

The international experience provides insights into potential fiscal policy options across a range of dimensions in the water and blue economy sector.

To promote efficient portable water provision, some countries have adopted a type of feebate system where richer, higher-use households are charged a higher rate to offset subsidies for poorer, subsistence-use households. This is the case in Colombia where, for example, the price of water depends on how the neighborhood ranks on a national six tier socioeconomic system. Households on the lowest tier receive a 70% subsidy, whereas those in the top tier pay a 165% surcharge.[10]

A range of countries use fees and taxes to protect their freshwater supplies from pollution by taxing industrial water pollutants. The Colombian government, for example, charges all polluters a fee per unit of biological oxygen demand (BOD) and total suspended solids (TSS), with regional enforcement agencies entitled to retain any pollution fee revenues. According to Colombia's environment ministry, nationwide BOD discharges from point sources covered fell by 27%, and TSS discharges fell by 45% in the first six years of the program.[11]

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[10] (in Spanish)

[11] Olmstead, S and Zheng, J Policy Instruments for Water Pollution Control in Developing Countries, December 2019. Review of Environmental Economics and Policy. Available:

Payments for hydrological service schemes encourage the private sector to take account of the full, societal value of water resources. For example, the Payments for Hydrological Services Program (PESH), introduced by Mexico in 2003, aimed to conserve forests to improve water quality and quantity for downstream communities, as well as maintain rural incomes and reduce poverty. Between 2003 and 2009, approximately 2.27 million hectares of land, around 1.6% of Mexico's forests, were included in the program. Analysis of PESH's impacts found that it increased land cover management activities by around 50% and community social capital by 8-9% (Alix-Garcia et al., 2018).[12]

For fisheries, quota systems have been used to build sustainable stocks. In Namibia, the government has been setting total allowable catches (TACs) since 1992. The value of the fish industry has been steadily increasing year-on-year – from US$331 million in 2006 to US$595 million in 2012 (13% compound annual growth rate).[13]

Iceland takes this approach one stage further by allowing quotas to be traded between fishermen. This mechanism has the dual benefit of securing the future of the industry by making it more efficient and profitable and, from a just transition perspective, providing compensation through quota sales for those who exit. The system was successful, with the annual quota rental values in the Icelandic fisheries increasing almost twenty-fold between 1984 and 1999. While both the Icelandic and Namibian quota systems are budget-neutral, the auctioning of allowances could provide a source of government revenue.

Some countries have raised capital explicitly to support the blue economy. For example, the Seychelles' 2018 blue bond issuance was a world first for a sovereign government and raised the island nation US$15 million to advance its blue economy.[14] Proceeds went toward supporting marine protection areas, enhanced governance of fisheries, and investments that facilitated value-added in downstream industries.

3.3 Health and sanitation

3.3.1 Health

Health status is a critical dimension of human well-being. It is especially critical for children as childhood health determines not just educational attainment, but also adulthood health and

[12] Alix-Garcia, J.L. Sims, K., Orozco-Olvera, V.H. Costica, L., Jorge, D.F.M., Monroy, S.R., (2018) Payments for environmental services supported social capital while increasing land management, Proceedings of the National Academy of Sciences, 115 (27) 7016-7021; DOI: 10.1073/pnas.1720873115

[13] Chiripanhura, Blessing and Teweldemedhin, Mogos. 2016. An Analysis of the Fishing Industry in Namibia: The Structure, Performance, Challenges, and Prospects for Growth and Diversification. AGRODEP Working Paper 0021. Washington, D.C: International Food Policy Research Institute (IFPRI).

[14] World Economic Forum, Blue bonds: What they are, and how they can help the oceans. 6th June 2019. Available:

productivity.[15] Access to health is a basic social economic right of every Kenyan. Article 43 (1)(a) of the Constitution states that " Every person has the right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care". However, health is also a devolved function where provision of the services is the responsibility of the counties.

The World Health Organization (WHO, 2016)[16] shows that health system activities exert significant impacts and pressures on the environment by generating hazardous and conventional wastewater and greenhouse gas emissions and through their high consumption of resources such as water and energy. Some of the key impacts are:

Health care waste: The health care system is one of the highest-waste-generating sectors. It is estimated that between 75% and 90% of waste produced from the health care system is comparable to domestic waste in terms of its composition and environmental implications. Increased use of disposable instruments and prepacked materials has led to increased waste generation. Clinical waste generation is also increasing among private households. Landfill is the least expensive means of disposal but poses high environmental and health risks. Incineration is a cheaper alternative of health care waste disposal but resulting ash has been found to contain high levels of heavy metals.

Wastewater: Water pollution can directly emanate from the health care facilities, the activities of patients, the healthcare supply-chain and from inadequate health care waste disposal. Frequent pollutants include pharmaceutical products, microorganisms, heavy metals, cleaning products and chemicals such as organic halogens or free chlorine.

Greenhouse gas emissions: Greenhouse gases arise from embedded emissions in procured goods, direct energy use in healthcare facilities and patient and staff travel.

Toxic chemicals: The healthcare industry is a major consumer of chemicals, some of which can have serious health and environmental impacts including mercury, polyvinyl chloride, flame retardants, phthalates, and volatile organic chemicals.

Resource consumption - water and energy: Even though direct water use by health systems is minimal compared to other sectors, indirect (embedded water consumption) is significant. For example, disposable cotton is derived from cotton crop which is highly water intensive.

Current fiscal policies

[15] KIPPRA (2020). Creating an Enabling Environment for Inclusive Growth In Kenya. Kenya Economic Report.

[16] WHO (2016). Towards Environmentally Sustainable Health Systems in Europe, a Review of the Evidence.

There are no known fiscal incentive measures in Kenya meant to green the healthcare system. Nonetheless, they can be indirectly linked to sanitation (Section 3.3.2).

3.3.2. Sanitation

Situational context

Sanitation is a necessity that contributes to better human health, dignity, and quality of life. The economic and social benefits of sanitation interventions create more time for productive pursuits, higher productivity, better performance at school and work, lower medical costs. Closer access leads to a better living environment, dignity, safety, convenience, comfort, and status. However, in Kenya basic sanitation services are not accessible to most of the population. The result is that the poor are deprived of decent and dignified lifestyles leading to deterioration of health, wellbeing, and the human environment.

Kenya, under Sustainable Development Goal 6, has committed itself to achieve by 2030 universal and equitable access to safe and affordable water for all; access to adequate and equitable sanitation and hygiene for all and an end to open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. Progress on drinking water, sanitation and hygiene is also critical for the achievement of other targets, including reducing poverty and achieving universal access to basic services; ending all forms of malnutrition; ending preventable deaths of newborn and children under 5 years of age, combating neglected tropical diseases and waterborne diseases, and achieving universal health coverage; providing safe and inclusive learning environment.

Kenya has a vision of achieving 100% access to basic sanitation services by 2030. This is particularly ambitious for rural areas where the coverage to basic level services stands at 31%.[17] Progress requires participation from the communities to ensure open defecation is eliminated. Additionally, access to sanitation services is significantly lower in poorer communities and among vulnerable groups.

The Constitution of Kenya (2010) under Article 42 gives every person a right to a clean and healthy environment, which includes sanitation. The Constitution also devolved sanitation services to County Governments and subsequently the Government has enacted, the Water Act (2016), bringing the water and sanitation sector in line with the constitution. The Kenya Environmental Sanitation and Hygiene Policy (KESHP) 2016-2030 provides broad guidelines to both state and non-state actors at all levels to work towards universal access to improved sanitation leading to improved quality of life for the people. Primarily, the KESH policy aims to increase the proportion of the population with access to improved sanitation to 100 percent by 2030 and ensure a clean and healthy environment for all in Kenya. To manage hazardous waste in the Health Sector,

[17] Government of Kenya (2016). Kenya Environmental Sanitation and Hygiene Policy 2016 – 2030. Ministry of Health.

KESHP seeks to ensure that all health facilities have reliable water supplies and environmental sanitation and hygiene facilities; ensure that all health staff are trained on medical waste management; and ensure there is adequate budgetary allocation for management of medical waste among others.

According to KESP (2016 – 2030), one of the reasons why sanitation remains a low investment priority is institutional fragmentation, with different elements of the sanitation supply chain being the responsibility of different players. This fragmentation has led to lack of proper coordination of sanitation services and hindered a holistic approach to sanitation financing. The development of a sanitation and hygiene investment plan has been a pending priority within Kenya's Country Priority Action Plan on Sanitation, but progress is constrained by a lack of specific capacity in the sector. Thus, despite financial support and donor interest for sanitation in Kenya, sustainable financing remains a key bottleneck to accelerated progress.

Current fiscal and other policies

The Ministry of Water & Sanitation and Irrigation is currently focusing on resource mobilization, innovative financing mechanisms and investment planning to achieve universal access by 2030. Some of the initiatives in place towards this mission include pro-poor initiatives by the ministry aimed at ensuring the progressive realization of the human right to safe drinking water and sanitation for all, in a non-discriminatory manner. Other initiatives by both national and county governments that will enhance access to safe drinking water include: (i) Allocation of more resources by both National and County governments to expand water infrastructure; (ii) Community sensitization programs on water treatment; and (iii) Investing in water harvesting technologies (KEPI 2020).

International experience

Improving sanitation can be particularly reliant on government spending but there are examples of very strong progress being made when fiscal policy is used to align incentives. Peru's Incentives Program for the Improvement of Municipal Management (MIP) provides an example. MIP makes direct transfers to local governments, on condition of the achievement of set ecological goals, which are monitored twice a year. Between 2015 and 2019, 15,901 rural water and sanitation operators were registered, 31,917 water systems were built, 2,500 rural water systems were rehabilitated, and 1,997 chlorinated systems were installed.

3.4 Agriculture, food and nutrition security

Situational context

Approximately 25% of Kenya's population is food-insecure.[18] This is due to low and falling productivity of agricultural land, reliance on rain-fed agriculture, low levels of mechanization and high post-harvest losses including pets and diseases. The prevalence of climate change impacts such as droughts and floods have compounded the food insecurity problem and such events are projected to intensify in the coming years. Subsequently, the number of people who will be rendered food-insecure is bound to increase (National Food and Nutrition Security Policy Implementation Framework, 2017).[19]

At the same time, the agriculture sector is the leading source of emissions in the country, accounting for 40% of the national total of 93.7 $MtCO_2e$ in 2015.[20] Much of this is driven by dairy cattle: Kenya has an estimated 4.3 million dairy cattle producing 3.4 billion litres of milk per year. The dairy cattle sector is responsible for about 12.3 $MtCO_2eq$. In addition, the use of synthetic and organic fertilizers adds nitrogen to soils, increasing natural emissions of nitrous oxide. Other agricultural soil management practices such as irrigation, tillage, fallowing of land, also affect the flow of gases to and from the soil, since soils are both a source and a sink for GHGs.

The Kenya Agricultural Sector Extension Policy (2022) points out several challenges in the delivery of extension services. These include: Institutional weaknesses in capacity building, technology development and dissemination; Weaknesses in research–extension–clientele linkages, packaging and disseminating technologies; Harmonizing extension approaches and methods; Commercializing and privatizing public extension services without compromising public interest; Managing pluralistic extension service for effective service delivery; Developing private sector operated extension services to complement public extension services; Creating functioning institutional frameworks to coordinate and provide linkages among stakeholders and mainstreaming cross-cutting issues in extension messages. Estimates as of 2014 indicate that the ratio of agricultural extension officers to farm household was 1:1093 against 1:400 recommended by FAO[21]. This makes it difficult for extension officers to reach farmers.

[18] Food and Agricultural Organization (FAO), United Nations Economic Commission for Africa (ECA) and African Union Commission (AUC) (2020). Africa Regional Overview of Food Security and Nutrition 2019. ISBN 978-92-5-132051-8, Food and Agricultural Organization (FAO).

[19] Ministry of Agriculture, Livestock and Fisheries (2017). National Food and Nutrition Security Policy Implementation Framework. http://extwprlegs1.fao.org/docs/pdf/ken170761.pdf

[20] Government of Kenya (2015), Kenya Second National Communication to the United Nations Framework Convention on Climate Change. National Environment Management Authority (NEMA)

[21] Odongo, D. (2014). Agricultural Information Access among Smallholder: Comparative Assessment of Rural and Peri-Urban Settings in Kenya.

Current fiscal and other policies

The government's 2009–2020 Agricultural Sector Development Strategy has multiple objectives. These include establishing a central authority for recording animals and regulating breeding programs, enhancing animal feeding and nutrition practices, strengthening livestock extension services, and improving livestock disease and pest control. The Climate Smart Agriculture (CSA) Framework Program 2015–2030 targets a reduction in agricultural GHG emissions by increasing livestock productivity alongside the adoption of improved adaptive technologies which minimize carbon emissions and enhance soil carbon sequestration. It also aims to develop a national carbon accounting and measurement, reporting and verification system, and promote efficiency in dairy and livestock manure management and in paddy rice management, for example.

Furthermore, food and nutritional security is one of the key pillars of the BETA. Consequently, several projects are under implementation including the construction of several dams for water conservation, flood prevention and to support irrigation; the Galana Kulalu food security model farm; a fertilizer subsidy program to lower the cost of farming; and, as noted above, the introduction of Kenya Livestock Insurance Program (KLIP).

In terms of legislation, the Value Added Tax (VAT) Act of 2013 and the Income Tax Act (CAP 470) lay the groundwork for policy in this area. The VAT Act provides value added tax (VAT) exemptions for all unprocessed agricultural products and agricultural pest-control products (and inputs for their production), as well as a duty exemption for agricultural machinery (and inputs for their production), fertilizer, storage facilities and seeds. In combination, these exemptions vastly reduce the costs of agriculture and contribute to incentivizing increased production and enhanced food security. The Income Tax Act's provision for a 50% capital deduction for investment in farm works will have a similar effect.

However, not all incentives and programs are climate-smart or geared toward promotion of a green sustainable economy. Some pesticides can contaminate soil, water and other vegetation Similarly, the use of chemical fertilizers can have negative effects on the environment, for instance the emission of methane, nitrous oxide and ammonia into the atmosphere. This policy takes into cognizance these challenges and attempts to balance the interventions towards achieving NDC targets while addressing food security.

International experience

Internationally, there are many examples of fiscal policies that provide subsidies to farmers to engage in more sustainable practices, with the funding for these subsidies met through a re-allocation of existing agricultural subsidies. Examples include Brazil and the UK, whose experience points to ***the importance of robust monitoring to ensure impact***. Direct subsidies and tax exemptions have also been shown to be important levers in encouraging sustainable farming. For example, in India, following the removal of these trade barriers at the beginning of 2017, the

value of organic agricultural exports grew by 70% and 41% in 2017 and 2018, respectively, after four years of stagnation.[22]

There are also examples of command-and-control expansionary green fiscal policies in this sector. South Africa launched the ***Working for Water (WfW)*** program which resulted in over 350,000 hectares of newly cleared farmland, improved water quality and security, the development of secondary industries based on cleared land, and the employment of 24,000 previously unemployed people from marginalized groups.

In terms of nutrition, international experience illustrates ***the role of fruit and vegetable subsidies or tax reductions***. For example, Fiji and Tonga have removed import tariffs on fruit and vegetables, while the UK and US have provided targeted subsidies for vulnerable groups.[23] However, there are no current examples of such consumption subsidies being tied to the sustainability of the associated production practices.

Finally, international experience also points to the opportunities for raising capital by governments to support green activity in this sector. For example, in 2018, the Mexican Trust Fund for Agricultural Development launched a green bond worth roughly US$135 million to support ventures in four categories: protected agriculture, efficient use of water, energy efficiency, and renewable energy.[24] The funds from this bond have allowed sustainable farmers to scale up their production while propagating practices like reforestation, water capture, soil retention and the installation of solar panels and pumps.

3.5 Forestry, wildlife and tourism

Situational context

Kenya has a total of 5,226,191.79 ha (52,261 km^2) of forest cover which translates to 8.83% of the total area and has tree cover of 12.3% (KFS, 2020). According to Kenya National Bureau of Statistics (KNBS) economic survey of 2019, forestry and logging contributes 1.3% to the Gross Domestic Product (GDP) of the country. The value of the economic output of the forest sector is currently estimated at KES 78.5 billion (USD 785,440,000), (Cheboiwo et al., 2018). The sawmilling sector is the largest primary wood processing undertaking in the country. According to Timber Manufacturers Association (TMA) their investment in the sector is large with assets valued at KES 550 billion. The furniture industry in Kenya is an important source of livelihood, as it employs over 160,000 people and produces approximately 452 USD million worth of furniture per year and exports 22 USD million worth of furniture (World Bank, 2015).

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[22] FiBL Statistics (2020), Available:

[23] Thow, A. M., Downs, S. M., Mayes, C., Trevena, H., Waqanivalu, T., & Cawley, J. (2018) Fiscal policy to improve diets and prevent noncommunicable diseases: from recommendations to action. Bulletin of the World Health Organization, 96(3), 201–210. https://doi.org/10.2471/BLT.17.195982

[24] Inter-American Development Bank. Available:

Montane forests regulate more than 75% of the country's renewable water resources, which is critical for the sustainable development of many sectors such as agriculture, forestry, fisheries, electricity, water, hotels and other tourist facilities, public administration, and defence. They also prevent soil erosion and provide habitats for many plant and animal species. In addition, montane forests supply fuelwood that meets over 75% of Kenya's overall energy requirements.

Kenya's updated NDC identified the forest sector as having a mitigation potential of 40.2 million tons of CO2 by 2030 of which 20.8 million tons CO2 is committed in the NDC. The UNFCCC framework for Reducing Emissions from Deforestation and Forest Degradation (REDD+) appreciates the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. In the Kenya the REDD+ Strategic Options; Improving the productivity of public plantations through PPPs, scaling commercial forestry investment on private lands, enhance efficiency, effectiveness and skills across the value chain and mobilise private sector finance. Commercial Forestry mitigation actions include +80,000ha agroforestry +150,000ha commercial plantations and replanting 31,000ha of unstocked public plantations.

Kenya has embarked on an ambitious national and forest and landscape strategy aiming to triple its forest cover by planting 15 billion trees by the year 2032 which entails improving production of 15 Billion high quality seedlings; and restoration of 10.6 million ha of degraded landscapes; and enhance protection of the 5.2 million ha of available forests. Improve productivity and management of public forest plantations by restocking of planting backlogs; Maintain 5,240 Km fire breaks and 8,236 Km of forest roads. The proposed intervention areas include restocking 54,000 hectares of the plantation area using 86.4 million seedlings through various strategies including Public-Private partnerships (PPPs), establishment of commercial private forest plantations (450,000 hectares using 450 million seedlings), growing of fruit trees and woodlots in schools, colleges universities and other institutions (40,000 hectares using 40 million seedlings), promote bamboo growing, implement mangrove management plan and growing of agroforestry trees on farmlands (7 million hectares using 2.8 billion seedlings. The estimated cost to implement this strategy is KES 500 billion.

Increasing efficiency in charcoal production can reduce the pressure on forests: instead of using 10 kg of wood to produce 1 kg of charcoal, improved technologies can cut the use of wood down to 3 to 6 kg according to the technology used and best practices applied. Considering the high proportion of non-renewable biomass used to produce charcoal (between 90% and 95%), these measures could lead to 5.7 million cubic meters of Renewable Wood Equivalent (RWE) of non-renewable biomass savings per year from dry forests, generating about 16.5 million tCO2e per year of emission reductions from deforestation and forest degradation

Forests are also crucial for the protection of water towers in ensuring the quality, quantity and reliability of water resources contribute to the well-being of both human and natural ecosystems. Forests act as natural sponges, absorbing rainwater and slowly releasing it into streams and rivers which helps to regulate water flows, reduce the risk of flash floods and ensuring a constant supply of water downstream. Trees and other vegetation help to bind soil together, reducing soil erosion and landslides, especially in hilly and mountainous areas where water towers are typically located Forests also act as natural water filters by absorbing and holding rainwater, reducing runoff and soil erosion thus preventing sediment and other pollutants from entering the streams, rivers and other water bodies.

Nevertheless, more than 90% of Kenya's landscapes facing some form of degradation; 61% and 27% facing high and severe degradation respectively; The deforestation and degradation of these ecosystems remove a critical carbon sink from Kenya and cause significant problems. Deforestation has been mainly driven by clearance for agriculture that is linked to rural poverty and rapid population growth, unsustainable utilization of forest products (including timber harvesting, charcoal production, and grazing in forests), and past governance and institutional failures in the forest sector (NCCAP 2018–2022).

Wildlife and Tourism

The tourism sector is a highly climate sensitive sector. Climate change affects tourism destinations, their competitiveness and sustainability. Hence tourism demand is affected directly, through interference of choice of destination and period of trip, or indirectly by affecting the quality of experience, adverse perception after some extreme event and insecurity about the destination.

Coastal rainforests, marine ecosystems, wildlife and Mt. Kenya's glaciers make Kenya one of the top tourist destinations in the world and in the continent. In 2019, Kenya received 2.05 million international tourists and in 2019 the tourism industry contributed approximately 8.8% to GDP down from 14% in 2012.

Humans and wildlife face new challenges of survival due to climate change. More frequent and intense drought, storms, heat waves, rising sea levels melting glaciers and warming oceans can directly harm animals. This poses a threat to wildlife tourism and its contribution to GDP, as well as sustainability of our biodiversity.

Current fiscal and other policies

Sustainable and productive land management and preserving land resources are enshrined in Chapter 5 of the Constitution of Kenya. The Constitution stipulates that the state should work to achieve tree cover of at least 10% of total land area.

The Forest management and conservation act 2016, provides that a person who establishes or owns a private forest may apply to the relevant authorities for exemption from payment of all or part of the land rates and such other charges as may be levied in respect of the land on which the forest is established.

Forest Management and Conservation Act 2016 (44. (1)) provides that Kenya Forestry Service if satisfied can permit utilization of a public forest through the granting of a concession for conservation of biodiversity, cultural or recreational use.

The Government decision to zero rate duty on imported timber from 10% in July 2019, led to increased regional timber trade arising from development of new networks by local importers, clearing agents and transporters leading to reduced lead-time in meeting timber needs.

International experience

Internationally, a common fiscal approach to countering deforestation is direct government spending on the planting of trees. Ethiopia has been a prominent example in this regard, claiming to have planted 350 million trees in a single day in 2019 as part of the National Green Development Program.[25] This is part of a plan to plant 20 billion seedlings by 2024, which is expected to cost the Ethiopian government over US$ 117 million (Getachew, 2020).[26]

Spending directly on afforestation can be effective if planting and growing trees are conducted correctly. However, providing offsetting opportunities for companies covered by a carbon tax or emissions trading system (ETSs) would support positive ecological activity without creating a drain on fiscal resources. There are international precedents for this approach. As of July 2020, GHG emitters in South Africa can fund afforestation and reforestation projects as a means of offsetting their carbon tax obligations (SA National Treasury, 2020).[27]

An expansionary measure which has become increasingly widespread is that of ***payments for ecosystem services (PES)***. Under this approach, the government pays landowners in exchange for their adherence to pre-agreed sustainable practices on their land. In Ecuador, the Socio Bosque program pays individual landowners and local communities who agree to conserve their ecosystems through ***voluntary conservation agreements (VoCA)*** that are monitored on a regular basis for compliance. For the first 50 hectares of the conservation area, the incentive is US$37 per hectare per year; from 51 to 100 hectares, the incentive is reduced to US$25 per hectare, and

[25] World Economic Forum, The African country that inspired more and more countries to plant billions of trees. 11th June 2020. Available: [illegible]

[26] Getachew, S. (2020). Ethiopia will plant 5 billion trees this year to tackle climate change, but it comes at a steep price. Retrieved from: https://qz.com/africa/1866532/ethiopia-to-plant-5-billion-trees-in-2020-to-beat-climate-change/

thereafter decreases further for additional hectares.[28] Similar schemes have been developed in Costa Rica and Uganda.

In other federal countries, ecological fiscal transfers (EFTs) have been used to tie federal payments to states/provinces, etc. according to performance on conservation metrics like forest cover. In 2015, India established the world's largest system of EFTs when its 14th Finance Commission added forest cover to the formula that determines the amount of tax revenue the union government distributes annually to each state. The government distributed 7.5% of the divisible central tax revenue that is devolved to states according to the proportion of states' areas of 'very dense' or 'moderately dense' forest cover (Busch et al., 2020).[29] Initial challenges with the scheme's implementation have led to clarification and raising the share of revenue tied to forest cover to 10%. Other national and sub-national jurisdictions have also adopted EFTs.

In Uruguay, pension plans have successfully investments in forestry assets by domestic institutional investors. Following governance and investment challenges, the securities regulator created special purpose vehicles (SPVs), set up as financial trusts to manage investment in real assets, through which pension plans have to invest. The SPVs can invest in a range of direct assets, from infrastructure to private equity – including forestry. Six forestry funds – five domestic and one international manager – now form the market, with $750 million collectively under management, and the largest fund dominating with investments of over $500 million. International pension funds have also invested in Uruguay: the New Zealand Superannuation Fund, for example, has had some investments via a global forestry fund. The pension plans have been attracted to the asset class by the low correlation to the rest of their portfolios and the relatively attractive returns, with approximately 9 percent nominal return annually.

In Uganda, the government through the National Forestry Authority (NFA) provided concession to private sector investors in 2004 for plantation development. The Sawlog Production Grant Scheme (SPGS) was also set up. The combination of concessions and financial and technical support through SPGS led to an increase in private investments in commercial forestry in the country increasing the area under commercial forestry from 4,000 ha to approximately 100,000 ha of plantation. The scheme attracted huge interest and substantial investment from private sector entrepreneurs mostly SMEs (avg. 50 ha each). This has proven to be a successful and replicable cost-effective way of plantation establishment for a country. The performance-based grant schemes enabled the country increase its commercial forest plantations from less than 3,000ha to more than 100,000 ha.

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[28] de Koning, F., Aguinaga, M., Bravo, M., Chiu, M., Lascano, M., Lozada, T. and Suarez, L. (2011). Bridging the gap between forest conservation and poverty alleviation: the Ecuadorian Socio Bosque program. Environmental Science & Policy, 14(5), 531–542.

[29] Busch, J et al (2020) Did India's ecological fiscal transfers incentivize state governments to increase their forestry budgets? Environ. Res. Commun. 2 031006

3.6 Human settlements and infrastructure

Situational context

The country's infrastructure network is already affected by the physical impacts of climate variability and change. Roads, bridges, water pipelines and powerlines play a pivotal role in supporting the economy but are susceptible to damage from floods and other climate-related disasters. In 1997 and 1998, for example, water supply infrastructure and transport networks in Kenya were damaged by El Niño-related flooding.[30] Additionally, settlements in riparian areas, wildlife corridors; clearing for infrastructure without greening the environment, rising sea levels in the Indian Ocean have caused destruction of coastal infrastructure such as ship docking ports, a naval base in Kipini, hotels and beachfront houses, and (in combination with extreme weather events) intensified flooding in the coastal areas.

Buildings used for housing and commerce can also have significant negative climate change and environmental impacts, despite serving a vital societal purpose. Responding to these concerns, a 'green' building is one that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on the climate and natural environment.[31] Several features can make a building 'green', including:

- Efficient use of energy, water and other resources
- Use of renewable energy, such as solar energy
- Pollution- and waste-reduction measures, and the enabling of re-use and recycling
- Good indoor environmental air quality
- Use of materials that are non-toxic, ethical and sustainable
- Consideration of the environment in design, construction and operation
- Consideration of the quality of life of occupants in design, construction and operation
- A design that enables adaptation to a changing environment

Green buildings preserve precious natural resources and improve the quality of life for residents. Their objective is to decrease the overall impact of the built environment on human health and the natural environment by efficiently using energy, water, and other resources. By doing this, green buildings protect occupant health, improve employee productivity and enhance climate resilience, while reducing waste, pollution and environmental degradation.

Kenya has made progress in developing local voluntary green building rating schemes such as the 'GreenMark Standard' and the Safari Green Building Index. There is also a growing interest and adoption of voluntary green building certification tools such as the IFC's EDGE.

Current fiscal and other policies

[30] Government of Kenya (2016). *Kenya National Adaptation Plan*. Nairobi: Ministry of Environment and Forestry.
[31] World Green Building Council. Available:

Kenya lacks harmonized guidelines regulating the development and maintenance of green buildings. There are no clear regulations or legislation prescribing the requirement that new buildings comply with a set standard geared toward achievement of energy-efficient and environmentally friendly structures. Accordingly, construction in Kenya gives little or no consideration to green practices, the use of recycled materials, reducing carbon footprints, or developing adaptable and environmentally friendly designs.

However, considerable effort has been realized in certain initiatives such as the Building Efficiency Accelerator program. This is a public–private sector collaboration that leverages global expertise to accelerate local implementation of building efficiency policies. This program has been adopted by Nairobi, Nakuru, Kisii and Homabay Counties.

International experience

Fiscal policies are often aimed at improving building sustainability. Subsidizing the costs of energy-efficient building technologies, either via direct subsidies or tax exemptions, is a common approach for both upgrading current building stocks and ensuring that new builds meet high energy efficiency standards. China, Colombia, Ghana, and Argentina all provide incentives for new builds to adopt energy-efficient technologies. For example, in Ghana, 'green-certified' buildings are eligible for a 30% reduction in building permit fees (Ghana Broadcasting Corporation, 2019).[32] In terms of retrofits, the UK Green Deal scheme provides grants and loans for homeowners to improve energy efficiency.

The use of ***Sovereign Green Bonds*** can be an effective way to finance these energy activities. Lithuania, for example, has earmarked the first tranche (€20 million) of its sovereign green bond program to provide energy efficiency upgrades to about 160 apartment buildings (IFC, 2019).[33]

Given the importance of effective infrastructure to economic development and wellbeing, finance ministries also have an obvious interest in ensuring that such infrastructure is as climate-resilient as possible. The best practice role for finance ministries is in ensuring that a comprehensive and strategic approach to infrastructure development, encompassing life cycle assessments, is undertaken prior to the development of specific infrastructure assets, and that in deciding on the optimal portfolio of infrastructure assets, the changing climate in which that infrastructure will need to operate is taken into account.[34]

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[32] https://www.gbcghanaonline.com/general/takoradi-green-buildings-to-receive-30-reduction-in-permit-fees/2019/
[33] IFC (2019) Green Buildings: A Finance and Policy Blueprint for Emerging Markets.
[34] ADB (2021) A System Wide Approach for Infrastructure Resilience. Available at: https://www.adb.org/publications/system-wide-approach-infrastructure-resilience

3.7 Electricity

Situational context

Kenya has made great progress in generating electricity from green sources. As of 2019, the electricity installed capacity from renewable sources, including geothermal, hydro, wind, solar and co-generation, stood at 73.4%, compared to 67% in 2008 (KIPPRA, 2020).[35] Consequently, the percentage of electricity generated from thermal declined considerably from 33.2% in 2008 to 11.5% in 2019 because thermal generation has been on a declining trend over time, electricity generation is currently 92% green and will be 100% green by 2030.

There is considerable scope to expand geothermal electricity in Kenya, with a proven potential of over 10,000 MW. Of this potential, only 860 MW has so far been exploited for electricity generation. Currently, exploitation of geothermal energy is almost wholly owned by the public, with a small proportion of plants financed through public–private partnerships or private finance only. The high costs of field development, coupled with the high risks associated with resource exploration and drilling, still pose a significant barrier to private sector financing. Siting geothermal projects carefully is also important – for example, discouraging geothermal development in areas with rich biodiversity. This would avoid new geothermal resources creating other environmental issues.

Despite the improved capacity in electricity generation in Kenya, approximately 3 million households still lack access to electricity. Installing off-grid solutions including mini-grids and solar home systems is one of the options for electrifying these non-connected households and ensuring access to sustainable energy for all. In some instances, off-grid solutions are more economical than extending the national grid. Investment in the off-grid renewables sector has grown strongly as deployment has accelerated. The total installed capacity in 2016 was approximately 25.3 MW, most of which consists of public-operated mini-grids.[iii] Despite the impressive growth, the investment gap in the off-grid sub-sector remains large. The overarching strategy for Kenya's electricity sector, the 2018 Kenya National Electrification Strategy, focuses primarily on national grid extension. Mini-grids are included but significantly under-represented. Currently, discussions are being advanced towards investments in battery energy storage as energy storage technologies are advancing fast and are becoming cost competitive. Both public and private sources of financing have an important role to play in bridging the financing gap.

Current fiscal and other policies

There is a range of measures already in place that help support the continued expansion of the low-carbon power sector in Kenya.

[35] KIPPRA (2020). Kenya Economic Report 2020: Creating a Conducive Environment for Inclusive Growth in Kenya, Nairobi, Kenya.

VAT is exempted for inputs or raw materials supplied for the manufacture of solar equipment or deep cycle-sealed batteries which exclusively use or store solar power, as well as for inputs or raw materials locally purchased or imported by manufacturers of clean cook stoves. Similarly, under the East Africa Customs Management Act 2004 there is an exemption from Customs Duty on specialized solar and wind energy equipment. Specialized equipment for generation of wind and solar energy are exempted from both import duty and VAT

To support de-risking geothermal development, the government established the Geothermal Development Company to carry out surface exploration, exploratory and production drilling, and sales of steam to third parties, including independent power producers.

Several government and development partner initiatives have attempted to lower the initial electricity connectivity cost. Currently, the government is operating a 'Last Mile Connectivity Project', providing support of KES 15,000 per household. This is granted as a loan on connectivity and recovered over a maximum of 36 months through the billing system.

In addition, there is an exemption of interest income from all listed bonds, notes or other similar securities used to raise funds for infrastructure, projects and assets defined under Green Bonds Standards and Guidelines (bonds, notes or securities that have a maturity of at least three years. While this exemption is general as it covers a broad range of infrastructure projects, power sector projects have been a common focus for green bond issuance.

International experience

There is a wide range of international experiences of using fiscal policy to promote low-carbon power generation.

While carbon taxes can operate across many sectors, their focus (and impacts) are often concentrated in the power sector. Several middle-income countries have implemented taxes of varying degrees of ambition over the last decade. South Africa was the first African country to introduce one in 2019 when it set a price of US$8.35 per tonne of CO_2e (World Bank, 2020).[36] The tax covers 80% of GHGs and the rate will increase annually with inflation plus 2% until 2022, and annually with inflation thereafter. To allow for a period of adaptation, significant industry-specific tax-free emissions allowances ranging from 60% to 95% have been included which will result in a modest initial net carbon tax rate ranging from US$0.40 to US$3.16 per tonne of CO_2e.

Latin American countries have also adopted carbon taxes, with Colombia, Chile and Mexico applying taxes of US$4, US$5 and <US$1–2, respectively, covering around 24%, 39% and 47% of respective national GHGs (World Bank, 2020).[37] These rates are lower than those of carbon

[36] World Bank (2020) State and Trends of Carbon Pricing 2020. Available at: https://openknowledge.worldbank.org/handle/10986/33809

[37] Ibid.

taxes in richer countries, which are generally over US$25 per tonne of CO_2e and can be as high as US$100 per tonne of CO_2e.

Electricity excise taxes can also be a powerful tool to both discourage wastage and generate government revenue. This is especially true in cases where taxes are combined with favorable regulatory treatment of energy from renewable sources. Costa Rica taxes residential electricity use at 5% while at the same time providing exemptions of excise tax, VAT, general sales tax and a special customs tax for renewable energy sources.[38]

While most policies in the energy sector are revenue-generating, there can be a value in subsidizing the adoption of newer renewable energy technologies such that they can become price-competitive against their 'brown' alternatives, although the need for this has diminished as renewable energy technology costs have fallen. In Mexico, the government has created several fiscal policy instruments intended to facilitate the fostering of clean energy projects and provide an attractive investment climate for the private sector. The most successful of these mechanisms was the accelerated 100% depreciation in one year of investments in renewable energy on a company's income tax (Peters, 2012).[39]

Green bonds have been successfully employed in funding both low-carbon transport and renewable energy projects. In 2020 Chile issued over US$3.5 billion in green bonds earmarked entirely for low-carbon transport (Whiley, 2020).[40] Egypt is one of the few African countries, and the first Arab country, to issue a green bond, and its 2020 issuance has provided US$750 million to finance projects in transportation, renewable energy and energy efficiency (Barbuscia and Ramnarayan, 2020).[41]

3.8 Clean cooking

Situational context

Currently, 59% of households in Kenya use the three-stone open fire (TSOF).[42] Although the proportion of household users of TSOF has dropped (76% of households used TSOF 20 years ago), the aggregate number has increased from 4.7 million to about 7.3 million households. In terms of primary cooking fuel, 64.7% (8.1 million) of households in Kenya still use wood as their primary

[38] Green Fiscal Policy Network, 2019 https://greenfiscalpolicy.org/policy_briefs/costa-rica-country-profile/

[39] Peters, S. (2012). The Role of Green Fiscal Mechanisms in Developing Countries: Lessons Learned. Retrieved from: https://publications.iadb.org/publications/english/document/The-Role-of-Green-Fiscal-Mechanisms-in-Developing-Countries-Lessons-Learned-Case-Study.pdf

[40] Whiley, A. (2020). Chile makes 3rd sovereign green issuance: Record rates for Jan 2020 Climate Bonds certified transaction. Retrieved from: https://www.climatebonds.net/2020/02/chile-makes-3rd-sovereign-green-issuance-record-rates-jan-2020-climate-bonds-certified

[41] Barbuscia, D. & A. Ramnarayan. (2020). Egypt becomes first Arab country to issue Green bonds with $750 million deal. Retrieved from: https://www.reuters.com/article/egypt-bonds-int/egypt-becomes-first-arab-country-to-issue-green-bonds-with-750-million-deal-idUSKBN26K1MJ?edition-redirect=in

[42] MOE, CCAK (2019). Kenya Household Cooking Sector Study: Assessment of the Supply and Demand of Cooking Solutions at the Household Level.

cooking fuel, followed by liquefied petroleum gas (LPG) at 19% (2.4 million) and charcoal at 10% (1.3 million). Only 3% of households own an electric cooking appliance such as mixed LPG-electricity stove, electric coil stove and microwave. (include a statement on high cost/ also update the statistics)

Exposure to harmful pollutants emitted from burning wood and charcoal is one of the largest health risk factors for mortality in Kenya, with about 21,560 deaths attributed to household air pollution (HAP) annually – more than the average number of deaths caused by road accidents. Kenya has committed to transition to clean cooking by 2028 by developing efficient cooking solutions as part of actions under the Sustainable Energy for All global initiative and SDG 7 (affordable and clean energy). The Kenyan updated NDC has projected an abatement potential of 7.3 $MtCO_2e$ by 2030 from improved cooking solutions as a means of mitigating climate change. Further, using clean cooking solutions will support the move by the government to restore Kenya's forest cover to 10%, up from the current 7.4%.

Current fiscal and other policies

The Finance Act 2020 reversed the VAT exemption on taxable goods locally purchased or imported by manufacturers or imported by manufacturers or importers of clean cooking stoves for direct and exclusive use in the assembly, manufacture or repair of clean cook stoves. The exemption was introduced by the Finance Act 2016. However, this was reversed under. The 2020 Act also reintroduced the VAT on biogas, plastic bag biogas digesters and leasing of biogas producing equipment.

International experience

A number of countries have used fiscal policies to support the deployment of cleaner cooking solutions. For example, the Uganda Domestic Biogas Program supported households in accessing loans to purchase a biogas digester, as well as finance to support biogas construction companies. The program has been successful in supporting over 13,000 biogas generators.

Similarly, in India LPG gas has been subsidized to encourage the switch from biomass for at least some cooking. This has been associated with the number of households with a registered LPG connection more than doubling over the past decade. However, the India case also illustrates some of the risks associated with untargeted subsidies with the growth in the subsidy bill leading the government to launch the 'Give it Up' initiative to encourage middle- and upper-class households to voluntarily stop receiving the LPG subsidy.[43] Despite this, the strain on the budget has been such that provisions for the LPG cooking fuel subsidies were halved in the federal budget for the fiscal year ending March 2022 to 124.8 billion rupees (US$1.7 billion) from 255 billion rupees a year earlier.

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3.9 Manufacturing

Situational context

Industry and manufacturing are among the most important sectors in Kenya's economy, contributing 7.2% of GDP according to the Economic Survey 2022.[44] The government aims to increase the manufacturing sector's contribution to GDP to 20% by 2030 (20BY30).[45]

The manufacturing sector contributes to climate change as it produces GHG emissions from the use of fossil fuels and other industrial processes. The sector was responsible for about 7% of Kenya's total emissions in 2015.[46] Energy conservation is key to the reduction of GHG emissions, as well as providing other benefits such as lower costs for consumers.

Examining the concept more broadly, in 2009, the United Nations Industrial Organization (UNIDO) coined the term 'Green Industry', with 'economies striving for a more sustainable pathway of growth, by undertaking green public investments and implementing public policy initiatives that encourage environmentally responsible private investments'. Greening industries involve taking care of materials, energy, water, waste and emissions.[47] This requires investment in technologies that enhance process efficiency in terms of optimizing raw materials, and energy and water use, while also reducing waste and emissions.

Kenya's industry sector relies heavily on a traditional linear model in which resources are extracted, processed, distributed, consumed, and eventually disposed of. The life cycle or circular economy concept instead advocates a circulation of resources within the economic system. Rather than disposing of waste it is reintroduced as a resource into the processing stage, thereby closing the circle.

Current fiscal and other policies

In 2006, the Ministry of Energy and Kenyan Association of Manufacturers (KAM) established the Centre for Energy Efficiency and Conservation (CEEC), which runs energy efficiency and conservation programs designed to help companies identify energy wastage, determine saving potential, and make recommendations on measures to be implemented.[48] Some of the key products offered by CEEC include energy audits, specialized training, and the Energy Management Award.

In addition, there is increased emphasis on promoting the reduction, re-use, recycling, recovery and repair of waste consistent with the sustainable waste management agenda.

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[44] Kenya National Bureau of Statistics (2020) Economic Survey 2020. Available:

[45] Government of Kenya (2019). Third Medium Term Plan III. The National Treasury and Planning general press release.

[46] Government of Kenya (2015). Kenya Second National Communication to the United Nations Framework Convention on Climate Change. National Environment Management Authority (NEMA)

[47]

[48]

International experience

Most countries that have introduced carbon pricing (as discussed in section 3.7) ensure that the coverage of the scheme includes emissions associated with industry and heavy manufacturing.

Beyond this, international experience tends to relate to providing tax reductions for environmentally sustainable activities. For example, VAT (or equivalent) exemptions to support green manufacturing outcomes have been particularly popular and successful in middle-income countries. In 2003, 11 Brazilian states and the Federal District agreed to grant a 60% ICMS (similar to VAT) exemption for businesses that deployed used polyethylene terephthalate (PET) bottles as input for adhesives in the plastics and packaging industry. The exemption made the use of used PET bottles 10–20% cheaper than previously (Denny et al., 2013).[49] The program led both to recycled PET bottles making up 63% of the plastics and packaging industry's PET input, and demonstrated the profitability of recycling policies. Denny et al. (2013) estimate that just one large factory's participation in the program saved its municipality US$362,000 in landfill fees over five years.

Similarly, in the South African city of eThekwini, businesses are given a tax rebate of US$0.07/kWh for energy savings they accrue (SA Green Building Council, 2019).[50] To claim the deduction, businesses must be able to show the energy savings over 12 consecutive months, when compared to the previous 12 months of baseline measurement. The program has been of particular interest to industry where, in some instances, customers save up to 30% on their energy bill in addition to the rebate.

3.10 Transport

Situational context

An efficient transport system and network is key in spurring national and regional integration, and promoting trade and economic development. Kenya's modes of transport include: road, rail, maritime and inland water, pipeline, aviation, and non-motorized and intermediate means of transport. Kenya's transportation is critical for economic growth. However, as discussed in section 3.6, its transport infrastructure is also increasingly exposed to the challenges of weather variability and climate change.

According to the Kenya Economic Survey (2020) (Government of Kenya, 2020), the transport and storage sector grew by 7.8% in 2019 compared to 8.5 % in 2018. However, the sector is heavily reliant on fossil fuels, especially road, rail and maritime and inland water transport. According to

[49] Denny, D. M. T., A. F. P. Pedro, K. C. Melkhitarian, E. M. Silva, K. Fiorini, I. Libardi, A. Onohara & Medici, F. (2013). Estímulos Fiscais para a Economia Verde. Retrieved from: http://www.advancesincleanerproduction.net/fourth/files/sessoes/5A/7/denny_et_al_work.pdf

[50] South Africa Green Building Council. (2019). Incentives to build green in South Africa. Retrieved from: https://gbcsa.org.za/incentives-to-build-green-in-south-africa/

Kenya's 2017 Emission Baseline Projections Report, the transport sector is the fourth largest GHG emitter after agriculture, electricity generation, and land-use change and forestry (LULUCF) (Government of Kenya, 2017).[51] A lack of efficient road and rail public mass transit systems means that private transport is most prevalent, which is the main driver of transportation GHG emission growth.

Current fiscal and other policies

Under the Excise Duty Act 2015, there is a graduated system of import duty for vehicles of different cylinder capacity. Fully electric-powered motor vehicles face only a 10% duty charge, rising for vehicles with internal combustion engines to 35% for imported vehicles of more than 2500cc engine capacity.

However, there are some transport measures in place that are not consistent with the objectives of the green economy. For example, relatively lower tax rates are applied to petroleum products than elsewhere in the economy. Additionally, there is a 50% capital expenditure deduction on the year of first use of a petroleum or gas storage facility. These are externalities which need to be corrected through the introduction of carbon taxes.

International experience

Transport fuel taxes are already very common in many countries. However, given that the carbon intensity of diesel is roughly 13% higher per liter than that of petrol, a more environmentally aligned tax system involves taxing diesel at the same rate as or higher than petrol is needed. South Africa is a rare example of a nation which taxes the two fuels at close to parity, at US$0.38 and US$0.37 per liter of petrol and diesel, respectively (SA Revenue Service, 2020a).[52]

As well as altering the consumer price of fuels, fiscal policies can influence the price of vehicles. In Mauritius, for example, a vehicle feebate means that those purchasing vehicles with a fuel economy above 150 gCO_2/km are taxed, whereas those purchasing vehicles below the threshold are granted a rebate (UNEP, 2017).[53] Mauritius has also waived a 50% import duty on electric and hybrid cars, as well as the registration fee. These incentives have led to the importation of more fuel-economy vehicles, with the number of hybrid cars being imported doubling each year between 2010 and 2013. The average fuel economy of the national fleet improved from 186 gCO_2/km in 2005 to 169 gCO_2/km in 2013.

[51] Suswatch Kenya, (2017) Emissions Baseline Projections Report. Available:

[52] South African Revenue Service. (2020b). Taxation in South Africa. Retrieved from: https://www.sars.gov.za/AllDocs/OpsDocs/Guides/LAPD-Gen-G01%20-%20Taxation%20in%20South%20Africa.pdf

[53] UNEP. (2017). Global Trends toward More Fuel Economy Vehicles. Retrieved from: http://airqualityandmobility.org/PCFV/PDF/Namibia_GlobalTrends.pdf

3.11 Waste management

Situational context

The waste sector contributes to climate change, accounting for about 3% of total national GHG emissions in 2020.[54] This is a very small contribution in comparison to sectors such as agriculture, forestry, and energy. Waste management creates additional benefits, however, such as the need for adequate waste treatment to avoid polluted air, water, and soil that cause significant health and environmental problems. A growing population and industrialization mean that pressure on waste services will grow in future decades.

The waste sector is also a significant source of black carbon through open burning of uncollected or illegally dumped waste, and transport of waste by outdated heavy-duty vehicles. In addition, uncontrolled leachate contaminates groundwater and some of these contaminants are carcinogens. Waste in the environment harbors pathogens and increases the incidence of vector-borne diseases. It is therefore not only an important climate challenge, but also affects every aspect of life for millions of people in the country and around the world.

Moreover, waste management being largely devolved, most counties lack adequate infrastructure, governance mechanisms and dedicated funding for effective and sustainable waste management. Many have not set aside land for building waste management infrastructure. Initiatives to date have also not fully tackled the fundamental problems of waste minimization and re-use as core elements of the circular economy: waste collection, waste separation at source and recycling, compost production from organic waste, and final disposal of non-recyclable waste in secure engineered facilities.

Current fiscal and other policies

The government of Kenya's main guiding approach to waste management is the 'zero waste principle', as set out in the National Solid Waste Management Strategy which aims to protect human health and the environment. Recycling, composting, waste minimization, and industrial symbiosis are important elements of the Strategy.

Kenya has in place a sustainable waste management policy (2021) that aims to transition the waste sector in every county away from low collection rates, illegal dumping and unregulated dumpsites toward affordable waste collection, recycling and composting, and secure final disposal in engineered landfills for the remaining fraction of the waste stream. The policy also aims to increase the value of waste along the waste management value chain by deploying industrial processing activities that create new products or sources of energy through re-using, recycling, or composting waste.

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[54] https://climateactiontracker.org/countries/kenya/policies-action/#:~:text=In%202020%2C%20the%20waste%20sector,industrialisation%20of%20the%20Kenyan%20economy.

Further, the Sustainable Waste Management Act 2022 was signed into law on 7th July 2022 to enforce the circular model. The SWM Act and Policy domesticates global best practices in waste management whereby producers are expected to invest in eco-design technologies and products that are reusable and recyclable and this contributes to reduction in waste. The producers are also expected to take back their products at the post-consumer stage. The SWM Act and Policy requires waste generators to segregate waste at source into different fractions and ensure appropriate transportation of the same by licensed waste service providers to a composting or a material recovery facility and not to the dumpsite.

The Government in collaboration with the private sector has also developed (draft) Extended Producer Responsibility (EPR) Regulations (2022). The EPR Regulations require producers to take care of their products and packaging at post consumer level through five categories of Producer Responsibility Organizations, to ensure eco-design of products, seamless collection, recovery of valuables, appropriate recycling as well as disposal in sanitary landfills. The SWM Act, Policy and EPR regulations aims to have additional financial resources available towards waste management as they are anchored on the polluter pays principle ensuring active participation by producers and waste generators.

The Kenya National Environmental Policy 2013 proposes the use of 'fiscal incentives to encourage waste minimization, recovery, reuse and recycling (the 3Rs)'. Similarly, the Kenya Waste Management Nationally Appropriate Mitigation Action (NAMA) 2017 underlines the importance of promoting 'the use of economic incentives to manage waste'.

A national ban on single-use plastic carrier bags has been successfully implemented, significantly reducing plastic bag waste, roadside litter, and the volume of plastic transported to Kenya's dumpsites.

International experience

Other countries around the world use fiscal policies to support more sustainable waste management practices. For example, Bangladeshi authorities have focused on improving the rate of waste recycling with a package of fiscal incentives including:

- Tax holidays for five–ten years for all waste treatment and recycling plants
- Reduced import or excise duties on relevant waste management equipment
- Use of its Climate Change Trust Fund to promote public awareness of the 3Rs[55]

These incentives are applied only to formally registered waste treatment and recycling enterprises. Concurrently, the government has tried to encourage composting of organic waste by introducing a sales tax exemption on sales of compost and tax breaks for composting companies, although the efficacy of this has been offset by continued subsidies for chemical fertilizers.

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3.12 Cross-cutting issues

Green Investment

The banking sector in Kenya is an important source of investment finance for green projects. In 2018, for example, it provided KES 27 billion in climate finance. Financing includes lending to renewable energy projects, providing credit lines for energy efficiency (like solar installation for lighting and water heating) and wastewater management in the hospitality industry, and financing tree planting projects.[56]

Foreign Direct Investment (FDI). Kenya is one of the largest recipients of FDI in Africa, totaling US$1.3 billion in 2019.[57] The largest share of FDI was directed to ICT, health and the extractive sector (oil exploration and production). However, about a third was directed to climate-related investments, mainly renewable energy.[58]

Green Bonds: Kenya has made significant efforts to develop its Green Bond market, including initiating the Kenya Green Bond agenda in 2014 and collaborating with the Kenya Bankers Association and Capital Markets Authority to implement the Kenya Green Bonds Program. This led to the development of Nairobi Security Exchange listing rules and the issuance of Kenya's first corporate Green Bond in 2019. In 2017, the Kenya Green Bonds Market Program was launched to accelerate the market acceptance of green bonds, facilitate climate change mitigation and adaptation investments, and improve regulatory and market capacity and knowledge on sustainable investments. It is worth noting that, despite the progress made, there are currently limited opportunities for Green Bond issuances in the immediate term in Kenya. Furthermore, further transformations are required for Green Bonds to be issued at scale in the country.

Capital Markets. To date, Kenyan pension funds and other domestic institutional investors have been hesitant to invest in green products originating in Kenya. However, Kenyan green financial products such as the first corporate green bond have attracted interest from foreign institutional investors. This suggests that there is significant potential to engage the interest of domestic institutional investors and make Nairobi a hub for green capital markets in the region. As a source of long-term finance, capital markets, both public and private, have an important role to play in the financing of green investment in the country.

More private sector participation in the national climate change discourse is needed. The private sector needs to be made more aware of existing green investment opportunities. There is a

[56] CPI (2021) The Landscape of Climate Finance in Kenya. Available at: https://www.climatepolicyinitiative.org/publication/the-landscape-of-climate-finance-in-kenya/
[57] UNCTAD (2020). World Investment Report: International Production Beyond the Pandemic. United Nations, New York.
[58] CPI (2021) The Landscape of Climate Finance in Kenya. Available at: https://www.climatepolicyinitiative.org/publication/the-landscape-of-climate-finance-in-kenya/

particular need to diversify the projects which are attracting private finance: a recent report by the National Treasury and Climate Policy Initiative showed that over 97% of private sector funds were directed to renewable energy generation projects.

Another challenge is promoting new green innovation investment. Despite the progress Kenya has made on institutionalizing research, technology and innovation – such as the National Commission for Science, Technology and Innovation (NACOSTI), the Kenya National Innovation Agency (KENIA), and the National Research Fund (NRF), the National Environmental Trust Fund (NETFUND) and the World Bank-sponsored Kenya Climate Innovation Center (KCIC) – challenges still exist. These primarily relate to the fragmented approach where research institutions work disjointedly among themselves and not with industry. These weak linkages contribute to a mismatch between industry needs and what the academia and research system produces. In addition, technologies take too long to move through the innovation stage as innovators lack the capacity to develop technology, enter the market and commercialize products. The current structure has not sufficiently supported Kenyan innovators, resulting in most green technologies being produced overseas and imported.

To engage the interest of domestic institutions and attract private sector participation in green investment, the government is committed to developing a green bank referred to be referred to as Kenya Green Investment Bank (KeGIB). The bank will provide a range of funding instruments and associated incentives to support the private sector in overcoming barriers to making green investment at scale.

Carbon tax and Carbon trading

By 2022 and 2030, Kenya's combined GHG emissions from Forestry, Electricity generation, Energy demand, Transportation, Agriculture, Industrial Processes, and waste is projected to grow to about 100 and 143 million tons of carbon dioxide equivalent ($MtCO_2e$). In 2030, the highest amount of emissions would come from the energy sector (electricity generation) followed closely by Transportation and Agriculture. Out of the total 143 $MtCO_2e$, the National Climate Change Action Plan (NCCAP) of 2018-2022 projects that Kenya has the technical potential to reduce 60% of 85.8 $MtCO_2e$ by 2030. The actual mitigation potential of each of the key sectors depends on a number of factors that range from policy, resources, priorities, to the practical implementation practically of the potential mitigation.

To facilitate the switch to clean energy and foster the 'polluter pays principle, the government should consider implementing a carbon tax. Correct carbon pricing will send a right signal to markets and private investors which is pivotal in creating an enabling environment for private investment. Carbon trade provides opportunity and impetus for gainful establishment and maintenance of carbon sinks. To promote efforts to cut down carbon emissions, concessionary incentives reward adoption of technologies and processes that limit greenhouse gas emissions and

reduce carbon-miles should be considered. Developing and naturing strategic mechanisms that offer opportunity for carbon trade and incentives for reducing the carbon emissions will translate to sustainable socioeconomic gains.

International experience

More than 40 governments globally have implemented a form of carbon pricing, whether it be through direct taxation on fossil fuel producers or cap-and-trade programs[59]. European Countries have been the frontrunners in implementing CO_2 taxes that are now implemented throughout the world. The first CO_2 taxes were implemented at the beginning of the 1990s in the Nordic and other European countries. Particularly, Sweden, France, and Canada have made the greatest efforts to introduce carbon taxes and provide an interesting, albeit successful, contrast in their experiences over the past decade. From the 1990s through 2020, all three countries recorded a clear decoupling of CO_2. Additionally, from 2005 to date, the total primary energy and CO_2 emission for the three countries have decreased by 10% and 15% respectively.

On the regional front, South Africa recently introduced carbon taxes to achieve national CO_2 emissions reductions targets set for 2025. While South Africa's tax rate of R46/tCO_2e is considered extremely low under global standards, the government considers the move a good starting point and projects to increase the scope of taxable emissions going forward. Ethiopia has equally shown considerable interest in pursuing carbon taxes to help meet ambitious GHG mitigation commitments in its NDCs. However, the country is yet to concretize the ambition through a legislative framework.

[59] A government regulatory program designed to limit, or , the total level of emissions of certain chemicals, particularly carbon dioxide, as a result of industrial activity.

CHAPTER 4: GREEN POLICY ACTIONS

This chapter sets out a series of green fiscal policy actions of particular interest to the government of Kenya. In the coming months and years, the government will look to develop specific recommendations in these different areas, building on the international experience and current Kenyan context described in Chapter three (3), while recognizing the goals, objectives and principles described in Chapter two (2).

The actions described in this chapter are split into two sections. The first sets out the areas of focus for each of the individual sectors described in Chapter 3, while the second describes some key cross-cutting policy actions that can have an important impact in supporting Kenya's green development agenda in many different sectors.

4.1 Sector-specific fiscal actions

Specific green fiscal policies are required for specific sectors.
This section outlines policy actions in the 11 sectors identified in Chapter 3.

4.1.1 Disaster risk management

The national and county government will pursue the following actions to reduce the devastating impact of climate-related disasters in Kenya.

Flood control measures. To address the problem of perennial floods and related risks, the government will put in place measures to increase funding and strategically preventative resilience measures for flood control projects such as dikes, dams, catchment and riparian reserves.

Promote crop and livestock insurance. To cushion farmers from loss of crops and livestock, the government, in collaboration with insurance providers, will put in place measures to scale-up climate-oriented insurance programs. This will include a consideration of whether to provide additional subsidies to reduce the cost of insurance for farmers without discouraging appropriate risk-reduction behavior. It will also include options for the design of innovative weather-based insurance products. The government will also consider options for increasing awareness, education and training around the role and value of crop and livestock insurance, especially in the provision of agricultural extension services at the county level.

Disaster risk financing. To ensure that it has sufficient funds to respond to inevitable disasters, the government will promote the use of innovative disaster risk-financing instruments like catastrophe (CAT) bonds, risk pools and contingency bonds as well as sovereign and subnational level disaster management funds. This will be complemented by the Kenya Sovereign Green Bond

Framework, which provides a clear set of protocols for identifying the responsibilities of different stakeholders in relation to the use of such financing in the event of a disaster.

Climate information services. To enhance climate information services, the national and county governments will increase funding for meteorological services and Early Warning Systems (EWS) and climate information systems including dissemination of weather information, and provision of tax incentives for early warning equipment.

Compensation fund for climate impacts. To cushion the vulnerable and marginalized communities from the extreme weather and climate-related events, the government will increase funding for resilience building and safety net programs.

4.1.2 Water and the blue economy

To both reduce the risks that climate change poses to the country's water resources and to exploit its huge blue economy potential, the national and county governments will undertake the following actions.

Enhance water harvesting and storage. To address water shortages, the national and county governments will implement fiscal measures to enhance acquisition, affordability and access of equipment used for water harvesting and storage including roof catchment, water storage tanks, ensure strict quality controls on water storage tanks, construction of underground tanks, dikes and gabions in flood-prone areas.

Promote water use efficiency. To ensure sustainable use of the available water resources, the national and county governments will institute fiscal measures for innovations and equipment that promote water saving, efficient use, and industrial waste water recycling and treatment. The governments will also explore the current system of water charging, with the intention of developing a set of water tariffs that provide the right incentives for water use efficiency.

Elimination of invasive species. The national and county governments will support research technology and innovations in the sustainable management of invasive species such as water hyacinth

Promote sustainable fishing and restoration of coastal and freshwater ecosystems. To address the challenge caused by uncontrolled and unsustainable fishing, the government will impose tax measures on large-scale fishing companies and trawlers. Additionally, the government will introduce fishing quotas to establish quantitative upper limits for fishing catches with quota rights either being non-tradable or tradable. In addition, along the, the government will put in place fiscal measures for restoration of shallow coastal water ecosystems, such as mangroves, tidal marshes and sea grass beds to. Second, the government will promote sustainable fishing along the Kenyan

coast by. Quotas would establish quantitative upper limits for fishing catches with quota rights either being non-tradable (as is the case in Namibia) or tradable (as is the case in Iceland). Quota policies would be budget-neutral if distributed for free, or a source of government revenue if auctioned. Similar measure will be instituted on the fresh water lakes such as Victoria, Naivasha, L. Baringo, L. Turkana, among others.

Restore degraded deltas and wetlands. Wetlands are essential life-support systems and play a vital role in controlling water cycles. However, a growing population, together with the need for increased agricultural production, has led to substantial pressure on the deltas and wetlands. In view of this the government will develop fiscal instruments such as PES to promote private sector participation in the restoration of degraded deltas and wetlands.

Protect riparian land in arid and semi-arid areas
In order to promote sand storage dams and water pans for livestock and small-scale cultivation, the government will provide an enabling environment through incentives towards these adaptation programs.

Provide green shore power as a viable alternative to contribute to emissions reductions at Kenya's seaports.
In order to promote investment in cold ironing as an alternative marine power to cover the energy demands of ships calling at the ports, the government will consider providing incentives to investors in green shore power supply

Provision of appropriate reception facilities for the control of emissions from ships
To control GHG emissions from the anticipated increase in the number of vessels coming to Kenya due to the expansion of the Port of Mombasa and the construction of the Lamu Port, the government will promote the establishment of vessel reception facilities that will ensure ozone depleting substances and vessel equipment containing such are handled and disposed appropriately.

Promote investments into low carbon ship bunkering infrastructure

4.1.3 Health and sanitation

Recognizing the threats that climate change and other environmental risks are posing to the health of Kenyans the government will undertake the following actions.

Combat increased incidence of malaria and other vector borne diseases. Climate change has resulted in an increase in the number of cases of malaria. The national and county governments will provide funding for research and innovation to control mosquitoes in an environmentally friendly manner, to help combat the increased malaria incidence.

Handling & disposal of hazardous & toxic waste. Hazardous waste poses a threat to both human health and the environment when handled improperly.[60] The national government, working with county governments, will put in place and/or implement more financially punitive measures for improper handling of hazardous materials such as mercury, cyanide and lead.

Promote energy efficiency in health facilities. Energy is a prerequisite to quality healthcare, given that most life-saving medical equipment requires power to operate. Having energy-efficient medical equipment will help improve access and availability of quality and affordable healthcare. The government will provide fiscal incentives for the importation of energy-efficient medical equipment. Additionally, the national and county governments will support in the installation of renewable energy standalone mini off-grid systems in health facilities.

Promote use of organic pesticides. The excessive use of inorganic/harmful pesticides poses a threat to human health and the environment, especially with prolonged use and exposure. In addition, using such pesticides contributes to an increase in acute respiratory infections from the resulting air pollution. Promoting the use of environmentally friendly bio-degradable pesticides will help reduce the effects of inorganic/harmful pesticides. The national and county governments will therefore provide fiscal incentives to promote production, preferential procurement and use of organic pesticides such as pyrethrum based (pyrethrin).

Support surveillance of climate-related health risks. The effects of climate change will lead to increased emergence and re-emergence of disease outbreaks such as Malaria, Rift Valley Fever and the East Coast Fever. In response, the national and county governments will provide financial support by allocating funds to the surveillance of climate-related health risks.

4.1.4 Agriculture, Food, and Nutrition Security

The agriculture sector is both exceptionally sensitive to climate change, which in turn threatens the food security of Kenya's vulnerable population, and a significant source of GHG emissions. It is also a source of, and is exposed to, a range of further environmental risks. The government will therefore explore a range of fiscal policy response measures, as follows:

Water-saving irrigation systems and strategies. Overreliance on rain-fed agriculture and outdated non-water-saving irrigation technologies hampers adaptability to climate change for farmers. The Government will support innovations in the development of water harvesting and irrigation infrastructure including drip irrigation systems and strategies like deficit irrigation[61] and

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[60] Hazardous substances or waste are defined as substances or waste that pose a threat or cause harm to the environment and/or human health.

[61] Deficit irrigation is an optimization strategy in which irrigation is applied during the drought-sensitive growth stages of a crop. Outside these periods, irrigation is limited or even unnecessary if rainfall provides a minimum supply of water.

partial root zone drying[62] are technologies with potential for saving water which will be beneficial compared with the sprinkler irrigation system currently used by farmers. The government will therefore provide incentives to promote technologies for water-efficient irrigation systems

Reduction of post-harvest losses:
A lack of adequate storage of agricultural produce and poor post-harvest practices translate into low commodity prices, poor access to credit, and an inefficient agricultural value chain for small-scale farmers in Kenya. The result is to exacerbate food insecurity and increase the hunger risks posed by climate change.

To reduce post-harvest losses, the government will promote agro-processing and provide incentives that are aimed at increasing adoption of post-harvest storage technologies and equipment such cooling plants, on-farm storage technologies such as hermetic bags.

Green technology in crop production. The full potential of arable land productivity in Kenya has not yet been realized. Moreover, it is rare across Kenya to apply and utilize green technologies and strategies to promote sustainable productivity, even though these measures would improve food security. The government will incentivize the use of green technology and applying sustainable strategies in agricultural production. In particular, the policy will promote through fiscal policy interventions the use of ***integrated crop management technology, organic farming and the use of low carbon emission equipment for cultivation***.[63]

Livestock production. The government will explore opportunities and fiscal incentives to promote the adoption of improved adaptive and resilience technologies to increase livestock production and productivity by 2030. Additionally, the PES, discussed in section 4.25, will also have a strong impact on the land-use decisions and practices of farmers across the country.

Cooperative development and climate smart agricultural practices. Kenya faces ever growing fluctuations in climate and food prices which directly affect households' food acquisition and allocation. This raises food safety concerns. Additionally, population growth puts increasing pressure on land that is available for cultivation, thus exacerbating food insecurity in the country. In particular, population pressure has led to arable land fragmentation which translates into inefficient allocation of resources (labor and capital) leading to increased cost of production, and unsustainable farming.[64] To support advancements including land consolidation and mechanization and, hence, promote large-scale crop, livestock and fisheries production and value

[62] Casa, R. and Rouphael, Y. (2014). Effects of partial root-zone drying irrigation on yield, fruit quality, and water-use efficiency in processing tomato. *The Journal of Horticultural Science and Biotechnology*, 89(4), 389-396.
[63] Deere & Company. (2017). Incentivizing sustainability in Agriculture. Press release. Retrieved 18th February 2021 from

[64] Giertz, A., Caballero, J., Galperin, D., Makoka, D., Olson, J., and Gorman, G. (2015). Kenya Agricultural Sector Risk Assessment.

addition, this policy will incentivize cooperative development and prudential management through provision of performance based cooperative grants and concessional loans.

Degraded land rehabilitation

The government will also explore and introduce the opportunities for government programs to protect and rehabilitate degraded lands such as degraded landscape restoration deal scheme (DELARES), so that they can be used for sustainable agriculture. A similar program in South Africa was designed to tackle the proliferation of invasive alien plants, which crowd out native species, overwhelm ecosystems, impede agriculture, and exacerbate drought. Since its introduction, the program has led to the clearing of such plants from over 3 million hectares of land, improved water quality and security, and the employment of over 300,000 people.

4.1.5 Forestry, wildlife and tourism

Forestry, wildlife and tourism is at the forefront of both Kenya's mitigation and adaptation efforts. The proposed fiscal actions for the forestry sector include the following:

Incentivize tree growing and management. The government will promote tree growing, management and protection of gazetted forests to increase forest cover to 10%. This would also restore and conserve water towers. The government recommends planting on both public and private land. Options include: a tree-growing guarantee scheme (T2GS), permitting the cost of seed preparation, certification, nursery registration and tree planting on public land to be an allowable expense for the purpose of tax computation; awarding tradable carbon credits for companies that invest in tree planting; creating incentives for commercial plantations which can be used as a sustainable source of raw materials in the future; awards and recognitions by government for firms that participate in tree planting; concessionary loans to support business operations for those that invest in tree planting; and government grants to growers. On the private land, the law requires that at least 10% of the land to be under tree cover. Diversified trees grown and managed on more than 10% of an individual land will be verified and compensated based on graduated scheme/scale i.e., the higher the percentage the higher the amount of carbon credit to be earned to a maximum of 50% of the owned land.

Ecological fiscal transfers (EFTs). The National Treasury and the Ministry of Environment and Forestry will work with the CRA to come up with an EFT parameter in the revenue sharing formula for allocating more resources to strengthen the capacity of the counties in preserving environmental and ecological functions. This EFT approach has been used in India and a range of other countries to provide sub-national administrations with a stronger incentive to preserve and/or restore forests.

Payment for ecosystem services (PES). The Government shall promote responsible for environment and ecosystem matters in collaboration with relevant sector ministries will fast track

incentives that support the adoption of bioengineering[65] for road infrastructure through the private and public sector (county and national) collaboration.

Integrate the circular economy into infrastructure development

The use of recycled materials in Kenya's infrastructure remains low yet these materials present significant social economic benefits and opportunity to enhance sustainability and resilience of infrastructure. To realize the sustainable development benefits, the government will provide fiscal incentives in the use of recycled materials in infrastructure development.

Support the circular economy in construction. To encourage the use of recycled materials within the construction sector (see the example below of Australian state of Victoria), the government will provide incentives for building materials locally manufactured using more than 40% recycled content in their production. The government will also provide incentives to encourage the establishment of facilities for the collection for resale and re-use of construction waste and materials. The government will also impose fees or levies on contractors to fund construction waste disposal that does not meet prescribed procedures of re-use and re-sale.

Support green building development. The government will provide incentives to developers that meet the requirements for green buildings specifications/codes. These include the design, production, importation and sale of alternative green building and construction technologies and materials. This will also include solar passive architecture to improve aeration and lighting in buildings (Energy Management Regulation, 2012). In addition, the government will incentivize research and development, for innovative technologies on green buildings and sustainable.

Supporting Adoption of Water and Energy Efficient Infrastructure: The government will incentivize construction of water and energy efficient buildings. In addition, all the design of new public buildings will integrate water and energy efficient measures in their construction and functioning.

4.1.7 Renewable Energy

To promote Renewable energy production and deployment and increase consumer connectivity the government will:

Phase-out fossil-fuel-based thermal electricity. The government will provide fiscal incentives needed to lower the cost of renewable energy relative to fossil fuel intensive energy sources. This

[65] A subset of green infrastructure that uses vegetation to serve an engineering function. The most common uses of bioengineering include soil surface protection against erosion, soil stabilization, and improved drainage functions.

the development of PES schemes to incentivize scaling up of conservation and restoration programs. In developing PES proposals schemes, the government will shall ensure that the schemes benefit sharing mechanism is inclusive, transparent and equitable for all actors including are designed to benefit the poorest households' communities engaged in conservation efforts. The proceeds of carbon pricing will be used to fund these schemes. This has been demonstrably successful in scaling up ecosystem conservation and restoration schemes in developing countries, especially in Latin America.

Integrate afforestation and reforestation into REDD+ and Carbon trading design. As part of the design proposals for a carbon tax scheme (discussed in section 4.1.2 above), the government will consider opportunities for companies to reduce their tax liability by purchasing offsets from forestry projects. This has the potential to extend a carbon price signal through more sectors of an economy and can help leverage the existing forestry project management capacity in the country. As discussed in the previous section, a range of other jurisdictions have integrated these opportunities within their carbon pricing schemes.

Concessions and Public Private Partnerships: The government will provide incentives and long-term concessions for promoting tree planting and growing on public and private lands; improve saw milling technologies, production of high-quality seedling and mass timber technologies.

Commercial Forestry: The government will provide incentives to spur for investments in commercial forestry and importation of sustainable timber.

4.1.6 Human settlements and infrastructure

The approach that Kenya takes to designing, constructing and using its buildings and infrastructure can make a substantial difference to its resilience to climate hazards and further support Kenya's NDCs ambitions. The fiscal policy and other measures that the government will pursue to ensure that these infrastructure and buildings support low-carbon, climate-resilient development are as follows.

Enhance the climate resilience of roads. Kenya's road network is vulnerable to climate change impacts such as floods due to structural imbalance between the natural ecosystem and the built-in infrastructure considerations. To climate proof the road network, the National Treasury will include climate-resilience criteria within Public Investment Management (PIM) Guidelines for funding infrastructure projects and enhance the incorporation of the concept of 'roads for water' in the design and construction of roads (see box below). The government will also provide

Development of alternative transport fuels. Incentivize production of alternative transport fuel sources such as bio fuels (biogas, bioethanol, bioLPG, biodiesel) and green hydrogen.

4.1.11 Waste management

The government's actions in greening waste management value chain will be consistent with the Sustainable Waste Management Policy of 2021 and Sustainable Waste Management Policy Act, 2022. The government will provide the following fiscal actions:

Development of Material Recovery Facilities (MRF). Provide incentives for waste recovery facilities, circular economy, incentivize sanitary landfills and disincentivize dumpsites

Incentives for private sector engagement in waste management. The government will provide incentives to promote private sector involvement in the waste management sector, including tax incentives, removal of investment barriers, creation of a conducive investment climate, and incentivize access to finance.

Encouraging circular business models. The government is keen in providing a range of incentives to promote circular business models. These include incentivizing adoption of EPR regulations, encourage recycling, offering preferential use of recovered materials over virgin materials, and promote the procurement and use of recycled goods. Support innovative waste to energy technologies

4.2 Enhanced green financial intermediation actions:

4.2.1 Green investment bank

The government will develop a green investment bank that will provide a range of funding instruments and associated incentives to support the public and private sector in overcoming barriers to making green investments at scale. The institution will help address the perception and/or reality that the capital costs and risks of green investments are too high, and the returns too low. It would provide a range of financial instruments which could potentially include ***credit guarantees, risk-reduction facilities, debt equity and blended finance***. It could also offer support and expertise to financing recipients and provide incentives to develop innovative financial instruments such as green bonds, blue bonds, resilience bonds and transactions using carbon credits.

The government will consult closely on the institutional design of a green investment bank. Considerations include which sectors it might focus on, the extent to which it might provide concessional versus market-priced capital, the products it might provide, and its appropriate institutional home and governance arrangements. The government currently expects that the new

4.1.9 Manufacturing

The policy seeks to incentivize greening of industries and investments in manufacturing and production of green products to reduce the emissions intensity of the manufacturing sector. Incentives will be provided to manufacturers to undertake the product ***Life Cycle Assessment (LCA) Impact Report*** to access green financing. In addition, the following fiscal incentives will be considered:

Promote efficient management of production systems. The government will provide fiscal incentives to the private sector for innovative production, acquisition and use of efficient machinery to optimize the use of energy, materials and reduce waste.

Develop eco-labelling schemes. An eco-label identifies products or services that meets prescribed environmental criteria. The government will prioritize procurement of products and services that are eco-labeled.

4.1.10 Transport

The Kenya government aims to use fiscal policy to promote sustainable transportation, both public and private. The following are fiscal incentives to green the transportation sector.

Promote mass rapid transit: The government will develop a national transitional plan to e-mobility as well as other green transport systems. This will include shifting public expenditure in the transport sector toward sustainable mass rapid transport infrastructure. This will contribute to reducing emissions from the sector as well as reducing congestion and inefficiency in the public transport system. This will be complemented with efforts to ensure that it is well-understood by the lead implementors and the general public.

Incentives for electric vehicles. The government will provide incentives for import, manufacture and assembly of electric and hybrid motor vehicles, electric motorcycles, spare parts and EV batteries. This will be necessary to support the transition toward low-emission and clean transport systems. Options include tax incentives for electric vehicles, and the operationalization of a feebate system. The Government will shift to procurement of electric vehicles over the medium term.

Expansion of e-mobility infrastructure. The government will put in place fiscal measures to develop and expand infrastructure across the country to support e-mobility and non-motorized transport.

Congestion charging. The government will explore development of a congestion charging scheme in the cities.

Clean cooking targeting to achieve Universal Access to Modern Energy Cooking Services by 2028.

To expand the clean cooking market and ensure clean cooking for all, partial subsidies and performance-based incentives are required to support affordability and pay for public benefits; explore fiscal instruments that catalyse and spur market innovations that can deliver affordable clean-cooking solutions at scale.

A range of incentives are desired to unlock and accelerate the transition to modern and clean cooking. The options that will be considered include:

Incentives for clean cooking fuels and technologies. The government will incentivize and encourage the production, access and use of clean cooking fuels and technologies. This will include targeted incentives across the clean cooking supply and demand value chains. The intervention measures will aim to enhance affordability, availability, safety, efficiency while reducing exposure to household air pollution. Examples of appropriate innovative approaches include "pay-as-you-go" or "pay-as-you-consume" models, and other innovative models such as the "Mwananchi gas" program and smart metering for LPG. These incentives will also support efficient biomass conversion technologies and reduction of upfront costs of clean cooking solutions.

Enabling Markets for clean cooking services: To ensure a sustainable and inclusive market system for clean cooking solutions, there is need to develop standards, establish stove testing infrastructure across the country to support voluntary labelling and certification system and regulations to incentivize local production of cooking products and curb the proliferation of counterfeit imported products.

Investment in R&D of renewable energy: The Government will support investment in Research, Development and innovation on renewable energy as a means to close inherent information gaps and embrace informed policy and decision making. This will also include incentive options for private sector to conduct R&D.

Integration of cooking into national electrification programs: To support the mainstreaming of electric cooking, it is imperative that cooking is embedded into electrification programs to leverage from successes in both on and off-grid electrification. Towards this end, fiscal incentives could be considered to promote the uptake of electric cooking. These would include duty exemptions and VAT zero-rating for energy-efficient e-Cooking appliances (such as electric pressure cookers) and establishment of dedicated e-Cooking tariffs.

will therefore accelerate the development of green energy alternatives and technologies to allow the integration of all variable renewable energy power. (National Energy Policy, 2018).[66]

Accelerate geothermal development. The government will provide targeted incentives for private investment in geothermal electricity generation and other productive uses. The fiscal incentives envisage concessional funding and public support for early-stage investments in geothermal resource assessments, which will enable private investment where geothermal is most promising.

Expand off-grid electricity solutions. The government will incentivize off-grid renewable energy options to enable access in areas far from the national grid. Tax exemptions and credits will be considered.

Incentives for electricity connection. The government will provide consumer-level incentives to enable more households and MSMEs afford electricity connectivity through enhancing initiative such as the last mile connectivity.

Pursue an array of targeted clean cooking incentives. To scale up access to clean cooking solutions. The Government will: Continue to innovate RBF designs and applications for more targeted incentives to promote sustainable market development and advance access to clean cooking for all; Catalyze technology and business innovations by providing incentives to players across the clean cooking value chains; and link incentive payments with verified results at the output, outcome, and impact levels, thereby contributing to better health, gains in gender equality, environmental sustainability, and inclusive development. This could take the form of conditional or unconditional cash transfers or results-based grants that provide cash incentives to eligible households.

Continue to implement Feed-in-Tariff projects: These are projects below 20 MW capacity for all technologies except solar and wind. The latter are targeted to be procured through renewable energy auctions. The feed-in-tariff projects are incentivized by pre-set tariff and expedited procedures.

4.1.8 Clean cooking

The Government affirms clean cooking as an important and priority component of its development agenda. In light of this affirmation, and in response to various existing global and local commitments such as SDGs, SEforALL and the NDC, the GoK commits to accelerate actions in

[66] Government of Kenya (2018). National Energy Policy. Ministry of Energy.

institution will be given a clear mandate to support climate change mitigation and adaptation and green growth, but it will be important to ensure coherence with existing and planned funding institutions in Kenya.

The government recognizes the importance of developing robust governance and accountability mechanisms, and appropriate staffing structures, if the institution is to be successful in gaining the confidence of the private sector and leveraging significant new capital flows. Throughout, we will look to build on the growing international experience of green investment banks observed across the world, and the critical factors supporting their success.

There is a range of other complementary fiscal actions that the government intends to explore to promote green investments.

To direct investment to products and projects that have positive environmental impact, the government will set up the Green Investment Register (GIR). The GIR will be a database of green investments (building from a recent report, The landscape of Climate Finance in Kenya on the road to Implementing Kenya's updated NDC, 2021[67]), comprising national priority projects in the green sector, flagship green projects and green public–private partnerships. Establishing this database, and the information management system enabling investors to access it and intensive resources mobilization, could potentially be early activities taken forward by Kenya Green Investment Bank (KeGIB).

The government will promote green public procurement at national and county government level by developing guidelines to include environmental parameters in procurement.

The government will reform and increase financial support of research and development in the innovation and production of green technologies. Public funds that support green research, such as NRF, NETFUND, and the National Climate Change Fund (NCCF), will be capitalized and expanded to support innovation and local production/assembly of green technologies, ensuring complementarity between these initiatives and KeGIB. Particular attention will be paid to research on and development of battery energy storage, energy optimization technologies, grid infrastructure, light electric train, electric vehicles, tree growing and management, water harvesting schemes, small to medium irrigation systems, green buildings, payment for ecosystem, credit guarantees based on investors nature capital potential, demonstration projects and field trials, and the expansion of charging infrastructure.

The government will work with industry leaders to identify green innovation and technology needs and review the research policies and strategies in order to align them with prioritized green

[67] CPI (2021) The Landscape of Climate Finance in Kenya. Available at: https://www.climatepolicyinitiative.org/publication/the-landscape-of-climate-finance-in-kenya/

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
		raised and competitiveness provisions • Complete institutional architecture for monitoring and compliance				
Disaster Risk Management	Water and flood control measures	• Fund flood control projects in relevant counties	• Number of flood control projects implemented	• WWDA	°	°
	Promote of crop and livestock insurance	• Develop insurance products to augment existing crop and livestock insurance	• Number of insurance products available to farmers • Adoption rate of insurance by farmers	• IRA • NT • NDMA	°	°
	Disaster risk financing	• Include financing instruments in relevant guidelines for companies operating in relevant sectors	• Disaster risk financing instruments available to Kenyan businesses	• NT • DPs • Private sector	°	°
	Climate information services	• Allocate additional funding for climate information services	• National coverage for EWS and other systems	• MET • MEF	°	°
	Compensation fund for climate impacts	• Establish a compensation fund to provide funding to victims of climate impacts	• Budget allocated to fund • Percentage of vulnerable people with access to medical, livestock and weather-based index insurance • Percentage of vulnerable beneficiaries covered	• NDMA • Counties	• FY 22/ 23	°
	Support community-based weather monitoring for indigenous people	• Provide meteorological information services at the county level • Conduct farmer training on the use of meteorological information to plan their farming activities	• Number of established meteorological monitoring systems • Number of farmers trained	• MOALFC • MET	• FY 22/ 23	°

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame	Cost
Water and the Blue Economy	Enhance water harvesting, storage and flood mitigation	• Implement fiscal measures to reduce acquisition/installation cost of equipment used for water harvesting, storage and flood-mitigation infrastructure	• Amount of new equipment sold to farmers and agricultural companies	• NWHSA • MOWSI • NT	°	°
	Promote water efficiency	• Institute fiscal measures for innovations and equipment that promote efficient use of water	• Sales of water-use efficient equipment	• MOWSI • MOTI	°	°
	Elimination of invasive species	• Develop fiscal policies to encourage research and innovations on the utilization of invasive species (such as hyacinth and mathenge weed) as raw materials	• Amount of grants commissioned for relevant research	• MEF, • MOTI • KIRDI	°	°
	Promote sustainable fishing and restoration of coastal ecosystems	• Impose tax measures on large-scale fishing companies and trawlers to promote sustainable fishing • Implement appropriate fiscal policies for the restoration of shallow coastal water ecosystems, such as mangroves, tidal marshes and sea grass beds	• Fish stock levels • Mangrove, tidal marsh and sea grass area and carbon sequestration	• State Dept for Fisheries • KFS • NT	°	°
	Restoration of degraded wetlands	• Develop fiscal instruments to encourage private sector participation in the restoration of degraded wetlands	• Number of private companies engaged in wetlands restoration	• MEF • NEMA • MOWSI	°	°
Health and Sanitation	Combat increased incidence of Malaria	• Research grants availed for bio-control of mosquitoes	• Research reports identifying methods and techniques for bio-control of mosquitoes	• MOH • KEMRI	21/22–26/27	TBD

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
	Discourage improper handling of hazardous waste	• Promote proper methods of waste disposal • Impose higher financial penalties for improper disposal of hazardous waste	• Increase in number of institutions adopting proper waste management • Increased collections per defaulter for improper handling of hazardous materials	• NEMA • MEF • KEBS	21/22–26/27	TBD
	Promote energy efficiency in health facilities	• Tax exemption for importation of energy-efficient medical equipment	• Amount of imported energy-efficient medical equipment	• NEMA, • MOH • KEBS	21/22–26/27	TBD
	Promote use of plant-based pesticides	• Grants for research organic pesticides • Incentives for production of organic pesticides	• Increased local production of organic pesticides and reduced production of inorganic pesticides • Growing annual proportion of market share using organic pesticides and reduced proportion using inorganic pesticides	• KEBS • PBK • MOALFC	21/22–26/27	TBD
	Support surveillance of climate-related health risks	• Increased allocation for surveillance infrastructure capacity	• Studies completed documenting results of surveillance of climate-related health risks • Public investments in surveillance infrastructure	• MOH • KEMRI	21/22–26/27	TBD
Food, Agriculture and Nutrition security	Water-saving irrigation systems and strategies	• Conduct county extension training for farmers on drip irrigation systems and strategies including deficit irrigation and partial root drying	• Number of county governments that adopt the agricultural training under their extension activities	• MOWSI	FY 2022/2023	TBD

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actor(s) (see table legend)	Time Frame	Cost
	Green technology in crop production	• Incentivize the use of green technology in agricultural production – electric trucks, integrated crop management technology, organic farming	• Number of county governments that adopt the agricultural training under their extension activities • Sales of electric tractors	• NT • MOALFC	FY 2022/2024	TBD
	Cooperative development for sustainable agriculture	• Incentivize cooperative development that supports strategies including land consolidation and mechanization and, hence, promotes large-scale crop production and value addition	• Number of farmers trained in sustainable agriculture • Acres of land consolidated under cooperatives	• NT • MOALFC	FY 2022/2024	TBD
	Land rehabilitation	• Explore government programs to protect and rehabilitate degraded lands	• Acres of land rehabilitated	• MOEF, MOALFC	°	°
	Livestock production	• Explore policies and fiscal incentives to promote adaptive technologies	• Agricultural productivity (production per acre of pasture)	• MOALFC	°	°
Forests, Wildlife and Tourism	Promote tree planting	• Consider options for promoting tree planting on public and private lands, to reach 10% of land covered by forest	• Forest cover percentage of total land	• MOEF	°	°
	Reduce pressure on forests	• Promote investments in sustainable bioenergy and clean cooking fuels	• Market share of bioenergy as cooking and heating fuel	• MOEF	°	°
	Ecological fiscal transfers	• Explore EFTs as part of funding strategy for county governments	• Change in deforestation rate by county	• MOEF • NT	°	°

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
	Payment for ecosystem services	• Investigate development of PES program for Kenya	• Percentage of forested land restored or under formal protection	• MOEF • NT	°	°
	Integrate afforestation and reforestation into carbon tax design	• Evaluate inclusion of afforestation or reforestation projects in national carbon tax (see above)	• GHGs reduced through carbon offset projects used to meet carbon tax liability	• MOEF • NT	°	°
	Further support ecotourism	• Review ecotourism policies for new incentives to further promote ecotourism	• Tourists surveyed as visiting Kenya for ecotourism	• MTW	°	°
Human Settlements and Infrastructure	Enhance the climate resilience of roads	• Amend the roads design to include 'roads for water' concept • Sensitization of road contractors to new construction approaches	• Amended roads design to include for 'roads for water' concept • Percentage of road contractors adopting resilient construction and maintenance methods	• NT • State Departments for Infrastructure	FY 2022/2023	TBD
	Integrate the circular economy into infrastructure development	• Provide tax incentives for building materials locally manufactured using more than 50% recycled content in their production	• Use of recycled content in new building construction	• NT • State Departments for Infrastructure	FY 2022/2023	TBD
	Support the circular economy in construction	• Inclusion of climate-resilience criteria in Public Investment guidelines for funding infrastructure projects	• Climate-resilience criteria established in the Public Investment guidelines and rate of adoption by infrastructure developers	• NT and implementing agencies	FY 2021/2022	0
	Support green building development	• Provide incentives to meet green buildings specifications and code • Develop tax incentives to facilitate solar passive structures	• Budgetary allocation toward green building incentives • Percentage of new building developments consistent with green specifications and code	• NT • KRA • East African Community	°	°

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame	Cost
		• Fiscal incentives to encourage setting construction waste/ materials re-use facilities • Incentives for importation/ local manufacture and sale of water-saving devices				
Electricity	Phase out fossil-based thermal energy.	• Ministry of Energy to identify thermal power plants that require phase-out • Negotiate with independent power poviders for a mutual plan for phase-out • Accelerate development of green power generation options • Accelerate the process of hybridization of the existing isolated power stations with solar/wind	• Number of power plants with agreed timelines for phase-out	• MOE • MOITE • NT • County governments		
	Support geothermal development	• Provide concessional funding or public support to pre-investment geothermal resource assessments	• Funds mobilized/ allocated for geothermal developments	• MOE • MOITE • NT		
	Expand off-grid electricity solutions	• Consider tax exemptions and credits for off-grid renewable energy installations	• Off-grid renewable energy installed and connected capacity	• MOE • MOITE • NT		
	Incentives for electricity connection	• Design consumer-level incentives that promote electricity connectivity	• Number of households connected to electricity grid	• MOE • NT		

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
Clean Cooking	Incentives for clean cooking fuels and technologies	• Consider tax exemptions or waivers for companies producing clean cooking technologies	• Clean cooking technologies as a percentage of household cooking fuel use	• NT		
	Enhance public awareness	• Build consumer awareness campaign about benefits of clean cooking technologies	• Consumer adoption of clean cooking technologies	• MOE		
	Harness innovative financial models	• Design pay-as-you-go or pay-as-you-consume models for clean cooking appliances	• Sales of clean cooking appliances using innovative financing	• NT • MOE		
Manufacturing	Promote efficient management production systems	• Promote private sector use of energy-efficient machinery	• Adoption of energy-efficient machinery models	• MOITE		
	Develop eco-labelling schemes	• Develop green standards and eco-labelling for products and services	• Green standards developed and implemented	• KEBS		
	Develop Eco-Industrial Parks (EIPs) or green zones	• Provide fiscal incentives to promote EIPs	• Designated zones for EIPs or green zones	MITI		
	Develop a national green manufacturing strategy	• Develop a policy to green Kenyan industries	• Green industrial policy developed	MITI		
	Green Public Procurement	• Integrate green procurement into procurement laws	• Integration of green procurement into existing law on procurement	National Treasury		
Transport	Promote electric mass transit	• Shift public expenditure toward electric mass transit	• Government investment in electric public transportation	• MOT		
	Incentives for electric vehicles	• Provide incentives for the import, manufacture and assembly of electric and hybrid motor	• Electric vehicle sales • Manufacturing capacity within electric vehicle supply chain	• MOT • NT		

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame	Cost
		vehicles, motorcycles and their spare parts				
	Support for charging infrastructure	• Offer incentives for electric vehicle and e-mobility infrastructure	• Number of electric vehicle chargers installed	• MOT • NT		
	Congestion charging	• Explore congestion charging in major cities	• Congestion charging schemes adopted • Changes in traffic following implementation of congestion charge	• NT • City governments		
	Transport fuel taxation	• Consider changes in transport fuel tax rate, particularly in combination with carbon tax	• Fuel-use changes compared to growth in vehicle miles traveled	• NT • MOT		
Waste management	Develop a comprehensive financing strategy	• Establish a waste management fund mechanism to incentivize sustainable approaches as part of a broader finance strategy	• Funds distributed to sustainable waste management companies	• MOEF • NT		
	Incentives for private sector engagement in waste management	• Explore incentives to encourage private sector firms into waste management sector	• Number of private firms operating in waste management and meeting sustainability criteria	• MOEF • NT		
	Effluent fee charges	• Consider effluent fees to promote greener waste management	• Revenue raised through effluent charges	• MOEF • NT		
	Encouraging circular business models	• Explore circular business model incentives	• Rate of recycling among Kenyan households and businesses	• MOEF • NT		

GLOSSARY

BAU	Business As Usual
BOD	Biological Oxygen Demand
Cat DDO	Catastrophe Deferred Draw Down Option
CEEC	Center for Energy Efficiency and Conservation
CIDPs	County Integrated Development Plans
CO_2	Carbon Dioxide
CSA	Climate Smart Agriculture
DP	Development partner
EFTs	Ecological Fiscal Transfers
FDI	Foreign Direct Investment
FLLoCA	Financing Locally-led Climate Action
GDP	Gross Domestic Product
GHG	Green House Gas
HAP	Household Air Pollution
HSNP	Hunger Safety Net Program
IFC	International Finance Corporation
IRA	Insurance Regulatory Authority
KAIRMP	Kenya Agriculture and Crop Insurance Management Program
KAM	Kenya Association of Manufacturers
KEBS	Kenya Bureau of Standards
KEGIB	Kenya Green Investment Bank
KEMRI	Kenya Medical Research Institute
KENIA	Kenya National Innovation Agency
KES	Kenya Shillings
KESP	Kenya Environmental Sanitation and Hygiene Policy
KFS	Kenya Fisheries Service
KIPPRA	Kenya Institute of Public Policy Research and Analysis
KIRDI	Kenya Industrial Research and Development Institute
KLIP	Kenya Livestock Insurance Program
KRA	Kenya Revenue Authority
LPG	Liquified Petroleum Gas
LULUCF	land-use change and forestry
ME	Ministry of Energy
MET	Kenya Meteorological Department
MIP-	Incentives Program for the Improvement of Municipal Management
MoALFC	Ministry of Agriculture, Livestock, Fisheries and Cooperatives
MoEF	Ministry of Environment and Forestry

MoH	Ministry of Health
MoITE	Ministry of Industrialization, Trade and Enterprise
MoT	Ministry of Transport
MoTI	Ministry of Trade and Industry
MoWSI	Ministry of Water, Sanitation and Irrigation
MTPs	Medium Term Plans
MTW	Ministry of Tourism and Wildlife
NACOSTI	National Commission for Science, Technology and Innovation
NAMA	National Appropriate Mitigation Action
NCCAPs	National Climate Change Action Plans
NDC	Nationally Determined Contributions
NDMA	National Drought Management Authority
NEMA	National Environment Management Authority
NEMA	National Environment Management Authority
NRF	National Research Fund
NT	National Treasury
NWHSA	National Water Harvesting and Storage Authority
PBK	Pyrethrum Board of Kenya
PET	polyethylene terephthalate
PIM	Public Investment Management.
R&D	Research and Development
SDG	Sustainable Development Goals
T2GS	Tree Growing Guarantee Scheme
TACs	Total Allowable Catches
TSOF	Three Stone Open Fire
TSS	Total suspended Solids
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Organization
USA	United States of America
USD	United States Dollar
VAT	Value Added Tax
VoCA	Voluntary Conservation Agreements
WFW	Working for Water
WHO	World Health Organization
WWDA	Water Works Development Agency

Annexure 5: SUBMISSIONS

PARLIAMENTARY RESEARCH SERVICES

13TH PARLIAMENT-FOURTH SESSION

THE NATIONAL ASSEMBLY

A BRIEF ON SESSIONAL PAPER NO.5 OF 2024 ON THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

A. OVERVIEW

1. The Green Fiscal Incentives Policy Framework seeks to steer Kenya's economy onto a low-carbon, climate-resilient, and environmentally sustainable development pathway through targeted fiscal and economic mechanisms.
2. The green fiscal reforms can help shift consumption patterns, generate additional revenue and drive private investment in projects and programs that adopt climate-friendly production mechanisms.
3. The policy sets out how the government Ministries, Departments and Agencies can enhance the mobilization of climate Finance from all sources: private, public, multi-lateral agencies, bilateral, philanthropic etc to generate additional revenue streams to finance Kenya's Nationally Determined Contributions (NDCs) and National Climate Change Action Plans (NCCAPs).

B. OBJECTIVES

4. The main objectives of the policy are:
   - ✓ Direct government planning and budgeting toward sustainable practices.
   - ✓ Establish fiscal incentives to attract private investments in green technologies.
   - ✓ Generate innovative revenue streams through green financing mechanisms.

C. SITUATIONAL ANALYSIS

5. Kenya has established a solid foundation for low-carbon, climate-resilient growth through key legislation and policies. The Constitution guarantees the right to a clean and healthy environment and promotes participatory resource management.
6. The Environmental Management and Coordination Act (CAP. 387) supports this by allowing fiscal incentives to encourage proper environmental management. The Climate Change Act

(CAP. 387A) provides a framework for addressing climate change through low-carbon development.

7. Additionally, strategies such as the National Climate Change Framework Policy (2016), the National Policy on Climate Finance (2018), the NCCAP (2018-2022, 2023–2027), and the Green Economy Strategy and Implementation Plan (2016–2030) underscore the importance of fiscal incentives and private sector involvement to accelerate the transition to a green economy.

D. SECTOR-SPECIFIC ANALYSIS

i) FORESTS, WILDLIFE AND TOURISM

8. Forests are vital to Kenya's economy, providing 50,000 direct and 300,000 indirect jobs while regulating 75% of the country's renewable water resources, essential for agriculture, electricity and tourism. They also prevent soil erosion, support biodiversity, and supply fuelwood, which meets 75% of Kenya's energy needs.
9. Deforestation & Degradation threats are driven by **agricultural expansion**, **rural poverty**, **charcoal production**, **illegal logging**, and **weak forest governance** resulting in the loss of **critical carbon sinks**, and worsening **climate change effects**.
10. On the other hand, tourism is a **highly climate-sensitive** sector affected by extreme weather, rising sea levels, and biodiversity loss **harming wildlife and resulting in tourism revenue loss**. Kenya's **unique ecosystems** (coastal rainforests, marine ecosystems, Mt. Kenya glaciers) attract millions of tourists.
11. The tourism sector contributed **8.8% to GDP in 2019**, down from **14% in 2012** and **2.05 million international tourists** visited Kenya in 2019.

a) International Comparative Cases

12. Several countries have adopted afforestation and reforestation programs to combat climate change and promote environmental sustainability. **Ethiopia** launched its National Green Development Program in 2019, achieving a remarkable milestone by planting 350 million trees in a single day. The program set an ambitious goal of planting 20 billion trees by 2024, with an estimated budget of $117 million.
13. Similarly, **South Africa** introduced the Carbon Offset Program in 2020, which allows businesses to finance reforestation projects as a means of offsetting their carbon tax

obligations. This initiative provides an incentive for companies to contribute to environmental conservation while meeting regulatory requirements.

ii) DISASTER RISK MANAGEMENT

14. Kenya faces significant disaster risks, particularly from climate-related hazards such as droughts, floods, and environmental degradation. The increasing frequency of droughts since 2011 has caused severe economic losses, with some events affecting over 10% of the Gross Domestic Product (GDP) (e.g., the 2009 drought led to an 11.1% GDP loss).
15. The government has responded by implementing various disaster risk financing instruments, such as: the **Kenya Livestock Insurance Program (KLIP)** and **Kenya Agriculture and Crop Insurance Management Program (KAIRMP)** to mitigate agricultural losses.

Comparative International Cases

16. Kenya's disaster risk management approach aligns with global best practices, including:
    - **National Disaster Funds: Mexico's** FONDEN fund is a notable example of a structured disaster response framework.
    - **Catastrophe Bonds (CAT Bonds):** Countries like Mexico and the **Philippines** have used CAT bonds to secure funds for disaster response while minimizing fiscal strain.

iii) WATER AND THE BLUE ECONOMY

17. Kenya faces major **water management challenges** due to deteriorating infrastructure, population growth, climate change, and uneven water distribution. However, the **blue economy** presents opportunities in sustainable fisheries, marine renewable energy, and job creation. Nonetheless, threats like overfishing and environmental degradation endanger marine ecosystems, with 38% of coral reefs having unsustainable fish stocks.

Comparative International Cases

18. The following are some of the established policy incentives in the water and blue-economy sector:
    - **Progressive Water Pricing (Colombia):** A **tiered fee system** subsidizes low-income households while charging higher rates for wealthier, high-use consumers.
    - **Blue Bonds (Seychelles):** In 2018, Seychelles issued a $15 million blue bond, funding marine protection, fisheries governance, and value-added investments.

iv) HEALTH AND SANITATION

19. Kenya's **Constitution** guarantees health as a fundamental right, but healthcare is managed at the county level. Sanitation remains a critical issue, with only 31% rural coverage, and progress is hindered by institutional fragmentation and inadequate financing. The healthcare system also has significant environmental impacts, including hazardous waste generation, water pollution, greenhouse gas emissions, toxic chemical use, and high resource consumption.

Comparative International Cases

20. An interesting initiative is the Sanitation Incentives in **Peru**: The **Municipal Incentives Program (MIP)** rewards local governments for meeting sanitation targets. At the end of the program (2015-2019): 15,901 rural water and sanitation operators were registered, 31,917 new water systems were built, 2,500 rural water systems were rehabilitated and 1,997 chlorination systems were installed.

v) FOOD, AGRICULTURE AND NUTRITION SECURITY

21. Kenya struggles with food insecurity, affecting 25% of its population due to low agricultural productivity, climate change, and post-harvest losses. Agriculture is also the country's largest emitter of greenhouse gases, mainly from dairy farming and fertilizer use.
22. To address these challenges, Kenya has implemented various policies, including the **Agricultural Sector Development Strategy (2009-2020)** and the **Climate Smart Agriculture Framework (2015-2030)**, alongside food security initiatives like irrigation projects, fertilizer subsidies, and livestock insurance. Fiscal incentives, such as tax exemptions and deductions (e.g VAT exemptions for all unprocessed agricultural products and production of agricultural pest-control products and duty exemption for agricultural machinery), further support agricultural growth and sustainability.

International Comparative Cases

23. Countries are implementing various policy incentives for sustainable agriculture. **Brazil** and the **United Kingdom** offer direct subsidies, while India's removal of trade barriers in

2017 boosted organic exports. **Mexico** supports green financing, issuing $135 million in green bonds for water conservation, energy efficiency, and renewable energy in agriculture.

vi) HUMAN SETTLEMENTS AND INFRASTRUCTURE

24. Kenya's infrastructure, including transport, water supply, and coastal assets, is at risk due to climate change, with past events like the El Niño floods and rising sea levels causing significant damage.

International Comparative Cases

25. **Ghana** offers a 30% reduction in building permit fees for certified green buildings, while the **UK Green Deal** provides grants and loans for retrofitting homes to enhance energy efficiency.

vii) ELECTRICITY

26. Kenya's renewable energy sector is growing, with a goal of achieving 100% renewable electricity by 2030. The country faces challenges in geothermal development and energy access but offers tax incentives and government initiatives to expand renewable energy.
27. These include VAT and import duty exemptions for renewable energy equipment (Solar), as well as green bond incentives to fund energy projects.

International Comparative Cases

28. **South Africa** introduced the first African carbon tax in 2019 at US$8.35 per tonne of CO_2e, with annual increases. **Chile, Colombia, and Mexico** have carbon taxes ranging from US$4 to US$5 per tonne, covering 24% to 47% of their national emissions.

viii) CLEAN COOKING

29. In Kenya, many households still use traditional cooking methods, which contribute to high health risks and environmental damage. The government is committed to promoting clean cooking by 2028, but recent policy changes have increased the costs of biogas solutions. Fiscal measures such as VAT exemptions on clean cookstoves were introduced in the past but were reversed in 2020.

International Comparative Cases

30. **Uganda's** biogas program has supported the installation of thousands of biogas digesters, while **India's LPG** subsidies helped increase gas usage for cooking. However, India faced budget strains, leading to a reduction in subsidies and a voluntary campaign for wealthier households to give up their benefits.

ix) MANUFACTURING

31. Manufacturing contributes significantly to Kenya's GDP but also to its GHG emissions. The government supports energy efficiency through Centre for Energy Efficiency and Conservation (CEEC) and offers fiscal incentives for waste management and recycling, although some of these incentives, like VAT exemptions, have been reduced. A 20% export levy on scrap metal supports local steel production.

International Comparative Cases

32. **Brazil** incentivizes the use of recycled plastic bottles through a 60% VAT-equivalent tax exemption, leading to significant savings and increased use of recycled materials. In **South Africa**, businesses in eThekwini can earn energy savings rebates, with some industries saving up to 30% on energy costs.

x) TRANSPORT

33. The transport sector is crucial to Kenya's economy but is a significant GHG emitter due to its reliance on fossil fuels. Fiscal measures like reduced import duties on electric vehicles aim to encourage cleaner transport

International Comparative Cases

34. **South Africa's** equal fuel tax rates on diesel and petrol aim to encourage cleaner alternatives, while **Mauritius** promotes fuel-efficient and low-emission vehicles through taxes and incentives, leading to increased hybrid car imports and improved fleet fuel efficiency.

xi) WASTE MANAGEMENT

35. The waste sector in Kenya is a significant source of GHG emissions and health problems due to poor waste management. The devolution of waste management has led to challenges in infrastructure and funding, but policies such as the National Solid Waste Management Strategy focus on recycling, composting, and waste minimization. The national ban on single-use plastic bags has been a notable success in reducing plastic waste.

xii) CROSS-CUTTING ISSUES

36. Kenya's banking sector, Foreign Direct Investment (FDI), and private sector participation have been crucial in financing climate-related projects, primarily in renewable energy. However, challenges exist in green innovation and diversifying green investments.
37. The government plans to establish the **Kenya Green Investment Bank** to overcome these challenges. Kenya is also exploring a **carbon tax** to reduce its projected GHG emissions by 60% by 2030, aiming to promote clean energy and encourage private investment.

International Experience with Carbon Tax

38. Over 40 countries globally have adopted carbon pricing mechanisms, with European nations leading the way. **South Africa** introduced a carbon tax in 2019 at **US$8.35 per tonne of CO_2e**, with annual increases, while **Ethiopia** is considering implementing a similar tax to meet its climate goals.

E. BENEFITS TO KENYA

39. The following are some key benefits of the policy:
    1. The policy is an important part of accelerating the implementation of the Constitution of Kenya, 2010 where a clean and healthy environment (Articles 42.69 and 70) are fundamental rights.
    2. The policy will encourage private sector participation in climate-relevant financing opportunities.
    3. The policy will enhance resilience to climate change and other shocks.
    4. The policy is essential for Kenya to manage transition risks. Failure to align with global low-emissions trends may lead to international marginalization, impacting trade capital flows.

F. FINANCIAL IMPLICATION

Approximately **Kshs. 200 million annually** will be required over five years to support the operationalization of the policy so as to meet the stated objectives and its related laws and regulations.

IMPLEMENTATION, GOVERNANCE AND INSTITUTIONAL ARRANGEMENTS

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
Cross-cutting	Green investment bank	• Design, develop and institute a green investment bank • Develop credit guarantee instruments and schemes to enhance access to finance by green investments • Develop financing mechanisms/instruments to support access to concessional credit lines for green investments • Consult on priority sectors for green investments • Develop a green register and information system of prioritized national green investments portfolio (legibility list)	• Amount (KES) mobilized and lent via green investment bank • GHG reductions attributable to green investment bank investments • Percentage increase in green investments • Number of resilient infrastructures • Number of beneficiaries accessing the investment • Capitalization levels	• National Treasury (NT) • Ministry of Transport (MOTI) • Ministry of Environment and Forestry (MOEF)	
	Carbon tax	• Design and legislate for carbon tax in government budget • Decide carbon tax rate, coverage, and how to allocate revenues raised and competitiveness provisions • Complete institutional architecture for monitoring and compliance	• Revenues raised through carbon tax • GHG reductions achieved through carbon tax	• NT • MOEF	

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
Disaster Risk Management	Water and flood control measures	• Fund flood control projects in relevant counties	• Number of flood control projects implemented	• Water Works Development Agency (WWDA)	
	Promote of crop and livestock insurance	• Develop insurance products to augment existing crop and livestock insurance	• Number of insurance products available to farmers • Adoption rate of insurance by farmers	• Insurance Regulatory Agency (IRA) • NT • National Drought Management Authority (NDMA)	
	Disaster risk financing	• Include financing instruments in relevant guidelines for companies operating in relevant sectors	• Disaster risk financing instruments available to Kenyan businesses	• NT • Development Partners (DPs) • Private sector	
	Climate information services	• Allocate additional funding for climate information services	• National coverage for Early Warning Systems (EWS) and other systems	• Kenya Meteorological Department (MET) • MEF	
	Compensation fund for climate impacts	• Establish a **compensation fund** to provide funding to victims of climate impacts	• Budget allocated to fund • Percentage of vulnerable people with access to medical, livestock and weather-based index insurance • Percentage of vulnerable beneficiaries covered	• NDMA • Counties	FY 22/23
	Support community-based weather monitoring for indigenous people	• Provide meteorological information services at the county level • Conduct farmer training on the use of meteorological information to plan their farming activities	• Number of established meteorological monitoring systems • Number of farmers trained	• Ministry of Agriculture, Livestock, Fisheries and Cooperatives (MOALFC) • MET	FY 22/23

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
Water and the Blue Economy	Enhance water harvesting, storage and flood mitigation	• Implement fiscal measures to reduce acquisition/installation cost of equipment used for water harvesting, storage and flood-mitigation infrastructure	• Amount of new equipment sold to farmers and agricultural companies	• National Water Harvesting and Storage Authority (NWHSA) • MOWSI • NT	
	Promote water efficiency	• Institute fiscal measures for innovations and equipment that promote efficient use of water	• Sales of water-use efficient equipment	• Ministry of Water, Sanitation and Irrigation (MOWSI) • Ministry of Trade and Industry (MOTI)	
	Elimination of invasive species	• Develop fiscal policies to encourage research and innovations on the utilization of invasive species **(such as hyacinth and mathenge weed)** as raw materials.	• Amount of grants commissioned for relevant research	• MEF, • MOTI • KIRDI	
	Promote sustainable fishing and restoration of coastal ecosystems	• Impose tax measures on large-scale fishing companies and trawlers to promote sustainable fishing • Implement appropriate fiscal policies for the restoration of shallow coastal water ecosystems, such as mangroves, tidal marshes and sea grass beds	• Fish stock levels • Mangrove, tidal marsh and sea grass area and carbon sequestration	• State Dept for Fisheries • KFS • NT	
	Restoration of degraded wetlands	• Develop fiscal instruments to encourage private sector participation in the restoration of degraded wetlands	• Number of private companies engaged in wetlands restoration	• MEF • NEMA • MOWSI	

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
Health and Sanitation	Combat increased incidence of Malaria	• Research grants availed for bio-control of mosquitoes	• Research reports identifying methods and techniques for bio-control of mosquitoes	• MOH • KEMRI	21/22–26/27
	Discourage improper handling of hazardous waste	• Promote proper methods of waste disposal • Impose higher financial penalties for improper disposal of hazardous waste	• Increase in number of institutions adopting proper waste management • Increased collections per defaulter for improper handling of hazardous materials	• NEMA • MEF • KEBS	21/22–26/27
	Promote energy efficiency in health facilities	• Tax exemption for importation of energy-efficient medical equipment	• Amount of imported energy-efficient medical equipment	• NEMA, • MOH • KEBS	21/22–26/27
	Promote use of plant- based pesticides	• Grants for research organic pesticides • Incentives for production of organic pesticides	• Increased local production of organic pesticides and reduced production of inorganic pesticides • Growing annual proportion of market share using organic pesticides and reduced proportion usinginorganic pesticides	• KEBS • Pyrethrum Board of Kenya (PBK) • MOALFC	21/22–26/27
	Support surveillance of climate-related health risks	• Increased allocation for surveillance infrastructure capacity	• Studies completed documenting results of surveillance of climate-related health risks • Public investments in surveillance infrastructure	• MOH • KEMRI	21/22–26/27

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
Food, Agriculture and Nutrition security	Water-saving irrigation systems and strategies	• Conduct county extension training for farmers on drip irrigation systems and strategies including deficit irrigation and partial root drying	• Number of county governments that adopt the agricultural training under their extension activities	• MOWSI	FY 2022/2023
	Green technology in crop production	• Incentivize the use of green technology in agricultural production – electric trucks, integrated crop management technology, organic farming	• Number of county governments that adopt the agricultural training under their extension activities • Sales of electric tractors	• NT • MOALFC	FY 2022/2024
	Cooperative development for sustainable agriculture	• Incentivize cooperative development that supports strategies including land consolidation and mechanization and, hence, promotes large-scale crop production and value addition	• Number of farmers trained in sustainable agriculture • Acres of land consolidated under cooperatives	• NT • MOALFC	FY 2022/2024
	Land rehabilitation	• Explore government programs to protect and rehabilitate degraded lands	• Acres of land rehabilitated	• MOEF, MOALFC	
	Livestock production	• Explore policies and fiscal incentives to promote adaptive technologies	• Agricultural productivity (production per acre of pasture)	• MOALFC	
Forests, Wildlife and Tourism	Promote tree planting	• Consider options for promoting tree planting on public and private lands, to reach 10% of land covered by forest	• Forest cover percentage of total land	• MOEF	
	Reduce pressure on forests	• Promote investments in sustainable bioenergy and clean	• Market share of bioenergy as cooking and heating	• MOEF	

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
		cooking fuels	fuel		
	Ecological fiscal transfers	• Explore EFTs as part of funding strategy for county governments	• Change in deforestation rate by county	• MOEF • NT	
	Payment for ecosystem services	• Investigate development of PES program for Kenya	• Percentage of forested land restored or under formal protection	• MOEF • NT	
	Integrate afforestation and reforestation into carbon tax design	• Evaluate inclusion of afforestation or reforestation projects in national carbon tax	• GHGs reduced through carbon offset projects used to meet carbon tax liability	• MOEF • NT	
	Further support ecotourism	• Review ecotourism policies for new incentives to further promote ecotourism	• Tourists surveyed as visiting Kenya for ecotourism	• Medium Term Plans (MTW)	
Human Settlements and Infrastructure	Enhance the climate resilience of roads	• Amend the roads design to include 'roads for water' concept • Sensitization of road contractors to new construction approaches	• Amended roads design to include for 'roads for water' concept • Percentage of road contractors adopting resilient construction and maintenance methods	• NT • State Departments for Infrastructure	FY 2022/2023
	Integrate the circular economy into infrastructure development	• Provide tax incentives for building materials locally manufactured using more than 50% recycled content in their production	• Use of recycled content in new building construction	• NT • State Departments for Infrastructure	FY 2022/2023
	Support the circular economy in construction	• Inclusion of climate-resilience criteria in Public Investment guidelines for funding infrastructure projects	• Climate-resilience criteria established in the Public Investment guidelines and rate of adoption by infrastructure developers	• NT and implementing agencies	FY 2021/2022

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
	Support green building development	• Provide incentives to meet green buildings specifications and code • Develop tax incentives to facilitate solar passive structures • Fiscal incentives to encourage setting construction waste/ materials re-use facilities • Incentives for importation/ local manufacture and sale of water-saving devices	• Budgetary allocation toward green building incentives • Percentage of new building developments consistent with green specifications and code	• NT • KRA • East African Community	
Electricity	Phase out fossil-based thermal energy.	• Ministry of Energy to identify thermal power plants that require phase-out • Negotiate with independent power providers for a mutual plan for phase-out • Accelerate development of green power generation options • Accelerate the process of hybridization of the existing isolated power stations with solar/wind	• Number of power plants with agreed timelines for phase-out	• MOE • MOITE • NT • County governments	

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
	Support geothermal development	• Provide concessional funding or public support to pre-investment geothermal resource assessments	• Funds mobilized/ allocated for geothermal developments	• MOE • MOITE • NT	
	Expand off-grid electricity solutions	• Consider tax exemptions and credits for off-grid renewable energy installations	• Off-grid renewable energy installed and connected capacity	• MOE • MOITE • NT	
	Incentives for electricity connection	• Design consumer-level incentives that promote electricity connectivity	• Number of households connected to electricity grid	• MOE • NT	
Clean Cooking	Incentives for clean cooking fuels and technologies	• Consider tax exemptions or waivers for companies producing clean cooking technologies	• Clean cooking technologies as a percentage of household cooking fuel use	• NT	
	Enhance public awareness	• Build consumer awareness campaign about benefits of clean cooking technologies	• Consumer adoption of clean cooking technologies	• MOE	
	Harness innovative financial models	• Design pay-as-you-go or pay-as-you-consume models for clean cooking appliances	• Sales of clean cooking appliances using innovative financing	• NT • MOE	
Manufacturing	Promote efficient management production systems	• Promote private sector use of energy-efficient machinery	• Adoption of energy-efficient machinery models	• MOITE	
	Develop eco-labelling schemes	• Develop green standards and eco-labelling for products and services	• Green standards developed and implemented	• KEBS	

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
Transport	Promote electric mass transit	• Shift public expenditure toward electric mass transit	• Government investment in electric public transportation	• MOT	
	Incentives for electric vehicles	• Provide incentives for the import, manufacture and assembly of electric and hybrid motor vehicles, motorcycles and their spare parts	• Electric vehicle sales • Manufacturing capacity within electric vehicle supply chain	• MOT • NT	
	Support for charging infrastructure	• Offer incentives for electric vehicle and e-mobility infrastructure	• Number of electric vehicle chargers installed	• MOT • NT	
	Congestion charging	• Explore congestion charging in major cities	• Congestion charging schemes adopted • Changes in traffic following implementation of congestion charge	• NT • City governments	
	Transport fuel taxation	• Consider changes in transport fuel tax rate, particularly in combination with carbon tax	• Fuel-use changes compared to growth in vehicle miles traveled	• NT • MOT	
Waste management	Develop a comprehensive financing strategy	• Establish a waste management fund mechanism to incentivize sustainable approaches as part of a broader finance strategy	• Funds distributed to sustainable waste management companies	• MOEF • NT	
	Incentives for private sector engagement in waste management	• Explore incentives to encourage private sector firms into waste management sector	• Number of private firms operating in waste management and meeting sustainability criteria	• MOEF • NT	
	Effluent fee charges	• Consider effluent fees to promote greener waste management	• Revenue raised through effluent charges	• MOEF • NT	
	Encouraging circular	• Explore circular business	• Rate of recycling among	• MOEF	

Policy Area/Sector	Policy (Fiscal) Action	Policy (Fiscal) Activities	Key Performance Indicator	Lead Actors (see table legend)	Time Frame
	business models	model incentives	Kenyan households and businesses	• NT	

REPUBLIC OF KENYA

THE NATIONAL TREASURY

SESSIONAL PAPER NO. 5 OF 2024

ON

THE NATIONAL GREEN FISCAL INCENTIVES POLICY FRAMEWORK

EXECUTIVE SUMMARY

This policy document is organized into five chapters, with the first chapter providing the policy background. The second chapter outlines the policy goals and guiding principles while chapter three gives a situational analysis of green fiscal reforms across key sectors in Kenya and internationally. Chapter four highlight green fiscal policy interventions for each sector based on international experience and the current Kenyan context described in the previous chapter. The fifth chapter concludes with an overview of the governance structures to implement the policy.

The Green Fiscal Incentives Policy Framework seeks to steer Kenya's economy onto a desired low-carbon climate-resilient green development pathway through a variety of fiscal and economic mechanisms. Green fiscal reforms can help shift consumption patterns, generate additional revenue, and drive private investment in projects and programs that adopt climate-friendly production mechanisms. The policy sets out how the government Ministries, Departments and Agencies can enhance mobilization of climate finance from all sources: private, public, multi-lateral and bilateral agencies, philanthropic, etc. to finance Kenya's National Determined Contributions and County and National Climate Change Action Plans.

The Policy Framework considers green fiscal reforms as mechanisms that have been used by governments to correct environmental externalities, support national climate change goals, and promote clean energy investments. The mechanisms range from tax policies, subsidies and expenditure programs, and regulatory instruments with fiscal components all of which have revenue implications. As such: **government taxes** can be used to stimulate a shift in production, consumption and investment in low-carbon climate-resilient and environmentally sustainable practices; **concessional loans, guarantees and interest rate subsidies** can be effective tools in overcoming investment barriers and leveraging private sector green investments; and **government spending** can directly target the delivery of environmental outcomes that the private sector might otherwise ignore.

Recognizing the threats posed by climate change and other environmental challenges, the world is now taking more rapid action. Investors are rapidly shifting from dirty to clean assets, and key technologies needed for environmental sustainability are experiencing rapid cost reductions.
The world's largest emitter, China, in 2020 pledged to reduce CO_2 emissions to net zero by 2060. Further progress is soon expected from the USA. The United Nations Call for Action on Adaptation and Resilience spelled an urgent need for enhanced resilience and also recently adopted a landmark framework that considers the contribution of nature when measuring economic prosperity and human wellbeing.

In accordance with the updated National Determined Contributions that build on national policies, plans and legal frameworks, it is essential for Kenya to play a full and active part in this global transition to a low-carbon-climate resilience development path. A development path characterized

by continued low emissions, enhanced climate resilience and environmental sustainability will provide Kenya with a wide range of benefits including: stronger growth, greener investment and higher innovation; enhanced natural capital; avoidance of transition risks; enhanced resilience to climate and other shocks; meet international obligations, among others.

The goal of this policy is to identify and prioritize the implementation of a coherent suite of green fiscal actions that will allow Kenya to exploit the opportunities of accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability. In doing this, the policy will:

i. Direct government planning, budgeting and spending/procurement toward green production and consumption.
ii. Provide a framework for fiscal incentives to attract private sector investment into a low-carbon emission, climate-resilient and environmentally sustainable economy.
iii. Provide a framework for generating additional revenue streams for the government.

The policy sets out a series of green fiscal policy actions of particular interest to the government of Kenya. The key sectors identified in the policy have the greatest potential to green Kenya's economy and are in line with the National Climate Change Action Plan (2018–2022). These sectors include agriculture, food and nutrition security, water and sanitation, blue economy, disaster risk financing, health and sanitation, forestry, human settlement and infrastructure, energy, transport, manufacturing and waste management. The policy also identifies some key cross-cutting policy actions that would have an important impact in support of Kenya's green development agenda.

The National Treasury will lead and facilitate the implementation of this policy, working with partners to develop required laws and regulations. Capacity development for relevant stakeholders, including county governments, will be a critical element of implementation. A continuous program for monitoring and evaluation will be developed; and the policy shall be reviewed within five years to assess its effectiveness and relevance.

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CHAPTER 1: INTRODUCTION

1.1 The call for action

Recognizing the threats posed by climate change and other environmental challenges, the world is now taking more rapid action. Building on the momentum created by the Paris Agreement (PA) and agreement on the Global Goals (the Sustainable Development Goals, SDGs), and recognizing the urgent need to Build Back Better from the coronavirus disease 2019 (COVID-2019) crisis, countries around the world are committing to combat climate change and environmental risks. In 2020, the world's largest emitter, China, pledged to reduce CO_2 emissions to net zero by 2060. Further progress is soon expected from the US. The urgent need for enhanced resilience is reflected in the United Nations Call for Action on Adaptation and Resilience. Investors are rapidly shifting from dirty to clean assets, and key technologies needed for environmental sustainability are experiencing rapid cost reductions. The United Nations recently adopted a landmark framework that considers the contribution of nature when measuring economic prosperity and human wellbeing.[1]

In accordance with the updated National Determined Contributions (NDCs) that build on national policies, plans and legal frameworks, it is essential for Kenya to play a full and active part in this global transition to a low-carbon and climate-resilient development path. A development path characterized by continued low emissions, enhanced climate resilience and environmental sustainability will provide Kenya with a wide range of benefits:

Stronger growth, greener investment and higher innovation. UNEP's 2014 Kenya Green Economy Assessment Report shows that pursuing a green economy scenario will result in faster economic growth.[2] By 2030, gross domestic product (GDP) could be 12% higher by taking a green growth pathway compared with continuing a business-as-usual (BAU) scenario. This reflects the high positive spillovers from climate-related innovation, the savings and yield increases provided by a focus on resource productivity, and the ever-lower costs of many key low-carbon and climate-resilient technologies. Kenya has abundant renewable energy resources, a thriving green finance sector and an enviable reputation as a climate action leader globally. Kenya has the potential to sequester, reduce, or avoid about 30 metric tons of carbon dioxide equivalent per year and mobilize up to $600 million annually from regulatory compliance and voluntary carbon market (VCM) projects by 2030 using an average price of $20 per ton. Kenya has also emerged as one of the largest issuers of carbon credits - 8th largest in the world in 2021. All these advantages can be exploited in a green growth pathway. There are also benefits from low-carbon, climate resilient

[1] The System of Environmental-Economic Accounting- Ecosystem Accounting (SEEA EA)

[2] UNEP (2014), Green Economy Assessment Report: Kenya. Available: https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/KenyaGEassessment_UNEP.pdf

growth that enhance human wellbeing but which are not fully reflected in GDP statistics, including lower air pollution and better health, reduced congestion, and the opportunity to live in a more attractive environment.

Enhanced natural capital. An estimated 42% of Kenya's GDP is derived from natural resource sectors, such as agriculture, mining, forestry, fishing and tourism, while 42% of the total employment comes from small-scale agriculture and pastoralism. A strong focus on preserving and enhancing the natural capital that these activities depend upon can ensure they provide sustainable, flourishing livelihoods for both current and future generations. The recent Dasgupta Review provides a salutary reminder that all human activity is ultimately reliant on strong and healthy ecosystems and natural capital.[3]

Enhanced resilience to climate and other shocks. At present, Kenya is in the top 20% of countries that are most vulnerable to climate change. It poses a major threat to Kenya's socio-economic wellbeing and the attainment of the Vision 2030 and its Medium-Term Plans, the NCCAP, the Bottom up Economic Transformation Agenda (BETA) model, among others.[4][5] A specific focus is needed to recognize, reduce and adapt to these risks. In so doing, the country designed a comprehensive program referred to as Financing Locally-Led Climate Action Program (FLLoCA) which is aimed at building resilience to climate related risks, vulnerability and shocks. Other interventions are also being developed to address other shocks (such as infectious diseases or cybersecurity) that threaten Kenya's development.

Reduced transition risks. As noted above, the world is moving toward a low-emissions pathway. A failure by Kenya to move in line with (and potentially help lead) this transition could instead result in Kenya being sidelined by international partners as trade and capital flows increasingly take account of climate considerations. Most carbon-intensive industries and fossil fuel exporters are already worrying about how to respond to this existential threat. A 20th-century growth model will not serve Kenya well in a 21st-century world.

Enhanced compliance with international obligations. Under the Paris Agreement (PA), countries have agreed to limit the increase in the global average temperature to 'well below 2°C above pre-industrial levels', and to pursue efforts to 'limit the temperature increase to 1.5°C above

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[3] Partha Dasgupta (2021), The Economics of Biodiversity: The Dasgupta Review. United Kingdom HM Treasury. Available: https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review

[4] Bottom-Up Economic Model aims to boost economic growth by prioritizing investment in the grassroots economy, particularly in the agricultural sector, and empowering small and medium-sized enterprises (SMEs) to create jobs and reduce poverty.

[5] 'Big Four' refers to the name given to the four pillars of the economy (manufacturing, food security and nutrition, universal healthcare, and housing) that the President of Kenya planned to support in order to deliver on promises made to citizens during his second term (2017–2022). Subsequently, the four sectors were prioritized in Kenya's Medium Term Plan III.

pre-industrial levels. Kenya's contribution to this goal is formally reflected in its recently updated NDC, which enhanced its ambition by setting a goal to reduce its emissions by 32% relative to BAU by 2030, and included, for the first time, a commitment that some of this action would no longer be conditional on the provision of support by the international community.

Cooking poverty: Cooking poverty is a national development issue that mainly affects the poor households. Incentives are needed to develop and deliver cooking decency for all. For long-term sustainability, interventions must be guided by principles that put cooking needs and aspirations of poor households at the center and fully integrate the universal access goal into national strategies and roadmaps underpinned by high-level political support and investments.

There are inherent benefits of access to clean cooking: Improving access to clean cooking can accrue large socioeconomic and environmental benefits for society. However, progress has been stymied due to a lack of prioritization at all levels, including donors, national governments, the private sector, and households.

1.2 New green fiscal policies to build on a strong planning foundation

Kenya has made significant progress in moving toward a green and blue development pathway as sustainable natural resource utilization including marine and aquatic resource is embedded in the Constitution. The Green economy has been mainstreamed in the MTPs and County Integrated Development Plans (CIDPs). Under the Climate Change Act 2016, the government is required to develop five-year NCCAPs to guide the mainstreaming of adaptation and mitigation actions into the sector functions of the national and county governments. The NCCAP, covering the period 2018 to 2022, identifies a series of actions for government and other stakeholders, with a particular focus on adaptation. The National Policy on Climate Finance (2018), provided a clear direction on mechanism for enhanced mobilization of climate finance from all sources: private, public, multi-lateral Agencies, bilateral, philanthropic, etc. to finance Kenya's updated NDC and NCCAPs. The policy recommended the development of green fiscal incentive policies to catalyze the private sector to finance transition to a low-carbon and climate-resilient development path.

A range of further specific policies provide for green growth and sustainable natural resource management including the Environmental Management and Coordination Act, 1999 and the Sustainable Waste Management Policy and Sustainable Waste Management Act, 2022.

However, the government has identified that more needs to be done to realize the benefits of transitioning to a low-emissions development pathway, while enhancing climate resilience and environmental sustainability. In particular, it recognizes the need for new and additional green fiscal policies – i.e., to use policies relating to the way in which it raises and spends financial

resources to steer the economy onto the desired green pathway. There are several reasons why these policies are powerful and important:

Taxes and subsidies can influence the costs, prices and profits in a wide range of markets. They can be used to stimulate a shift in production, consumption and investment in low-carbon, climate-resilient and environmentally sustainable practices. Such instruments are often the most cost-effective way to deliver environmental outcomes and can uncover innovative solutions to environmental challenges that would otherwise be ignored.

Some fiscal instruments – such as concessional loans, guarantees and interest rate subsidies can be effective tools in overcoming investment barriers and leveraging private sector green investments. These instruments have consistently leveraged private capital that is many multiples of the committed public spending. This has been achieved across multiple country contexts and economic sectors.

In other cases, government spending can directly target the delivery of environmental outcomes that the private sector might otherwise ignore. Some (largely adaptation) solutions – for example, disaster risk reduction and management activities, or the restoration of degraded lands – may never attract sufficient private spending. Direct government spending may be the quickest and easiest way to achieve the desired outcomes.

The way in which the government raises capital (including through green bonds, etc.) can signal to stakeholders the importance that the government attaches to delivering particular outcomes.

Green fiscal reforms have been applied successfully around the world, from economy-wide solutions like ***carbon taxes*** in South Africa and ***Ecological Fiscal Transfers (EFTs)*** in India and Brazil, to narrower and more direct measures like government investment in afforestation and land protection seen in Ethiopia and the African Union's Great Green Wall. This experience clearly demonstrates that ***Green Fiscal Reform*** in Kenya can enhance private sector financing of climate actions, spur green innovation and technology development, improve fiscal consolidation, correct market failures, and help identify smarter ways for government taxation and spending.

CHAPTER 2: POLICY GOALS AND GUIDING PRINCIPLES

The goal of this policy is to **identify and prioritize implementation of coherent suite of green fiscal actions that will enable Kenya to exploit the opportunities for accelerating the transition to a low-emissions development pathway while enhancing climate resilience and ensuring environmental sustainability.**

The specific objectives of the policy are to:

i. Direct government planning, budgeting and spending/procurement toward green production and consumption

ii. Provide a framework for fiscal incentives to attract private sector investment into a low-carbon emission, climate-resilient and environmentally sustainable economy
iii. Provide a framework for generating additional revenue streams for the government.

In seeking to achieve this goal, there are nine principles that have informed the development of the policy to date and will guide the implementation of the specific actions this policy framework identifies:

Predictability: The policy will provide greater certainty in government policy to encourage higher private sector investment in green growth. Sunset clauses for phasing out incentive schemes will be developed to provide certainty for the investors.

Cost-effectiveness:
The policy will promote fiscal measures that maximize value for money while ensuring sustainable growth.

Polluter-pays: The policy will provide ways of allocating the costs of pollution prevention and control to polluters to encourage the rational use of scarce environmental resources by evoking the Polluter Pays Principle (PPP).

Coherence: The individual actions developed under this policy will be additional. There will be a focus on both ensuring that all policies are aligned to achieve the same objective, and on avoiding unnecessary policy duplication or overlap.

Consultative: The policy and its individual actions are developed in a consultative manner, drawing on the full range of expertise within Kenya and internationally, allowing those who will be both positively and negatively affected by potential changes to express their perspective and to have an opportunity to suggest improvements.

Inclusiveness: The policy and its actions will promote the participation of private investors and communities, including small-, medium- and large-scale enterprises. This will, in turn, support the government's employment and wealth-creation initiatives. This is consistent with the BETA which lays emphasis on leaving no one behind.

Transparency and accountability: Spending on green fiscal policies and any revenues raised will be managed in line with the provisions of the Constitution of Kenya and the Public Finance Management (PFM) Act (2012) on sound public expenditures management.

Equity: The policy and its individual actions will promote reallocation and redistribution of resources while taking cognizance of the needs of the most vulnerable sectors and members of society.

Sustainability: The Policy will provide opportunity to meet economic, environmental and social needs of the present without compromising the ability of future generations to meet their own needs.

CHAPTER 3: SITUATIONAL ANALYSIS

Kenya has already created a strong foundation for low-carbon, climate-resilient growth through a range of fundamental documents and legislation. This starts with the country's Constitution which, under Article 42, guarantees every Kenyan the right to a clean and healthy environment and encourages participatory resource management and equitable benefits. This is reinforced by the Environmental Management and Coordination Act, 1999, which includes a provision (under Section 57) for fiscal incentives, disincentives or fees to induce or promote the proper management of the environment and natural resources or the prevention or abatement of environmental degradation. Similarly, the Climate Change Act, 2016 provides a regulatory framework for an enhanced response to climate change, allowing for mechanisms and measures to achieve low-carbon climate development, and for connected purposes. A range of strategies, policies, and action plans are detailed in subsequent government documents including the National Climate Change Framework Policy (2016), the National Policy on Climate Finance (2018), the NCCAP (2018–2022), and the Green Economy Strategy and Implementation Plan (2016–2030). They highlight the need for a fiscal incentives policy to accelerate transition to a green and circular economy through increased financing from alternative sources such as the private sector.

A critical document reflecting Kenya's domestic ambition in the international arena is its updated NDC. This was submitted in 2020 to the United Nations Framework Convention on Climate Change (UNFCCC), and specifies both mitigation and adaptation actions. It confirms Kenya's ambition to transition to a low-carbon society and reduce its greenhouse gas (GHG) emissions far beyond 32% by 2030 (with milestone targets at 2025) relative to the BAU scenario of 143 Million Tons of Carbon Dioxide Equivalent ($MtCO_2eq$) outlined in the updated NDC. Emission reductions are to be undertaken based on equity and in the context of sustainable development and efforts to eradicate poverty, which are critical development priorities for many developing countries including Kenya.

There have been a range of important fiscal developments and initiatives across many of Kenya's key economic sectors, which are detailed below. In each section, there is a brief discussion of the key challenges and opportunities that Kenya faces in that sector, a summary of the current fiscal policies that are encouraging green economic growth, as well as a summary of relevant international experience. A separate annex provides more detail on the international experience.

The 11 sectors considered in this section are:

- Disaster risk management
- Water and the blue economy
- Health and sanitation
- Food, agriculture and nutrition security
- Forests, wildlife and tourism

- Human settlements and infrastructure
- Electricity
- Clean cooking
- Manufacturing
- Transport
- Waste management

3.1 Disaster risk management

Situational context

Disasters significantly impact lives, livelihoods and economies across the globe and impede progress toward sustainable development. Disaster risk associated with natural hazards, including extreme climate events continue to attain elevated levels often leading to, for example, to a loss of life and property from floods and landslides, the destruction of infrastructure by floods, and a loss of life and livelihoods because of drought.

Kenya is particularly vulnerable to diverse disasters, some of these have had a significant negative impact on GDP as outlined in Table 1 with the trend for droughts showing increasing frequency since 2011. Widespread environmental degradation together with the emergence of new pests and diseases as well as the resurgence of others all contribute to further expansion of the disaster risk dimensions. All these push factors represent likely consequences of climate change.

Table 1: Damages and losses from selected climate-related shocks as recorded by different sources

Year	Event	Damages and losses US$ billion	Annual GDP (%)
1997–1998	El Niño floods	0.8–1.2	2.9–4.4
1999–2002	Drought	2.5	4.8
2005–2006	Drought	0.45	1.0
2008	Drought	1.4	3.9
2009	Drought	4.1	11.1
2010	Drought	2.8	7.0
2011	Drought	3.7	8.8

Source: Government of Kenya, 2012

Current fiscal and other policies

The government has made significant strides in strengthening disaster risk management systems in the country. The Disaster Risk Financing Strategy outlines the various disaster risk financing instruments that are available for responding to the vagaries of drought, floods and other disasters. These disaster risk financing instruments include the Kenya Livestock Insurance Program (KLIP), Kenya Agriculture and Crop Insurance Management Program (KAIRMP), Hunger Safety Net Program (HSNP), Contingencies Fund, County-Level Emergency Funds, and the Development Policy Credit with a Catastrophe Deferred Draw Down Option (Cat DDO).

The government has also made significant investments in the development of drought-tolerant crop varieties and livestock breeds. Some public investments have been targeted at building flood control infrastructure such as that constructed in Budalangi, water storage and harvesting infrastructure of varied scales, such as Thwake Dam, to improve access to water for domestic and livelihood uses.

International experience

Kenya's experience largely matches the international experience, which has emphasized the role of national disaster funds, and developing plans for using those resources, with roles and responsibilities between different actors clearly stated and understood. Mexico's disaster fund, FONDEN, is often stated as a good practice example.[6]

Other approaches suggested by international experience include:

Purchase of insurance. Insurance products are increasingly available to preserve ecosystems in the event of natural disasters. For example, in 2019, the state government of Quintana Roo, Mexico, developed and financed a parametric insurance product to help maintain coral reefs and beaches along 160 km of its coastline. The state is currently developing a mechanism to extend the coverage to include mangrove protection as well.

Catastrophe bonds (CAT bonds). This security raises capital for a government in the same way as a normal government bond, but if an event protected by the bond occurs, the obligation to pay interest and repay the principal is either deferred or completely forgiven. In this way, the government pays interest on the principal in exchange for the possibility of claiming a payout from the bond in the case of a disaster. Mexico was the first country to issue CAT bonds and it has since become commonplace among countries vulnerable to natural disasters. Most recently, the

[6] Clarke,Daniel Jonathan; Dercon,Stefan (2016) Dull disasters? How planning ahead will make a difference (English). Washington, D.C. World Bank Group. http://documents.worldbank.org/curated/en/962821468836117709/Dull-disasters-How-planning-ahead-will-make-a-difference

Philippines issued a CAT bond with US$150 million in tropical cyclone disaster insurance protection.[7]

Environmental Deposit Bond

An environmental deposit bond (EDB) is a financial instrument issued by a company or organization to ensure that they have the financial resources to carry out environmental remediation or rehabilitation activities in the future. EDBs serve as a guarantee that the company will be financially responsible for its environmental impacts and have the resources to address them in case of default or insolvency. EDBs have been implemented in several countries, including Australia, the United States, Canada, and South Africa, where they are required for industries such as mining and hazardous waste management.[8]

3.2 Water and the blue economy

Situational context

Kenya faces serious challenges regarding its current and future water resources and water service provision. According to the Kenya Water Services Strategy, these challenges include deterioration of existing facilities such as harvesting and storage facilities, and increased service demand due to population growth, particularly in many rural areas and the very rapidly growing settlements of the urban poor. Further to this, the National Water Master Plan 2030 points out that climate change will continue to affect water resources, including disruptions in rainfall patterns leading to frequent flooding and droughts in the country. Additionally, water resources are distributed unevenly in the country in terms of timing and geography therefore, usable water resources are considered limited and lower than the total amount of available water resources in Kenya.

Nevertheless, the blue economy offers huge potential. New sustainable ocean industries, such as sustainable fisheries, aquaculture and marine renewable energy, present opportunities to generate new sources of employment and growth, diversify the economy, build climate resilience, reduce dependency on fossil energy, and enhance food security.

However, the blue economy will need to be sustainably managed. Population growth and the resultant demand for seafood has led to uncontrolled and unsustainable fishing. A recent study found that 38% of the coral reefs surveyed in the region had fish stocks below sustainable levels.[9]

Current fiscal and other policies

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[7] Evans, S, Philippines Gov requests cat bond loss calculation for typhoon Goni. 6 November 2020, Available: https://www.artemis.bm/news/philippines-gov-requests-cat-bond-loss-calculation-for-typhoon-goni/

[8] https://www.nema.go.ke/images/Docs/Regulations/EMC%20(Deposit%20Bonds)%20Regulations%202014-1.pdf

[9] McClanahan, T. R. (2019). Coral reef fish communities, diversity, and their fisheries and biodiversity status in East Africa. Marine Ecology Progress Series, 632, 175-191. doi:10.3354/meps13153

Fiscal considerations are crucial for protecting sensitive ecosystems and biodiversity hotspots in Kenya. The allocation of financial resources towards conservation efforts can provide the necessary support for research, monitoring, and implementation of conservation strategies. In addition, financial incentives can encourage local communities to engage in conservation activities, reducing the pressure on ecosystems and biodiversity hotspots.

Kenya has already taken some action to address water resource and quality issues. For example, the 2006 Environmental Management and Coordination (Water Quality) regulations prohibit discharge of effluent into the environment that is in breach of the established standards. The National Environment Management Authority (NEMA) regulates discharge of all effluent into the environment and issues effluent discharge licenses for a fee.

Similarly, the Fisheries Act (2016) requires registration and licensing for both local and foreign vessels for fishing in the Kenya fishery waters for a fee. It also imposes fines and penalties for fishing without a license or in contravention of conditions imposed by a license under the Act. This aims to ensure sustainable fishing practices to preserve the blue economy ecosystem, although, as noted above, challenges remain.

International experience

The international experience provides insights into potential fiscal policy options across a range of dimensions in the water and blue economy sector.

To promote efficient portable water provision, some countries have adopted a type of feebate system where richer, higher-use households are charged a higher rate to offset subsidies for poorer, subsistence-use households. This is the case in Colombia where, for example, the price of water depends on how the neighborhood ranks on a national six tier socioeconomic system. Households on the lowest tier receive a 70% subsidy, whereas those in the top tier pay a 165% surcharge.[10]

A range of countries use fees and taxes to protect their freshwater supplies from pollution by taxing industrial water pollutants. The Colombian government, for example, charges all polluters a fee per unit of biological oxygen demand (BOD) and total suspended solids (TSS), with regional enforcement agencies entitled to retain any pollution fee revenues. According to Colombia's environment ministry, nationwide BOD discharges from point sources covered fell by 27%, and TSS discharges fell by 45% in the first six years of the program.[11]

[10] https://www.acueducto.com.co/ (in Spanish)

[11] Olmstead, S and Zheng, J Policy Instruments for Water Pollution Control in Developing Countries, December 2019. Review of Environmental Economics and Policy. Available: https://sites.utexas.edu/olmstead/files/2019/12/Olmstead_Zheng_20191217.pdf

Payments for hydrological service schemes encourage the private sector to take account of the full, societal value of water resources. For example, the Payments for Hydrological Services Program (PESH), introduced by Mexico in 2003, aimed to conserve forests to improve water quality and quantity for downstream communities, as well as maintain rural incomes and reduce poverty. Between 2003 and 2009, approximately 2.27 million hectares of land, around 1.6% of Mexico's forests, were included in the program. Analysis of PESH's impacts found that it increased land cover management activities by around 50% and community social capital by 8-9% (Alix-Garcia et al., 2018).[12]

For fisheries, quota systems have been used to build sustainable stocks. In Namibia, the government has been setting total allowable catches (TACs) since 1992. The value of the fish industry has been steadily increasing year-on-year – from US$331 million in 2006 to US$595 million in 2012 (13% compound annual growth rate).[13]

Iceland takes this approach one stage further by allowing quotas to be traded between fishermen. This mechanism has the dual benefit of securing the future of the industry by making it more efficient and profitable and, from a just transition perspective, providing compensation through quota sales for those who exit. The system was successful, with the annual quota rental values in the Icelandic fisheries increasing almost twenty-fold between 1984 and 1999. While both the Icelandic and Namibian quota systems are budget-neutral, the auctioning of allowances could provide a source of government revenue.

Some countries have raised capital explicitly to support the blue economy. For example, the Seychelles' 2018 blue bond issuance was a world first for a sovereign government and raised the island nation US$15 million to advance its blue economy.[14] Proceeds went toward supporting marine protection areas, enhanced governance of fisheries, and investments that facilitated value-added in downstream industries.

3.3 Health and sanitation

3.3.1 Health

Health status is a critical dimension of human well-being. It is especially critical for children as childhood health determines not just educational attainment, but also adulthood health and

[12]Alix-Garcia, J.L. Sims, K., Orozco-Olvera, V.H. Costica, L., Jorge, D.F.M., Monroy, S.R., (2018) Payments for environmental services supported social capital while increasing land management, Proceedings of the National Academy of Sciences, 115 (27) 7016-7021; DOI: 10.1073/pnas.1720873115

[13] Chiripanhura, Blessing and Teweldemedhin, Mogos. 2016. An Analysis of the Fishing Industry in Namibia: The Structure, Performance, Challenges, and Prospects for Growth and Diversification. AGRODEP Working Paper 0021. Washington, D.C: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/130791

[14] World Economic Forum, Blue bonds: What they are, and how they can help the oceans. 6th June 2019. Available: https://www.weforum.org/agenda/2019/06/world-oceans-day-blue-bonds-can-help-guarantee-the-oceans-wealth/

productivity.[15] Access to health is a basic social economic right of every Kenyan. Article 43 (1)(a) of the Constitution states that " Every person has the right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care". However, health is also a devolved function where provision of the services is the responsibility of the counties.

The World Health Organization (WHO, 2016)[16] shows that health system activities exert significant impacts and pressures on the environment by generating hazardous and conventional wastewater and greenhouse gas emissions and through their high consumption of resources such as water and energy. Some of the key impacts are:

Health care waste: The health care system is one of the highest-waste-generating sectors. It is estimated that between 75% and 90% of waste produced from the health care system is comparable to domestic waste in terms of its composition and environmental implications. Increased use of disposable instruments and prepacked materials has led to increased waste generation. Clinical waste generation is also increasing among private households. Landfill is the least expensive means of disposal but poses high environmental and health risks. Incineration is a cheaper alternative of health care waste disposal but resulting ash has been found to contain high levels of heavy metals.

Wastewater: Water pollution can directly emanate from the health care facilities, the activities of patients, the healthcare supply-chain and from inadequate health care waste disposal. Frequent pollutants include pharmaceutical products, microorganisms, heavy metals, cleaning products and chemicals such as organic halogens or free chlorine.

Greenhouse gas emissions: Greenhouse gases arise from embedded emissions in procured goods, direct energy use in healthcare facilities and patient and staff travel.

Toxic chemicals: The healthcare industry is a major consumer of chemicals, some of which can have serious health and environmental impacts including mercury, polyvinyl chloride, flame retardants, phthalates, and volatile organic chemicals.

Resource consumption - water and energy: Even though direct water use by health systems is minimal compared to other sectors, indirect (embedded water consumption) is significant. For example, disposable cotton is derived from cotton crop which is highly water intensive.

Current fiscal policies

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[15] KIPPRA (2020). Creating an Enabling Environment for Inclusive Growth In Kenya. Kenya Economic Report. https://kippra.or.ke/wp-content/uploads/2021/02/Kenya-Economic-Report-2020.pdf

[16] WHO (2016). Towards Environmentally Sustainable Health Systems in Europe, a Review of the Evidence. https://apps.who.int/iris/bitstream/handle/10665/340377/WHO-EURO-2017-2242-41997-57725-eng.pdf?sequence=3

There are no known fiscal incentive measures in Kenya meant to green the healthcare system. Nonetheless, they can be indirectly linked to sanitation (Section 3.3.2).

3.3.2. Sanitation

Situational context

Sanitation is a necessity that contributes to better human health, dignity, and quality of life. The economic and social benefits of sanitation interventions create more time for productive pursuits, higher productivity, better performance at school and work, lower medical costs. Closer access leads to a better living environment, dignity, safety, convenience, comfort, and status. However, in Kenya basic sanitation services are not accessible to most of the population. The result is that the poor are deprived of decent and dignified lifestyles leading to deterioration of health, wellbeing, and the human environment.

Kenya, under Sustainable Development Goal 6, has committed itself to achieve by 2030 universal and equitable access to safe and affordable water for all; access to adequate and equitable sanitation and hygiene for all and an end to open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. Progress on drinking water, sanitation and hygiene is also critical for the achievement of other targets, including reducing poverty and achieving universal access to basic services; ending all forms of malnutrition; ending preventable deaths of newborn and children under 5 years of age, combating neglected tropical diseases and waterborne diseases, and achieving universal health coverage; providing safe and inclusive learning environment.

Kenya has a vision of achieving 100% access to basic sanitation services by 2030. This is particularly ambitious for rural areas where the coverage to basic level services stands at 31%.[17] Progress requires participation from the communities to ensure open defecation is eliminated. Additionally, access to sanitation services is significantly lower in poorer communities and among vulnerable groups.

The Constitution of Kenya (2010) under Article 42 gives every person a right to a clean and healthy environment, which includes sanitation. The Constitution also devolved sanitation services to County Governments and subsequently the Government has enacted, the Water Act (2016), bringing the water and sanitation sector in line with the constitution. The Kenya Environmental Sanitation and Hygiene Policy (KESHP) 2016-2030 provides broad guidelines to both state and non-state actors at all levels to work towards universal access to improved sanitation leading to improved quality of life for the people. Primarily, the KESH policy aims to increase the proportion of the population with access to improved sanitation to 100 percent by 2030 and ensure a clean and healthy environment for all in Kenya. To manage hazardous waste in the Health Sector,

[17] Government of Kenya (2016). Kenya Environmental Sanitation and Hygiene Policy 2016 – 2030. Ministry of Health.

KESHP seeks to ensure that all health facilities have reliable water supplies and environmental sanitation and hygiene facilities; ensure that all health staff are trained on medical waste management; and ensure there is adequate budgetary allocation for management of medical waste among others.

According to KESP (2016 – 2030), one of the reasons why sanitation remains a low investment priority is institutional fragmentation, with different elements of the sanitation supply chain being the responsibility of different players. This fragmentation has led to lack of proper coordination of sanitation services and hindered a holistic approach to sanitation financing. The development of a sanitation and hygiene investment plan has been a pending priority within Kenya's Country Priority Action Plan on Sanitation, but progress is constrained by a lack of specific capacity in the sector. Thus, despite financial support and donor interest for sanitation in Kenya, sustainable financing remains a key bottleneck to accelerated progress.

Current fiscal and other policies

The Ministry of Water & Sanitation and Irrigation is currently focusing on resource mobilization, innovative financing mechanisms and investment planning to achieve universal access by 2030. Some of the initiatives in place towards this mission include pro-poor initiatives by the ministry aimed at ensuring the progressive realization of the human right to safe drinking water and sanitation for all, in a non-discriminatory manner. Other initiatives by both national and county governments that will enhance access to safe drinking water include: (i) Allocation of more resources by both National and County governments to expand water infrastructure; (ii) Community sensitization programs on water treatment; and (iii) Investing in water harvesting technologies (KEPI 2020).

International experience

Improving sanitation can be particularly reliant on government spending but there are examples of very strong progress being made when fiscal policy is used to align incentives. Peru's Incentives Program for the Improvement of Municipal Management (MIP) provides an example. MIP makes direct transfers to local governments, on condition of the achievement of set ecological goals, which are monitored twice a year. Between 2015 and 2019, 15,901 rural water and sanitation operators were registered, 31,917 water systems were built, 2,500 rural water systems were rehabilitated, and 1,997 chlorinated systems were installed.

3.4 Agriculture, food and nutrition security

Situational context

Approximately 25% of Kenya's population is food-insecure.[18] This is due to low and falling productivity of agricultural land, reliance on rain-fed agriculture, low levels of mechanization and high post-harvest losses including pets and diseases. The prevalence of climate change impacts such as droughts and floods have compounded the food insecurity problem and such events are projected to intensify in the coming years. Subsequently, the number of people who will be rendered food-insecure is bound to increase (National Food and Nutrition Security Policy Implementation Framework, 2017).[19]

At the same time, the agriculture sector is the leading source of emissions in the country, accounting for 40% of the national total of 93.7 $MtCO_2e$ in 2015.[20] Much of this is driven by dairy cattle: Kenya has an estimated 4.3 million dairy cattle producing 3.4 billion litres of milk per year. The dairy cattle sector is responsible for about 12.3 $MtCO_2eq$. In addition, the use of synthetic and organic fertilizers adds nitrogen to soils, increasing natural emissions of nitrous oxide. Other agricultural soil management practices such as irrigation, tillage, fallowing of land, also affect the flow of gases to and from the soil, since soils are both a source and a sink for GHGs.

The Kenya Agricultural Sector Extension Policy (2022) points out several challenges in the delivery of extension services. These include: Institutional weaknesses in capacity building, technology development and dissemination; Weaknesses in research–extension–clientele linkages, packaging and disseminating technologies; Harmonizing extension approaches and methods; Commercializing and privatizing public extension services without compromising public interest; Managing pluralistic extension service for effective service delivery; Developing private sector operated extension services to complement public extension services; Creating functioning institutional frameworks to coordinate and provide linkages among stakeholders and mainstreaming cross-cutting issues in extension messages. Estimates as of 2014 indicate that the ratio of agricultural extension officers to farm household was 1:1093 against 1:400 recommended by FAO[21]. This makes it difficult for extension officers to reach farmers.

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[18] Food and Agricultural Organization (FAO), United Nations Economic Commission for Africa (ECA) and African Union Commission (AUC) (2020). Africa Regional Overview of Food Security and Nutrition 2019. ISBN 978-92-5-132051-8, Food and Agricultural Organization (FAO).

[19] Ministry of Agriculture, Livestock and Fisheries (2017). National Food and Nutrition Security Policy Implementation Framework. http://extwprlegs1.fao.org/docs/pdf/ken170761.pdf

[20] Government of Kenya (2015), Kenya Second National Communication to the United Nations Framework Convention on Climate Change. National Environment Management Authority (NEMA)

[21] Odongo, D. (2014). Agricultural Information Access among Smallholder: Comparative Assessment of Rural and Peri-Urban Settings in Kenya.

Current fiscal and other policies

The government's 2009–2020 Agricultural Sector Development Strategy has multiple objectives. These include establishing a central authority for recording animals and regulating breeding programs, enhancing animal feeding and nutrition practices, strengthening livestock extension services, and improving livestock disease and pest control. The Climate Smart Agriculture (CSA) Framework Program 2015–2030 targets a reduction in agricultural GHG emissions by increasing livestock productivity alongside the adoption of improved adaptive technologies which minimize carbon emissions and enhance soil carbon sequestration. It also aims to develop a national carbon accounting and measurement, reporting and verification system, and promote efficiency in dairy and livestock manure management and in paddy rice management, for example.

Furthermore, food and nutritional security is one of the key pillars of the BETA. Consequently, several projects are under implementation including the construction of several dams for water conservation, flood prevention and to support irrigation; the Galana Kulalu food security model farm; a fertilizer subsidy program to lower the cost of farming; and, as noted above, the introduction of Kenya Livestock Insurance Program (KLIP).

In terms of legislation, the Value Added Tax (VAT) Act of 2013 and the Income Tax Act (CAP 470) lay the groundwork for policy in this area. The VAT Act provides value added tax (VAT) exemptions for all unprocessed agricultural products and agricultural pest-control products (and inputs for their production), as well as a duty exemption for agricultural machinery (and inputs for their production), fertilizer, storage facilities and seeds. In combination, these exemptions vastly reduce the costs of agriculture and contribute to incentivizing increased production and enhanced food security. The Income Tax Act's provision for a 50% capital deduction for investment in farm works will have a similar effect.

However, not all incentives and programs are climate-smart or geared toward promotion of a green sustainable economy. Some pesticides can contaminate soil, water and other vegetation Similarly, the use of chemical fertilizers can have negative effects on the environment, for instance the emission of methane, nitrous oxide and ammonia into the atmosphere. This policy takes into cognizance these challenges and attempts to balance the interventions towards achieving NDC targets while addressing food security.

International experience

Internationally, there are many examples of fiscal policies that provide subsidies to farmers to engage in more sustainable practices, with the funding for these subsidies met through a re-allocation of existing agricultural subsidies. Examples include Brazil and the UK, whose experience points to ***the importance of robust monitoring to ensure impact***. Direct subsidies and tax exemptions have also been shown to be important levers in encouraging sustainable farming. For example, in India, following the removal of these trade barriers at the beginning of 2017, the

value of organic agricultural exports grew by 70% and 41% in 2017 and 2018, respectively, after four years of stagnation.[22]

There are also examples of command-and-control expansionary green fiscal policies in this sector. South Africa launched the ***Working for Water (WfW)*** program which resulted in over 350,000 hectares of newly cleared farmland, improved water quality and security, the development of secondary industries based on cleared land, and the employment of 24,000 previously unemployed people from marginalized groups.

In terms of nutrition, international experience illustrates ***the role of fruit and vegetable subsidies or tax reductions***. For example, Fiji and Tonga have removed import tariffs on fruit and vegetables, while the UK and US have provided targeted subsidies for vulnerable groups.[23] However, there are no current examples of such consumption subsidies being tied to the sustainability of the associated production practices.

Finally, international experience also points to the opportunities for raising capital by governments to support green activity in this sector. For example, in 2018, the Mexican Trust Fund for Agricultural Development launched a green bond worth roughly US$135 million to support ventures in four categories: protected agriculture, efficient use of water, energy efficiency, and renewable energy.[24] The funds from this bond have allowed sustainable farmers to scale up their production while propagating practices like reforestation, water capture, soil retention and the installation of solar panels and pumps.

3.5 Forestry, wildlife and tourism

Situational context

Kenya has a total of 5,226,191.79 ha (52,261 km^2) of forest cover which translates to 8.83% of the total area and has tree cover of 12.3% (KFS, 2020). According to Kenya National Bureau of Statistics (KNBS) economic survey of 2019, forestry and logging contributes 1.3% to the Gross Domestic Product (GDP) of the country. The value of the economic output of the forest sector is currently estimated at KES 78.5 billion (USD 785,440,000), (Cheboiwo et al., 2018). The sawmilling sector is the largest primary wood processing undertaking in the country. According to Timber Manufacturers Association (TMA) their investment in the sector is large with assets valued at KES 550 billion. The furniture industry in Kenya is an important source of livelihood, as it employs over 160,000 people and produces approximately 452 USD million worth of furniture per year and exports 22 USD million worth of furniture (World Bank, 2015).

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[22] FiBL Statistics (2020), Available: https://statistics.fibl.org/

[23] Thow, A. M., Downs, S. M., Mayes, C., Trevena, H., Waqanivalu, T., & Cawley, J. (2018) Fiscal policy to improve diets and prevent noncommunicable diseases: from recommendations to action. Bulletin of the World Health Organization, 96(3), 201–210. https://doi.org/10.2471/BLT.17.195982

[24] Inter-American Development Bank. Available: https://www.iadb.org/en/improvinglives/financial-innovation-revived-one-poorest-areas-mexico

Montane forests regulate more than 75% of the country's renewable water resources, which is critical for the sustainable development of many sectors such as agriculture, forestry, fisheries, electricity, water, hotels and other tourist facilities, public administration, and defence. They also prevent soil erosion and provide habitats for many plant and animal species. In addition, montane forests supply fuelwood that meets over 75% of Kenya's overall energy requirements.

Kenya's updated NDC identified the forest sector as having a mitigation potential of 40.2 million tons of CO2 by 2030 of which 20.8 million tons CO2 is committed in the NDC. The UNFCCC framework for Reducing Emissions from Deforestation and Forest Degradation (REDD+) appreciates the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. In the Kenya the REDD+ Strategic Options; Improving the productivity of public plantations through PPPs, scaling commercial forestry investment on private lands, enhance efficiency, effectiveness and skills across the value chain and mobilise private sector finance. Commercial Forestry mitigation actions include +80,000ha agroforestry +150,000ha commercial plantations and replanting 31,000ha of unstocked public plantations.

Kenya has embarked on an ambitious national and forest and landscape strategy aiming to triple its forest cover by planting 15 billion trees by the year 2032 which entails improving production of 15 Billion high quality seedlings; and restoration of 10.6 million ha of degraded landscapes; and enhance protection of the 5.2 million ha of available forests. Improve productivity and management of public forest plantations by restocking of planting backlogs; Maintain 5,240 Km fire breaks and 8,236 Km of forest roads. The proposed intervention areas include restocking 54,000 hectares of the plantation area using 86.4 million seedlings through various strategies including Public-Private partnerships (PPPs), establishment of commercial private forest plantations (450,000 hectares using 450 million seedlings), growing of fruit trees and woodlots in schools, colleges universities and other institutions (40,000 hectares using 40 million seedlings), promote bamboo growing, implement mangrove management plan and growing of agroforestry trees on farmlands (7 million hectares using 2.8 billion seedlings. The estimated cost to implement this strategy is KES 500 billion.

Increasing efficiency in charcoal production can reduce the pressure on forests: instead of using 10 kg of wood to produce 1 kg of charcoal, improved technologies can cut the use of wood down to 3 to 6 kg according to the technology used and best practices applied. Considering the high proportion of non-renewable biomass used to produce charcoal (between 90% and 95%), these measures could lead to 5.7 million cubic meters of Renewable Wood Equivalent (RWE) of non-renewable biomass savings per year from dry forests, generating about 16.5 million tCO2e per year of emission reductions from deforestation and forest degradation

Forests are also crucial for the protection of water towers in ensuring the quality, quantity and reliability of water resources contribute to the well-being of both human and natural ecosystems. Forests act as natural sponges, absorbing rainwater and slowly releasing it into streams and rivers which helps to regulate water flows, reduce the risk of flash floods and ensuring a constant supply of water downstream. Trees and other vegetation help to bind soil together, reducing soil erosion and landslides, especially in hilly and mountainous areas where water towers are typically located Forests also act as natural water filters by absorbing and holding rainwater, reducing runoff and soil erosion thus preventing sediment and other pollutants from entering the streams, rivers and other water bodies.

Nevertheless, more than 90% of Kenya's landscapes facing some form of degradation; 61% and 27% facing high and severe degradation respectively; The deforestation and degradation of these ecosystems remove a critical carbon sink from Kenya and cause significant problems. Deforestation has been mainly driven by clearance for agriculture that is linked to rural poverty and rapid population growth, unsustainable utilization of forest products (including timber harvesting, charcoal production, and grazing in forests), and past governance and institutional failures in the forest sector (NCCAP 2018–2022).

Wildlife and Tourism

The tourism sector is a highly climate sensitive sector. Climate change affects tourism destinations, their competitiveness and sustainability. Hence tourism demand is affected directly, through interference of choice of destination and period of trip, or indirectly by affecting the quality of experience, adverse perception after some extreme event and insecurity about the destination.

Coastal rainforests, marine ecosystems, wildlife and Mt. Kenya's glaciers make Kenya one of the top tourist destinations in the world and in the continent. In 2019, Kenya received 2.05 million international tourists and in 2019 the tourism industry contributed approximately 8.8% to GDP down from 14% in 2012.

Humans and wildlife face new challenges of survival due to climate change. More frequent and intense drought, storms, heat waves, rising sea levels melting glaciers and warming oceans can directly harm animals. This poses a threat to wildlife tourism and its contribution to GDP, as well as sustainability of our biodiversity.

Current fiscal and other policies

Sustainable and productive land management and preserving land resources are enshrined in Chapter 5 of the Constitution of Kenya. The Constitution stipulates that the state should work to achieve tree cover of at least 10% of total land area.

The Forest management and conservation act 2016, provides that a person who establishes or owns a private forest may apply to the relevant authorities for exemption from payment of all or part of the land rates and such other charges as may be levied in respect of the land on which the forest is established.

Forest Management and Conservation Act 2016 (44. (1)) provides that Kenya Forestry Service if satisfied can permit utilization of a public forest through the granting of a concession for conservation of biodiversity, cultural or recreational use.

The Government decision to zero rate duty on imported timber from 10% in July 2019, led to increased regional timber trade arising from development of new networks by local importers, clearing agents and transporters leading to reduced lead-time in meeting timber needs.

International experience

Internationally, a common fiscal approach to countering deforestation is direct government spending on the planting of trees. Ethiopia has been a prominent example in this regard, claiming to have planted 350 million trees in a single day in 2019 as part of the National Green Development Program.[25] This is part of a plan to plant 20 billion seedlings by 2024, which is expected to cost the Ethiopian government over US$ 117 million (Getachew, 2020).[26]

Spending directly on afforestation can be effective if planting and growing trees are conducted correctly. However, providing offsetting opportunities for companies covered by a carbon tax or emissions trading system (ETSs) would support positive ecological activity without creating a drain on fiscal resources. There are international precedents for this approach. As of July 2020, GHG emitters in South Africa can fund afforestation and reforestation projects as a means of offsetting their carbon tax obligations (SA National Treasury, 2020).[27]

An expansionary measure which has become increasingly widespread is that of ***payments for ecosystem services (PES)***. Under this approach, the government pays landowners in exchange for their adherence to pre-agreed sustainable practices on their land. In Ecuador, the Socio Bosque program pays individual landowners and local communities who agree to conserve their ecosystems through ***voluntary conservation agreements (VoCA)*** that are monitored on a regular basis for compliance. For the first 50 hectares of the conservation area, the incentive is US$37 per hectare per year; from 51 to 100 hectares, the incentive is reduced to US$25 per hectare, and

[25] World Economic Forum, The African country that inspired more and more countries to plant billions of trees. 11th June 2020. Available: https://www.weforum.org/agenda/2020/06/ethiopia-trees-forests-deforestation-worldwide-climate-change/

[26] Getachew, S. (2020). Ethiopia will plant 5 billion trees this year to tackle climate change, but it comes at a steep price. Retrieved from: https://qz.com/africa/1866532/ethiopia-to-plant-5-billion-trees-in-2020-to-beat-climate-change/

thereafter decreases further for additional hectares.[28] Similar schemes have been developed in Costa Rica and Uganda.

In other federal countries, ecological fiscal transfers (EFTs) have been used to tie federal payments to states/provinces, etc. according to performance on conservation metrics like forest cover. In 2015, India established the world's largest system of EFTs when its 14th Finance Commission added forest cover to the formula that determines the amount of tax revenue the union government distributes annually to each state. The government distributed 7.5% of the divisible central tax revenue that is devolved to states according to the proportion of states' areas of 'very dense' or 'moderately dense' forest cover (Busch et al., 2020).[29] Initial challenges with the scheme's implementation have led to clarification and raising the share of revenue tied to forest cover to 10%. Other national and sub-national jurisdictions have also adopted EFTs.

In Uruguay, pension plans have successfully investments in forestry assets by domestic institutional investors. Following governance and investment challenges, the securities regulator created special purpose vehicles (SPVs), set up as financial trusts to manage investment in real assets, through which pension plans have to invest. The SPVs can invest in a range of direct assets, from infrastructure to private equity – including forestry. Six forestry funds – five domestic and one international manager – now form the market, with $750 million collectively under management, and the largest fund dominating with investments of over $500 million. International pension funds have also invested in Uruguay: the New Zealand Superannuation Fund, for example, has had some investments via a global forestry fund. The pension plans have been attracted to the asset class by the low correlation to the rest of their portfolios and the relatively attractive returns, with approximately 9 percent nominal return annually.

In Uganda, the government through the National Forestry Authority (NFA) provided concession to private sector investors in 2004 for plantation development. The Sawlog Production Grant Scheme (SPGS) was also set up. The combination of concessions and financial and technical support through SPGS led to an increase in private investments in commercial forestry in the country increasing the area under commercial forestry from 4,000 ha to approximately 100,000 ha of plantation. The scheme attracted huge interest and substantial investment from private sector entrepreneurs mostly SMEs (avg. 50 ha each). This has proven to be a successful and replicable cost-effective way of plantation establishment for a country. The performance-based grant schemes enabled the country increase its commercial forest plantations from less than 3,000ha to more than 100,000 ha.

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[28] de Koning, F., Aguinaga, M., Bravo, M., Chiu, M., Lascano, M., Lozada, T. and Suarez, L. (2011). Bridging the gap between forest conservation and poverty alleviation: the Ecuadorian Socio Bosque program. Environmental Science & Policy, 14(5), 531–542.

[29] Busch, J et al (2020) Did India's ecological fiscal transfers incentivize state governments to increase their forestry budgets? Environ. Res. Commun. 2 031006

3.6 Human settlements and infrastructure

Situational context

The country's infrastructure network is already affected by the physical impacts of climate variability and change. Roads, bridges, water pipelines and powerlines play a pivotal role in supporting the economy but are susceptible to damage from floods and other climate-related disasters. In 1997 and 1998, for example, water supply infrastructure and transport networks in Kenya were damaged by El Niño-related flooding.[30] Additionally, settlements in riparian areas, wildlife corridors; clearing for infrastructure without greening the environment, rising sea levels in the Indian Ocean have caused destruction of coastal infrastructure such as ship docking ports, a naval base in Kipini, hotels and beachfront houses, and (in combination with extreme weather events) intensified flooding in the coastal areas.

Buildings used for housing and commerce can also have significant negative climate change and environmental impacts, despite serving a vital societal purpose. Responding to these concerns, a 'green' building is one that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on the climate and natural environment.[31] Several features can make a building 'green', including:

- Efficient use of energy, water and other resources
- Use of renewable energy, such as solar energy
- Pollution- and waste-reduction measures, and the enabling of re-use and recycling
- Good indoor environmental air quality
- Use of materials that are non-toxic, ethical and sustainable
- Consideration of the environment in design, construction and operation
- Consideration of the quality of life of occupants in design, construction and operation
- A design that enables adaptation to a changing environment

Green buildings preserve precious natural resources and improve the quality of life for residents. Their objective is to decrease the overall impact of the built environment on human health and the natural environment by efficiently using energy, water, and other resources. By doing this, green buildings protect occupant health, improve employee productivity and enhance climate resilience, while reducing waste, pollution and environmental degradation.

Kenya has made progress in developing local voluntary green building rating schemes such as the 'GreenMark Standard' and the Safari Green Building Index. There is also a growing interest and adoption of voluntary green building certification tools such as the IFC's EDGE.

Current fiscal and other policies

[30] Government of Kenya (2016). *Kenya National Adaptation Plan*. Nairobi: Ministry of Environment and Forestry.
[31] World Green Building Council. Available: https://www.worldgbc.org/what-green-building

Kenya lacks harmonized guidelines regulating the development and maintenance of green buildings. There are no clear regulations or legislation prescribing the requirement that new buildings comply with a set standard geared toward achievement of energy-efficient and environmentally friendly structures. Accordingly, construction in Kenya gives little or no consideration to green practices, the use of recycled materials, reducing carbon footprints, or developing adaptable and environmentally friendly designs.

However, considerable effort has been realized in certain initiatives such as the Building Efficiency Accelerator program. This is a public–private sector collaboration that leverages global expertise to accelerate local implementation of building efficiency policies. This program has been adopted by Nairobi, Nakuru, Kisii and Homabay Counties.

International experience

Fiscal policies are often aimed at improving building sustainability. Subsidizing the costs of energy-efficient building technologies, either via direct subsidies or tax exemptions, is a common approach for both upgrading current building stocks and ensuring that new builds meet high energy efficiency standards. China, Colombia, Ghana, and Argentina all provide incentives for new builds to adopt energy-efficient technologies. For example, in Ghana, 'green-certified' buildings are eligible for a 30% reduction in building permit fees (Ghana Broadcasting Corporation, 2019).[32] In terms of retrofits, the UK Green Deal scheme provides grants and loans for homeowners to improve energy efficiency.

The use of ***Sovereign Green Bonds*** can be an effective way to finance these energy activities. Lithuania, for example, has earmarked the first tranche (€20 million) of its sovereign green bond program to provide energy efficiency upgrades to about 160 apartment buildings (IFC, 2019).[33]

Given the importance of effective infrastructure to economic development and wellbeing, finance ministries also have an obvious interest in ensuring that such infrastructure is as climate-resilient as possible. The best practice role for finance ministries is in ensuring that a comprehensive and strategic approach to infrastructure development, encompassing life cycle assessments, is undertaken prior to the development of specific infrastructure assets, and that in deciding on the optimal portfolio of infrastructure assets, the changing climate in which that infrastructure will need to operate is taken into account.[34]

[32] https://www.gbcghanaonline.com/general/takoradi-green-buildings-to-receive-30-reduction-in-permit-fees/2019/
[33] IFC (2019) Green Buildings: A Finance and Policy Blueprint for Emerging Markets.
[34] ADB (2021) A System Wide Approach for Infrastructure Resilience. Available at: https://www.adb.org/publications/system-wide-approach-infrastructure-resilience

3.7 Electricity

Situational context

Kenya has made great progress in generating electricity from green sources. As of 2019, the electricity installed capacity from renewable sources, including geothermal, hydro, wind, solar and co-generation, stood at 73.4%, compared to 67% in 2008 (KIPPRA, 2020).[35] Consequently, the percentage of electricity generated from thermal declined considerably from 33.2% in 2008 to 11.5% in 2019 because thermal generation has been on a declining trend over time, electricity generation is currently 92% green and will be 100% green by 2030.

There is considerable scope to expand geothermal electricity in Kenya, with a proven potential of over 10,000 MW. Of this potential, only 860 MW has so far been exploited for electricity generation. Currently, exploitation of geothermal energy is almost wholly owned by the public, with a small proportion of plants financed through public–private partnerships or private finance only. The high costs of field development, coupled with the high risks associated with resource exploration and drilling, still pose a significant barrier to private sector financing. Siting geothermal projects carefully is also important – for example, discouraging geothermal development in areas with rich biodiversity. This would avoid new geothermal resources creating other environmental issues.

Despite the improved capacity in electricity generation in Kenya, approximately 3 million households still lack access to electricity. Installing off-grid solutions including mini-grids and solar home systems is one of the options for electrifying these non-connected households and ensuring access to sustainable energy for all. In some instances, off-grid solutions are more economical than extending the national grid. Investment in the off-grid renewables sector has grown strongly as deployment has accelerated. The total installed capacity in 2016 was approximately 25.3 MW, most of which consists of public-operated mini-grids.[1] Despite the impressive growth, the investment gap in the off-grid sub-sector remains large. The overarching strategy for Kenya's electricity sector, the 2018 Kenya National Electrification Strategy, focuses primarily on national grid extension. Mini-grids are included but significantly under-represented. Currently, discussions are being advanced towards investments in battery energy storage as energy storage technologies are advancing fast and are becoming cost competitive. Both public and private sources of financing have an important role to play in bridging the financing gap.

Current fiscal and other policies

There is a range of measures already in place that help support the continued expansion of the low-carbon power sector in Kenya.

[35] KIPPRA (2020). Kenya Economic Report 2020: Creating a Conducive Environment for Inclusive Growth in Kenya, Nairobi, Kenya.

VAT is exempted for inputs or raw materials supplied for the manufacture of solar equipment or deep cycle-sealed batteries which exclusively use or store solar power, as well as for inputs or raw materials locally purchased or imported by manufacturers of clean cook stoves. Similarly, under the East Africa Customs Management Act 2004 there is an exemption from Customs Duty on specialized solar and wind energy equipment. Specialized equipment for generation of wind and solar energy are exempted from both import duty and VAT

To support de-risking geothermal development, the government established the Geothermal Development Company to carry out surface exploration, exploratory and production drilling, and sales of steam to third parties, including independent power producers.

Several government and development partner initiatives have attempted to lower the initial electricity connectivity cost. Currently, the government is operating a 'Last Mile Connectivity Project', providing support of KES 15,000 per household. This is granted as a loan on connectivity and recovered over a maximum of 36 months through the billing system.

In addition, there is an exemption of interest income from all listed bonds, notes or other similar securities used to raise funds for infrastructure, projects and assets defined under Green Bonds Standards and Guidelines (bonds, notes or securities that have a maturity of at least three years. While this exemption is general as it covers a broad range of infrastructure projects, power sector projects have been a common focus for green bond issuance.

International experience

There is a wide range of international experiences of using fiscal policy to promote low-carbon power generation.

While carbon taxes can operate across many sectors, their focus (and impacts) are often concentrated in the power sector. Several middle-income countries have implemented taxes of varying degrees of ambition over the last decade. South Africa was the first African country to introduce one in 2019 when it set a price of US$8.35 per tonne of CO_2e (World Bank, 2020).[36] The tax covers 80% of GHGs and the rate will increase annually with inflation plus 2% until 2022, and annually with inflation thereafter. To allow for a period of adaptation, significant industry-specific tax-free emissions allowances ranging from 60% to 95% have been included which will result in a modest initial net carbon tax rate ranging from US$0.40 to US$3.16 per tonne of CO_2e.

Latin American countries have also adopted carbon taxes, with Colombia, Chile and Mexico applying taxes of US$4, US$5 and <US$1–2, respectively, covering around 24%, 39% and 47% of respective national GHGs (World Bank, 2020).[37] These rates are lower than those of carbon

[36] World Bank (2020) State and Trends of Carbon Pricing 2020. Available at: https://openknowledge.worldbank.org/handle/10986/33809

[37] Ibid.

taxes in richer countries, which are generally over US$25 per tonne of CO_2e and can be as high as US$100 per tonne of CO_2e.

Electricity excise taxes can also be a powerful tool to both discourage wastage and generate government revenue. This is especially true in cases where taxes are combined with favorable regulatory treatment of energy from renewable sources. Costa Rica taxes residential electricity use at 5% while at the same time providing exemptions of excise tax, VAT, general sales tax and a special customs tax for renewable energy sources.[38]

While most policies in the energy sector are revenue-generating, there can be a value in subsidizing the adoption of newer renewable energy technologies such that they can become price-competitive against their 'brown' alternatives, although the need for this has diminished as renewable energy technology costs have fallen. In Mexico, the government has created several fiscal policy instruments intended to facilitate the fostering of clean energy projects and provide an attractive investment climate for the private sector. The most successful of these mechanisms was the accelerated 100% depreciation in one year of investments in renewable energy on a company's income tax (Peters, 2012).[39]

Green bonds have been successfully employed in funding both low-carbon transport and renewable energy projects. In 2020 Chile issued over US$3.5 billion in green bonds earmarked entirely for low-carbon transport (Whiley, 2020).[40] Egypt is one of the few African countries, and the first Arab country, to issue a green bond, and its 2020 issuance has provided US$750 million to finance projects in transportation, renewable energy and energy efficiency (Barbuscia and Ramnarayan, 2020).[41]

3.8 Clean cooking

Situational context

Currently, 59% of households in Kenya use the three-stone open fire (TSOF).[42] Although the proportion of household users of TSOF has dropped (76% of households used TSOF 20 years ago), the aggregate number has increased from 4.7 million to about 7.3 million households. In terms of primary cooking fuel, 64.7% (8.1 million) of households in Kenya still use wood as their primary

[38] Green Fiscal Policy Network, 2019 https://greenfiscalpolicy.org/policy_briefs/costa-rica-country-profile/

[39] Peters, S. (2012). The Role of Green Fiscal Mechanisms in Developing Countries: Lessons Learned. Retrieved from: https://publications.iadb.org/publications/english/document/The-Role-of-Green-Fiscal-Mechanisms-in-Developing-Countries-Lessons-Learned-Case-Study.pdf

[40] Whiley, A. (2020). Chile makes 3rd sovereign green issuance: Record rates for Jan 2020 Climate Bonds certified transaction. Retrieved from: https://www.climatebonds.net/2020/02/chile-makes-3rd-sovereign-green-issuance-record-rates-jan-2020-climate-bonds-certified

[41] Barbuscia, D. & A. Ramnarayan. (2020). Egypt becomes first Arab country to issue Green bonds with $750 million deal. Retrieved from: https://www.reuters.com/article/egypt-bonds-int/egypt-becomes-first-arab-country-to-issue-green-bonds-with-750-million-deal-idUSKBN26K1MJ?edition-redirect=in

[42] MOE, CCAK (2019). Kenya Household Cooking Sector Study: Assessment of the Supply and Demand of Cooking Solutions at the Household Level.

cooking fuel, followed by liquefied petroleum gas (LPG) at 19% (2.4 million) and charcoal at 10% (1.3 million). Only 3% of households own an electric cooking appliance such as mixed LPG-electricity stove, electric coil stove and microwave. (include a statement on high cost/ also update the statistics)

Exposure to harmful pollutants emitted from burning wood and charcoal is one of the largest health risk factors for mortality in Kenya, with about 21,560 deaths attributed to household air pollution (HAP) annually – more than the average number of deaths caused by road accidents. Kenya has committed to transition to clean cooking by 2028 by developing efficient cooking solutions as part of actions under the Sustainable Energy for All global initiative and SDG 7 (affordable and clean energy). The Kenyan updated NDC has projected an abatement potential of 7.3 $MtCO_2e$ by 2030 from improved cooking solutions as a means of mitigating climate change. Further, using clean cooking solutions will support the move by the government to restore Kenya's forest cover to 10%, up from the current 7.4%.

Current fiscal and other policies

The Finance Act 2020 reversed the VAT exemption on taxable goods locally purchased or imported by manufacturers or imported by manufacturers or importers of clean cooking stoves for direct and exclusive use in the assembly, manufacture or repair of clean cook stoves. The exemption was introduced by the Finance Act 2016. However, this was reversed under. The 2020 Act also reintroduced the VAT on biogas, plastic bag biogas digesters and leasing of biogas producing equipment.

International experience

A number of countries have used fiscal policies to support the deployment of cleaner cooking solutions. For example, the Uganda Domestic Biogas Program supported households in accessing loans to purchase a biogas digester, as well as finance to support biogas construction companies. The program has been successful in supporting over 13,000 biogas generators.

Similarly, in India LPG gas has been subsidized to encourage the switch from biomass for at least some cooking. This has been associated with the number of households with a registered LPG connection more than doubling over the past decade. However, the India case also illustrates some of the risks associated with untargeted subsidies with the growth in the subsidy bill leading the government to launch the 'Give it Up' initiative to encourage middle- and upper-class households to voluntarily stop receiving the LPG subsidy.[43] Despite this, the strain on the budget has been such that provisions for the LPG cooking fuel subsidies were halved in the federal budget for the fiscal year ending March 2022 to 124.8 billion rupees (US$1.7 billion) from 255 billion rupees a year earlier.

[43] https://www.givitup.in/about.html

3.9 Manufacturing

Situational context

Industry and manufacturing are among the most important sectors in Kenya's economy, contributing 7.2% of GDP according to the Economic Survey 2022.[44] The government aims to increase the manufacturing sector's contribution to GDP to 20% by 2030 (20BY30).[45]

The manufacturing sector contributes to climate change as it produces GHG emissions from the use of fossil fuels and other industrial processes. The sector was responsible for about 7% of Kenya's total emissions in 2015.[46] Energy conservation is key to the reduction of GHG emissions, as well as providing other benefits such as lower costs for consumers.

Examining the concept more broadly, in 2009, the United Nations Industrial Organization (UNIDO) coined the term 'Green Industry', with 'economies striving for a more sustainable pathway of growth, by undertaking green public investments and implementing public policy initiatives that encourage environmentally responsible private investments'. Greening industries involve taking care of materials, energy, water, waste and emissions.[47] This requires investment in technologies that enhance process efficiency in terms of optimizing raw materials, and energy and water use, while also reducing waste and emissions.

Kenya's industry sector relies heavily on a traditional linear model in which resources are extracted, processed, distributed, consumed, and eventually disposed of. The life cycle or circular economy concept instead advocates a circulation of resources within the economic system. Rather than disposing of waste it is reintroduced as a resource into the processing stage, thereby closing the circle.

Current fiscal and other policies

In 2006, the Ministry of Energy and Kenyan Association of Manufacturers (KAM) established the Centre for Energy Efficiency and Conservation (CEEC), which runs energy efficiency and conservation programs designed to help companies identify energy wastage, determine saving potential, and make recommendations on measures to be implemented.[48] Some of the key products offered by CEEC include energy audits, specialized training, and the Energy Management Award.

In addition, there is increased emphasis on promoting the reduction, re-use, recycling, recovery and repair of waste consistent with the sustainable waste management agenda.

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[44] Kenya National Bureau of Statistics (2020) Economic Survey 2020. Available: https://s3-eu-west-1.amazonaws.com/s3.sourceafrica.net/documents/119905/KNBS-Economic-Survey-2020.pdf

[45] Government of Kenya (2019). Third Medium Term Plan III. The National Treasury and Planning general press release.

[46] Government of Kenya (2015). Kenya Second National Communication to the United Nations Framework Convention on Climate Change. National Environment Management Authority (NEMA)

[47] https://www.unido.org/our-focus-cross-cutting-services-green-industry/green-industry-initiative.

[48] https://kam.co.ke/energy-services/

International experience

Most countries that have introduced carbon pricing (as discussed in section 3.7) ensure that the coverage of the scheme includes emissions associated with industry and heavy manufacturing.

Beyond this, international experience tends to relate to providing tax reductions for environmentally sustainable activities. For example, VAT (or equivalent) exemptions to support green manufacturing outcomes have been particularly popular and successful in middle-income countries. In 2003, 11 Brazilian states and the Federal District agreed to grant a 60% ICMS (similar to VAT) exemption for businesses that deployed used polyethylene terephthalate (PET) bottles as input for adhesives in the plastics and packaging industry. The exemption made the use of used PET bottles 10–20% cheaper than previously (Denny et al., 2013).[49] The program led both to recycled PET bottles making up 63% of the plastics and packaging industry's PET input, and demonstrated the profitability of recycling policies. Denny et al. (2013) estimate that just one large factory's participation in the program saved its municipality US$362,000 in landfill fees over five years.

Similarly, in the South African city of eThekwini, businesses are given a tax rebate of US$0.07/kWh for energy savings they accrue (SA Green Building Council, 2019).[50] To claim the deduction, businesses must be able to show the energy savings over 12 consecutive months, when compared to the previous 12 months of baseline measurement. The program has been of particular interest to industry where, in some instances, customers save up to 30% on their energy bill in addition to the rebate.

3.10 Transport

Situational context

An efficient transport system and network is key in spurring national and regional integration, and promoting trade and economic development. Kenya's modes of transport include: road, rail, maritime and inland water, pipeline, aviation, and non-motorized and intermediate means of transport. Kenya's transportation is critical for economic growth. However, as discussed in section 3.6, its transport infrastructure is also increasingly exposed to the challenges of weather variability and climate change.

According to the Kenya Economic Survey (2020) (Government of Kenya, 2020), the transport and storage sector grew by 7.8% in 2019 compared to 8.5 % in 2018. However, the sector is heavily reliant on fossil fuels, especially road, rail and maritime and inland water transport. According to

[49] Denny, D. M. T., A. F. P. Pedro, K. C. Mekhitarian, E. M. Silva, K. Fiorini, I. Libardi, A. Onohara & Medici, F. (2013). Estímulos Fiscais para a Economia Verde. Retrieved from: http://www.advancesincleanerproduction.net/fourth/files/sessoes/5A/7/denny_et_al_work.pdf

[50] South Africa Green Building Council. (2019). Incentives to build green in South Africa. Retrieved from: https://gbcsa.org.za/incentives-to-build-green-in-south-africa/

Kenya's 2017 Emission Baseline Projections Report, the transport sector is the fourth largest GHG emitter after agriculture, electricity generation, and land-use change and forestry (LULUCF) (Government of Kenya, 2017).[51] A lack of efficient road and rail public mass transit systems means that private transport is most prevalent, which is the main driver of transportation GHG emission growth.

Current fiscal and other policies

Under the Excise Duty Act 2015, there is a graduated system of import duty for vehicles of different cylinder capacity. Fully electric-powered motor vehicles face only a 10% duty charge, rising for vehicles with internal combustion engines to 35% for imported vehicles of more than 2500cc engine capacity.

However, there are some transport measures in place that are not consistent with the objectives of the green economy. For example, relatively lower tax rates are applied to petroleum products than elsewhere in the economy. Additionally, there is a 50% capital expenditure deduction on the year of first use of a petroleum or gas storage facility. These are externalities which need to be corrected through the introduction of carbon taxes.

International experience

Transport fuel taxes are already very common in many countries. However, given that the carbon intensity of diesel is roughly 13% higher per liter than that of petrol, a more environmentally aligned tax system involves taxing diesel at the same rate as or higher than petrol is needed. South Africa is a rare example of a nation which taxes the two fuels at close to parity, at US$0.38 and US$0.37 per liter of petrol and diesel, respectively (SA Revenue Service, 2020a).[52]

As well as altering the consumer price of fuels, fiscal policies can influence the price of vehicles. In Mauritius, for example, a vehicle feebate means that those purchasing vehicles with a fuel economy above 150 gCO_2/km are taxed, whereas those purchasing vehicles below the threshold are granted a rebate (UNEP, 2017).[53] Mauritius has also waived a 50% import duty on electric and hybrid cars, as well as the registration fee. These incentives have led to the importation of more fuel-economy vehicles, with the number of hybrid cars being imported doubling each year between 2010 and 2013. The average fuel economy of the national fleet improved from 186 gCO_2/km in 2005 to 169 gCO_2/km in 2013.

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[51] Suswatch Kenya, (2017) Emissions Baseline Projections Report. Available: https://www.inforse.org/africa/pdfs/PIPA_Kenya_Baseline_Report_May_8_2017.pdf

[52] South African Revenue Service. (2020b). Taxation in South Africa. Retrieved from: https://www.sars.gov.za/AllDocs/OpsDocs/Guides/LAPD-Gen-G01%20-%20Taxation%20in%20South%20Africa.pdf

[53] UNEP. (2017). Global Trends toward More Fuel Economy Vehicles. Retrieved from: http://airqualityandmobility.org/PCFV/PDF/Namibia_GlobalTrends.pdf

3.11 Waste management

Situational context

The waste sector contributes to climate change, accounting for about 3% of total national GHG emissions in 2020.[54] This is a very small contribution in comparison to sectors such as agriculture, forestry, and energy. Waste management creates additional benefits, however, such as the need for adequate waste treatment to avoid polluted air, water, and soil that cause significant health and environmental problems. A growing population and industrialization mean that pressure on waste services will grow in future decades.

The waste sector is also a significant source of black carbon through open burning of uncollected or illegally dumped waste, and transport of waste by outdated heavy-duty vehicles. In addition, uncontrolled leachate contaminates groundwater and some of these contaminants are carcinogens. Waste in the environment harbors pathogens and increases the incidence of vector-borne diseases. It is therefore not only an important climate challenge, but also affects every aspect of life for millions of people in the country and around the world.

Moreover, waste management being largely devolved, most counties lack adequate infrastructure, governance mechanisms and dedicated funding for effective and sustainable waste management. Many have not set aside land for building waste management infrastructure. Initiatives to date have also not fully tackled the fundamental problems of waste minimization and re-use as core elements of the circular economy: waste collection, waste separation at source and recycling, compost production from organic waste, and final disposal of non-recyclable waste in secure engineered facilities.

Current fiscal and other policies

The government of Kenya's main guiding approach to waste management is the 'zero waste principle', as set out in the National Solid Waste Management Strategy which aims to protect human health and the environment. Recycling, composting, waste minimization, and industrial symbiosis are important elements of the Strategy.

Kenya has in place a sustainable waste management policy (2021) that aims to transition the waste sector in every county away from low collection rates, illegal dumping and unregulated dumpsites toward affordable waste collection, recycling and composting, and secure final disposal in engineered landfills for the remaining fraction of the waste stream. The policy also aims to increase the value of waste along the waste management value chain by deploying industrial processing activities that create new products or sources of energy through re-using, recycling, or composting waste.

[54]https://climateactiontracker.org/countries/kenya/policies-action/#:~:text=In%202020%2C%20the%20waste%20sector,industrialisation%20of%20the%20Kenyan%20economy.

Further, the Sustainable Waste Management Act 2022 was signed into law on 7th July 2022 to enforce the circular model. The SWM Act and Policy domesticates global best practices in waste management whereby producers are expected to invest in eco-design technologies and products that are reusable and recyclable and this contributes to reduction in waste. The producers are also expected to take back their products at the post-consumer stage. The SWM Act and Policy requires waste generators to segregate waste at source into different fractions and ensure appropriate transportation of the same by licensed waste service providers to a composting or a material recovery facility and not to the dumpsite.

The Government in collaboration with the private sector has also developed (draft) Extended Producer Responsibility (EPR) Regulations (2022). The EPR Regulations require producers to take care of their products and packaging at post consumer level through five categories of Producer Responsibility Organizations, to ensure eco-design of products, seamless collection, recovery of valuables, appropriate recycling as well as disposal in sanitary landfills. The SWM Act, Policy and EPR regulations aims to have additional financial resources available towards waste management as they are anchored on the polluter pays principle ensuring active participation by producers and waste generators.

The Kenya National Environmental Policy 2013 proposes the use of 'fiscal incentives to encourage waste minimization, recovery, reuse and recycling (the 3Rs)'. Similarly, the Kenya Waste Management Nationally Appropriate Mitigation Action (NAMA) 2017 underlines the importance of promoting 'the use of economic incentives to manage waste'.

A national ban on single-use plastic carrier bags has been successfully implemented, significantly reducing plastic bag waste, roadside litter, and the volume of plastic transported to Kenya's dumpsites.

International experience

Other countries around the world use fiscal policies to support more sustainable waste management practices. For example, Bangladeshi authorities have focused on improving the rate of waste recycling with a package of fiscal incentives including:

- Tax holidays for five–ten years for all waste treatment and recycling plants
- Reduced import or excise duties on relevant waste management equipment
- Use of its Climate Change Trust Fund to promote public awareness of the 3Rs[55]

These incentives are applied only to formally registered waste treatment and recycling enterprises. Concurrently, the government has tried to encourage composting of organic waste by introducing a sales tax exemption on sales of compost and tax breaks for composting companies, although the efficacy of this has been offset by continued subsidies for chemical fertilizers.

[55] https://www.uncrd.or.jp/content/documents/7530Combined-Front%20page+report-Bangladesh.pdf

3.12 Cross-cutting issues

Green Investment

The banking sector in Kenya is an important source of investment finance for green projects. In 2018, for example, it provided KES 27 billion in climate finance. Financing includes lending to renewable energy projects, providing credit lines for energy efficiency (like solar installation for lighting and water heating) and wastewater management in the hospitality industry, and financing tree planting projects.[56]

Foreign Direct Investment (FDI). Kenya is one of the largest recipients of FDI in Africa, totaling US$1.3 billion in 2019.[57] The largest share of FDI was directed to ICT, health and the extractive sector (oil exploration and production). However, about a third was directed to climate-related investments, mainly renewable energy.[58]

Green Bonds: Kenya has made significant efforts to develop its Green Bond market, including initiating the Kenya Green Bond agenda in 2014 and collaborating with the Kenya Bankers Association and Capital Markets Authority to implement the Kenya Green Bonds Program. This led to the development of Nairobi Security Exchange listing rules and the issuance of Kenya's first corporate Green Bond in 2019. In 2017, the Kenya Green Bonds Market Program was launched to accelerate the market acceptance of green bonds, facilitate climate change mitigation and adaptation investments, and improve regulatory and market capacity and knowledge on sustainable investments. It is worth noting that, despite the progress made, there are currently limited opportunities for Green Bond issuances in the immediate term in Kenya. Furthermore, further transformations are required for Green Bonds to be issued at scale in the country.

Capital Markets. To date, Kenyan pension funds and other domestic institutional investors have been hesitant to invest in green products originating in Kenya. However, Kenyan green financial products such as the first corporate green bond have attracted interest from foreign institutional investors. This suggests that there is significant potential to engage the interest of domestic institutional investors and make Nairobi a hub for green capital markets in the region. As a source of long-term finance, capital markets, both public and private, have an important role to play in the financing of green investment in the country.

More private sector participation in the national climate change discourse is needed. The private sector needs to be made more aware of existing green investment opportunities. There is a

[56] CPI (2021) The Landscape of Climate Finance in Kenya. Available at: https://www.climatepolicyinitiative.org/publication/the-landscape-of-climate-finance-in-kenya/

[57] UNCTAD (2020). World Investment Report: International Production Beyond the Pandemic. United Nations, New York.

[58] CPI (2021) The Landscape of Climate Finance in Kenya. Available at: https://www.climatepolicyinitiative.org/publication/the-landscape-of-climate-finance-in-kenya/

particular need to diversify the projects which are attracting private finance: a recent report by the National Treasury and Climate Policy Initiative showed that over 97% of private sector funds were directed to renewable energy generation projects.

Another challenge is promoting new green innovation investment. Despite the progress Kenya has made on institutionalizing research, technology and innovation – such as the National Commission for Science, Technology and Innovation (NACOSTI), the Kenya National Innovation Agency (KENIA), and the National Research Fund (NRF), the National Environmental Trust Fund (NETFUND) and the World Bank-sponsored Kenya Climate Innovation Center (KCIC) – challenges still exist. These primarily relate to the fragmented approach where research institutions work disjointedly among themselves and not with industry. These weak linkages contribute to a mismatch between industry needs and what the academia and research system produces. In addition, technologies take too long to move through the innovation stage as innovators lack the capacity to develop technology, enter the market and commercialize products. The current structure has not sufficiently supported Kenyan innovators, resulting in most green technologies being produced overseas and imported.

To engage the interest of domestic institutions and attract private sector participation in green investment, the government is committed to developing a green bank referred to be referred to as Kenya Green Investment Bank (KeGIB). The bank will provide a range of funding instruments and associated incentives to support the private sector in overcoming barriers to making green investment at scale.

Carbon tax and Carbon trading

By 2022 and 2030, Kenya's combined GHG emissions from Forestry, Electricity generation, Energy demand, Transportation, Agriculture, Industrial Processes, and waste is projected to grow to about 100 and 143 million tons of carbon dioxide equivalent ($MtCO_2e$). In 2030, the highest amount of emissions would come from the energy sector (electricity generation) followed closely by Transportation and Agriculture. Out of the total 143 $MtCO_2e$, the National Climate Change Action Plan (NCCAP) of 2018-2022 projects that Kenya has the technical potential to reduce 60% of 85.8 $MtCO_2e$ by 2030. The actual mitigation potential of each of the key sectors depends on a number of factors that range from policy, resources, priorities, to the practical implementation practically of the potential mitigation.

To facilitate the switch to clean energy and foster the 'polluter pays principle, the government should consider implementing a carbon tax. Correct carbon pricing will send a right signal to markets and private investors which is pivotal in creating an enabling environment for private investment. Carbon trade provides opportunity and impetus for gainful establishment and maintenance of carbon sinks. To promote efforts to cut down carbon emissions, concessionary incentives reward adoption of technologies and processes that limit greenhouse gas emissions and

reduce carbon-miles should be considered. Developing and naturing strategic mechanisms that offer opportunity for carbon trade and incentives for reducing the carbon emissions will translate to sustainable socioeconomic gains.

International experience

More than 40 governments globally have implemented a form of carbon pricing, whether it be through direct taxation on fossil fuel producers or cap-and-trade programs[59]. European Countries have been the frontrunners in implementing CO_2 taxes that are now implemented throughout the world. The first CO_2 taxes were implemented at the beginning of the 1990s in the Nordic and other European countries. Particularly, Sweden, France, and Canada have made the greatest efforts to introduce carbon taxes and provide an interesting, albeit successful, contrast in their experiences over the past decade. From the 1990s through 2020, all three countries recorded a clear decoupling of CO_2. Additionally, from 2005 to date, the total primary energy and CO_2 emission for the three countries have decreased by 10% and 15% respectively.

On the regional front, South Africa recently introduced carbon taxes to achieve national CO_2 emissions reductions targets set for 2025. While South Africa's tax rate of R46/tCO_2e is considered extremely low under global standards, the government considers the move a good starting point and projects to increase the scope of taxable emissions going forward. Ethiopia has equally shown considerable interest in pursuing carbon taxes to help meet ambitious GHG mitigation commitments in its NDCs. However, the country is yet to concretize the ambition through a legislative framework.

[59] A government regulatory program designed to limit, or cap, the total level of emissions of certain chemicals, particularly carbon dioxide, as a result of industrial activity.

CHAPTER 4: GREEN POLICY ACTIONS

This chapter sets out a series of green fiscal policy actions of particular interest to the government of Kenya. In the coming months and years, the government will look to develop specific recommendations in these different areas, building on the international experience and current Kenyan context described in Chapter three (3), while recognizing the goals, objectives and principles described in Chapter two (2).

The actions described in this chapter are split into two sections. The first sets out the areas of focus for each of the individual sectors described in Chapter 3, while the second describes some key cross-cutting policy actions that can have an important impact in supporting Kenya's green development agenda in many different sectors.

4.1 Sector-specific fiscal actions

Specific green fiscal policies are required for specific sectors.
This section outlines policy actions in the 11 sectors identified in Chapter 3.

4.1.1 Disaster risk management

The national and county government will pursue the following actions to reduce the devastating impact of climate-related disasters in Kenya.

Flood control measures. To address the problem of perennial floods and related risks, the government will put in place measures to increase funding and strategically preventative resilience measures for flood control projects such as dikes, dams, catchment and riparian reserves.

Promote crop and livestock insurance. To cushion farmers from loss of crops and livestock, the government, in collaboration with insurance providers, will put in place measures to scale-up climate-oriented insurance programs. This will include a consideration of whether to provide additional subsidies to reduce the cost of insurance for farmers without discouraging appropriate risk-reduction behavior. It will also include options for the design of innovative weather-based insurance products. The government will also consider options for increasing awareness, education and training around the role and value of crop and livestock insurance, especially in the provision of agricultural extension services at the county level.

Disaster risk financing. To ensure that it has sufficient funds to respond to inevitable disasters, the government will promote the use of innovative disaster risk-financing instruments like catastrophe (CAT) bonds, risk pools and contingency bonds as well as sovereign and subnational level disaster management funds. This will be complemented by the Kenya Sovereign Green Bond

Framework, which provides a clear set of protocols for identifying the responsibilities of different stakeholders in relation to the use of such financing in the event of a disaster.

Climate information services. To enhance climate information services, the national and county governments will increase funding for meteorological services and Early Warning Systems (EWS) and climate information systems including dissemination of weather information, and provision of tax incentives for early warning equipment.

Compensation fund for climate impacts. To cushion the vulnerable and marginalized communities from the extreme weather and climate-related events, the government will increase funding for resilience building and safety net programs.

4.1.2 Water and the blue economy

To both reduce the risks that climate change poses to the country's water resources and to exploit its huge blue economy potential, the national and county governments will undertake the following actions.

Enhance water harvesting and storage. To address water shortages, the national and county governments will implement fiscal measures to enhance acquisition, affordability and access of equipment used for water harvesting and storage including roof catchment, water storage tanks, ensure strict quality controls on water storage tanks, construction of underground tanks, dikes and gabions in flood-prone areas.

Promote water use efficiency. To ensure sustainable use of the available water resources, the national and county governments will institute fiscal measures for innovations and equipment that promote water saving, efficient use, and industrial waste water recycling and treatment. The governments will also explore the current system of water charging, with the intention of developing a set of water tariffs that provide the right incentives for water use efficiency.

Elimination of invasive species. The national and county governments will support research technology and innovations in the sustainable management of invasive species such as water hyacinth

Promote sustainable fishing and restoration of coastal and freshwater ecosystems. To address the challenge caused by uncontrolled and unsustainable fishing, the government will impose tax measures on large-scale fishing companies and trawlers. Additionally, the government will introduce fishing quotas to establish quantitative upper limits for fishing catches with quota rights either being non-tradable or tradable. In addition, along the, the government will put in place fiscal measures for restoration of shallow coastal water ecosystems, such as mangroves, tidal marshes and sea grass beds to. Second, the government will promote sustainable fishing along the Kenyan

coast by. Quotas would establish quantitative upper limits for fishing catches with quota rights either being non-tradable (as is the case in Namibia) or tradable (as is the case in Iceland). Quota policies would be budget-neutral if distributed for free, or a source of government revenue if auctioned. Similar measure will be instituted on the fresh water lakes such as Victoria, Naivasha, L. Baringo, L. Turkana, among others.

Restore degraded deltas and wetlands. Wetlands are essential life-support systems and play a vital role in controlling water cycles. However, a growing population, together with the need for increased agricultural production, has led to substantial pressure on the deltas and wetlands. In view of this the government will develop fiscal instruments such as PES to promote private sector participation in the restoration of degraded deltas and wetlands.

Protect riparian land in arid and semi-arid areas

In order to promote sand storage dams and water pans for livestock and small-scale cultivation, the government will provide an enabling environment through incentives towards these adaptation programs.

Provide green shore power as a viable alternative to contribute to emissions reductions at Kenya's seaports.

In order to promote investment in cold ironing as an alternative marine power to cover the energy demands of ships calling at the ports, the government will consider providing incentives to investors in green shore power supply

Provision of appropriate reception facilities for the control of emissions from ships

To control GHG emissions from the anticipated increase in the number of vessels coming to Kenya due to the expansion of the Port of Mombasa and the construction of the Lamu Port, the government will promote the establishment of vessel reception facilities that will ensure ozone depleting substances and vessel equipment containing such are handled and disposed appropriately.

Promote investments into low carbon ship bunkering infrastructure

4.1.3 Health and sanitation

Recognizing the threats that climate change and other environmental risks are posing to the health of Kenyans the government will undertake the following actions.

Combat increased incidence of malaria and other vector borne diseases. Climate change has resulted in an increase in the number of cases of malaria. The national and county governments will provide funding for research and innovation to control mosquitoes in an environmentally friendly manner, to help combat the increased malaria incidence.

Handling & disposal of hazardous & toxic waste. Hazardous waste poses a threat to both human health and the environment when handled improperly.[60] The national government, working with county governments, will put in place and/or implement more financially punitive measures for improper handling of hazardous materials such as mercury, cyanide and lead.

Promote energy efficiency in health facilities. Energy is a prerequisite to quality healthcare, given that most life-saving medical equipment requires power to operate. Having energy-efficient medical equipment will help improve access and availability of quality and affordable healthcare. The government will provide fiscal incentives for the importation of energy-efficient medical equipment. Additionally, the national and county governments will support in the installation of renewable energy standalone mini off-grid systems in health facilities.

Promote use of organic pesticides. The excessive use of inorganic/harmful pesticides poses a threat to human health and the environment, especially with prolonged use and exposure. In addition, using such pesticides contributes to an increase in acute respiratory infections from the resulting air pollution. Promoting the use of environmentally friendly bio-degradable pesticides will help reduce the effects of inorganic/harmful pesticides. The national and county governments will therefore provide fiscal incentives to promote production, preferential procurement and use of organic pesticides such as pyrethrum based (pyrethrin).

Support surveillance of climate-related health risks. The effects of climate change will lead to increased emergence and re-emergence of disease outbreaks such as Malaria, Rift Valley Fever and the East Coast Fever. In response, the national and county governments will provide financial support by allocating funds to the surveillance of climate-related health risks.

4.1.4 Agriculture, Food, and Nutrition Security

The agriculture sector is both exceptionally sensitive to climate change, which in turn threatens the food security of Kenya's vulnerable population, and a significant source of GHG emissions. It is also a source of, and is exposed to, a range of further environmental risks. The government will therefore explore a range of fiscal policy response measures, as follows:

Water-saving irrigation systems and strategies. Overreliance on rain-fed agriculture and outdated non-water-saving irrigation technologies hampers adaptability to climate change for farmers. The Government will support innovations in the development of water harvesting and irrigation infrastructure including drip irrigation systems and strategies like deficit irrigation[61] and

[60] Hazardous substances or waste are defined as substances or waste that pose a threat or cause harm to the environment and/or human health.

[61] Deficit irrigation is an optimization strategy in which irrigation is applied during the drought-sensitive growth stages of a crop. Outside these periods, irrigation is limited or even unnecessary if rainfall provides a minimum supply of water.

partial root zone drying[62] are technologies with potential for saving water which will be beneficial compared with the sprinkler irrigation system currently used by farmers. The government will therefore provide incentives to promote technologies for water-efficient irrigation systems

Reduction of post-harvest losses:
A lack of adequate storage of agricultural produce and poor post-harvest practices translate into low commodity prices, poor access to credit, and an inefficient agricultural value chain for small-scale farmers in Kenya. The result is to exacerbate food insecurity and increase the hunger risks posed by climate change.

To reduce post-harvest losses, the government will promote agro-processing and provide incentives that are aimed at increasing adoption of post-harvest storage technologies and equipment such cooling plants, on-farm storage technologies such as hermetic bags.

Green technology in crop production. The full potential of arable land productivity in Kenya has not yet been realized. Moreover, it is rare across Kenya to apply and utilize green technologies and strategies to promote sustainable productivity, even though these measures would improve food security. The government will incentivize the use of green technology and applying sustainable strategies in agricultural production. In particular, the policy will promote through fiscal policy interventions the use of ***integrated crop management technology, organic farming and the use of low carbon emission equipment for cultivation***.[63]

Livestock production. The government will explore opportunities and fiscal incentives to promote the adoption of improved adaptive and resilience technologies to increase livestock production and productivity by 2030. Additionally, the PES, discussed in section 4.25, will also have a strong impact on the land-use decisions and practices of farmers across the country.

Cooperative development and climate smart agricultural practices. Kenya faces ever growing fluctuations in climate and food prices which directly affect households' food acquisition and allocation. This raises food safety concerns. Additionally, population growth puts increasing pressure on land that is available for cultivation, thus exacerbating food insecurity in the country. In particular, population pressure has led to arable land fragmentation which translates into inefficient allocation of resources (labor and capital) leading to increased cost of production, and unsustainable farming.[64] To support advancements including land consolidation and mechanization and, hence, promote large-scale crop, livestock and fisheries production and value

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[62] Casa, R. and Rouphael, Y. (2014). Effects of partial root-zone drying irrigation on yield, fruit quality, and water-use efficiency in processing tomato. *The Journal of Horticultural Science and Biotechnology*, 89(4), 389-396.
[63] Deere & Company. (2017). Incentivizing sustainability in Agriculture. Press release. Retrieved 18th February 2021 from https://digital.hbs.edu/platform-rctom/submission/a-deere-world-incentivizing-sustainability-in-agriculture/
[64] Giertz, A., Caballero, J., Galperin, D., Makoka, D., Olson, J., and German, G. (2015). Kenya Agricultural Sector Risk Assessment.

addition, this policy will incentivize cooperative development and prudential management through provision of performance based cooperative grants and concessional loans.

Degraded land rehabilitation

The government will also explore and introduce the opportunities for government programs to protect and rehabilitate degraded lands such as degraded landscape restoration deal scheme (DELARES), so that they can be used for sustainable agriculture. A similar program in South Africa was designed to tackle the proliferation of invasive alien plants, which crowd out native species, overwhelm ecosystems, impede agriculture, and exacerbate drought. Since its introduction, the program has led to the clearing of such plants from over 3 million hectares of land, improved water quality and security, and the employment of over 300,000 people.

4.1.5 Forestry, wildlife and tourism

Forestry, wildlife and tourism is at the forefront of both Kenya's mitigation and adaptation efforts. The proposed fiscal actions for the forestry sector include the following:

Incentivize tree growing and management. The government will promote tree growing, management and protection of gazetted forests to increase forest cover to 10%. This would also restore and conserve water towers. The government recommends planting on both public and private land. Options include: a tree-growing guarantee scheme (T2GS), permitting the cost of seed preparation, certification, nursery registration and tree planting on public land to be an allowable expense for the purpose of tax computation; awarding tradable carbon credits for companies that invest in tree planting; creating incentives for commercial plantations which can be used as a sustainable source of raw materials in the future; awards and recognitions by government for firms that participate in tree planting; concessionary loans to support business operations for those that invest in tree planting; and government grants to growers. On the private land, the law requires that at least 10% of the land to be under tree cover. Diversified trees grown and managed on more than 10% of an individual land will be verified and compensated based on graduated scheme/scale i.e., the higher the percentage the higher the amount of carbon credit to be earned to a maximum of 50% of the owned land.

Ecological fiscal transfers (EFTs). The National Treasury and the Ministry of Environment and Forestry will work with the CRA to come up with an EFT parameter in the revenue sharing formula for allocating more resources to strengthen the capacity of the counties in preserving environmental and ecological functions. This EFT approach has been used in India and a range of other countries to provide sub-national administrations with a stronger incentive to preserve and/or restore forests.

Payment for ecosystem services (PES). The Government shall promote responsible for environment and ecosystem matters in collaboration with relevant sector ministries will fast track

the development of PES schemes to incentivize scaling up of conservation and restoration programs. In developing PES proposals schemes, the government will shall ensure that the schemes benefit sharing mechanism is inclusive, transparent and equitable for all actors including are designed to benefit the poorest households' communities engaged in conservation efforts. The proceeds of carbon pricing will be used to fund these schemes. This has been demonstrably successful in scaling up ecosystem conservation and restoration schemes in developing countries, especially in Latin America.

Integrate afforestation and reforestation into REDD+ and Carbon trading design. As part of the design proposals for a carbon tax scheme (discussed in section 4.1.2 above), the government will consider opportunities for companies to reduce their tax liability by purchasing offsets from forestry projects. This has the potential to extend a carbon price signal through more sectors of an economy and can help leverage the existing forestry project management capacity in the country. As discussed in the previous section, a range of other jurisdictions have integrated these opportunities within their carbon pricing schemes.

Concessions and Public Private Partnerships: The government will provide incentives and long-term concessions for promoting tree planting and growing on public and private lands; improve saw milling technologies, production of high-quality seedling and mass timber technologies.

Commercial Forestry: The government will provide incentives to spur for investments in commercial forestry and importation of sustainable timber.

4.1.6 Human settlements and infrastructure

The approach that Kenya takes to designing, constructing and using its buildings and infrastructure can make a substantial difference to its resilience to climate hazards and further support Kenya's NDCs ambitions. The fiscal policy and other measures that the government will pursue to ensure that these infrastructure and buildings support low-carbon, climate-resilient development are as follows.

Enhance the climate resilience of roads. Kenya's road network is vulnerable to climate change impacts such as floods due to structural imbalance between the natural ecosystem and the built-in infrastructure considerations. To climate proof the road network, the National Treasury will include climate-resilience criteria within Public Investment Management (PIM) Guidelines for funding infrastructure projects and enhance the incorporation of the concept of 'roads for water' in the design and construction of roads (see box below). The government will also provide

incentives that support the adoption of bioengineering[65] for road infrastructure through the private and public sector (county and national) collaboration.

Integrate the circular economy into infrastructure development

The use of recycled materials in Kenya's infrastructure remains low yet these materials present significant social economic benefits and opportunity to enhance sustainability and resilience of infrastructure. To realize the sustainable development benefits, the government will provide fiscal incentives in the use of recycled materials in infrastructure development.

Support the circular economy in construction. To encourage the use of recycled materials within the construction sector (see the example below of Australian state of Victoria), the government will provide incentives for building materials locally manufactured using more than 40% recycled content in their production. The government will also provide incentives to encourage the establishment of facilities for the collection for resale and re-use of construction waste and materials. The government will also impose fees or levies on contractors to fund construction waste disposal that does not meet prescribed procedures of re-use and re-sale.

Support green building development. The government will provide incentives to developers that meet the requirements for green buildings specifications/codes. These include the design, production, importation and sale of alternative green building and construction technologies and materials. This will also include solar passive architecture to improve aeration and lighting in buildings (Energy Management Regulation, 2012). In addition, the government will incentivize research and development, for innovative technologies on green buildings and sustainable.

Supporting Adoption of Water and Energy Efficient Infrastructure: The government will incentivize construction of water and energy efficient buildings. In addition, all the design of new public buildings will integrate water and energy efficient measures in their construction and functioning.

4.1.7 Renewable Energy

To promote Renewable energy production and deployment and increase consumer connectivity the government will:

Phase-out fossil-fuel-based thermal electricity. The government will provide fiscal incentives needed to lower the cost of renewable energy relative to fossil fuel intensive energy sources. This

[65] A subset of green infrastructure that uses vegetation to serve an engineering function. The most common uses of bioengineering include soil surface protection against erosion, soil stabilization, and improved drainage functions.

will therefore accelerate the development of green energy alternatives and technologies to allow the integration of all variable renewable energy power. (National Energy Policy, 2018).[66]

Accelerate geothermal development. The government will provide targeted incentives for private investment in geothermal electricity generation and other productive uses. The fiscal incentives envisage concessional funding and public support for early-stage investments in geothermal resource assessments, which will enable private investment where geothermal is most promising.

Expand off-grid electricity solutions. The government will incentivize off-grid renewable energy options to enable access in areas far from the national grid. Tax exemptions and credits will be considered.

Incentives for electricity connection. The government will provide consumer-level incentives to enable more households and MSMEs afford electricity connectivity through enhancing initiative such as the last mile connectivity.

Pursue an array of targeted clean cooking incentives. To scale up access to clean cooking solutions. The Government will: Continue to innovate RBF designs and applications for more targeted incentives to promote sustainable market development and advance access to clean cooking for all; Catalyze technology and business innovations by providing incentives to players across the clean cooking value chains; and link incentive payments with verified results at the output, outcome, and impact levels, thereby contributing to better health, gains in gender equality, environmental sustainability, and inclusive development. This could take the form of conditional or unconditional cash transfers or results-based grants that provide cash incentives to eligible households.

Continue to implement Feed-in-Tariff projects: These are projects below 20 MW capacity for all technologies except solar and wind. The latter are targeted to be procured through renewable energy auctions. The feed-in-tariff projects are incentivized by pre-set tariff and expedited procedures.

4.1.8 Clean cooking

The Government affirms clean cooking as an important and priority component of its development agenda. In light of this affirmation, and in response to various existing global and local commitments such as SDGs, SEforALL and the NDC, the GoK commits to accelerate actions in

[66] Government of Kenya (2018). National Energy Policy. Ministry of Energy. https://kplc.co.ke/img/full/BL4PdOqKtxFT_National%20Energy%20Policy%20October%20%202018.pdf

Clean cooking targeting to achieve Universal Access to Modern Energy Cooking Services by 2028.

To expand the clean cooking market and ensure clean cooking for all, partial subsidies and performance-based incentives are required to support affordability and pay for public benefits; explore fiscal instruments that catalyse and spur market innovations that can deliver affordable clean-cooking solutions at scale.

A range of incentives are desired to unlock and accelerate the transition to modern and clean cooking. The options that will be considered include:

Incentives for clean cooking fuels and technologies. The government will incentivize and encourage the production, access and use of clean cooking fuels and technologies. This will include targeted incentives across the clean cooking supply and demand value chains. The intervention measures will aim to enhance affordability, availability, safety, efficiency while reducing exposure to household air pollution. Examples of appropriate innovative approaches include "pay-as-you-go" or "pay-as-you-consume" models, and other innovative models such as the "Mwananchi gas" program and smart metering for LPG. These incentives will also support efficient biomass conversion technologies and reduction of upfront costs of clean cooking solutions.

Enabling Markets for clean cooking services: To ensure a sustainable and inclusive market system for clean cooking solutions, there is need to develop standards, establish stove testing infrastructure across the country to support voluntary labelling and certification system and regulations to incentivize local production of cooking products and curb the proliferation of counterfeit imported products.

Investment in R&D of renewable energy: The Government will support investment in Research, Development and innovation on renewable energy as a means to close inherent information gaps and embrace informed policy and decision making. This will also include incentive options for private sector to conduct R&D.

Integration of cooking into national electrification programs: To support the mainstreaming of electric cooking, it is imperative that cooking is embedded into electrification programs to leverage from successes in both on and off-grid electrification. Towards this end, fiscal incentives could be considered to promote the uptake of electric cooking. These would include duty exemptions and VAT zero-rating for energy-efficient e-Cooking appliances (such as electric pressure cookers) and establishment of dedicated e-Cooking tariffs.

4.1.9 Manufacturing

The policy seeks to incentivize greening of industries and investments in manufacturing and production of green products to reduce the emissions intensity of the manufacturing sector. Incentives will be provided to manufacturers to undertake the product ***Life Cycle Assessment (LCA) Impact Report*** to access green financing. In addition, the following fiscal incentives will be considered:

Promote efficient management of production systems. The government will provide fiscal incentives to the private sector for innovative production, acquisition and use of efficient machinery to optimize the use of energy, materials and reduce waste.

Develop eco-labelling schemes. An eco-label identifies products or services that meets prescribed environmental criteria. The government will prioritize procurement of products and services that are eco-labeled.

4.1.10 Transport

The Kenya government aims to use fiscal policy to promote sustainable transportation, both public and private. The following are fiscal incentives to green the transportation sector.

Promote mass rapid transit: The government will develop a national transitional plan to e-mobility as well as other green transport systems. This will include shifting public expenditure in the transport sector toward sustainable mass rapid transport infrastructure. This will contribute to reducing emissions from the sector as well as reducing congestion and inefficiency in the public transport system. This will be complemented with efforts to ensure that it is well-understood by the lead implementors and the general public.

Incentives for electric vehicles. The government will provide incentives for import, manufacture and assembly of electric and hybrid motor vehicles, electric motorcycles, spare parts and EV batteries. This will be necessary to support the transition toward low-emission and clean transport systems. Options include tax incentives for electric vehicles, and the operationalization of a feebate system. The Government will shift to procurement of electric vehicles over the medium term.

Expansion of e-mobility infrastructure. The government will put in place fiscal measures to develop and expand infrastructure across the country to support e-mobility and non-motorized transport.

Congestion charging. The government will explore development of a congestion charging scheme in the cities.

Development of alternative transport fuels. Incentivize production of alternative transport fuel sources such as bio fuels (biogas, bioethanol, bioLPG, biodiesel) and green hydrogen.

4.1.11 Waste management

The government's actions in greening waste management value chain will be consistent with the Sustainable Waste Management Policy of 2021 and Sustainable Waste Management Policy Act, 2022. The government will provide the following fiscal actions:

Development of Material Recovery Facilities (MRF). Provide incentives for waste recovery facilities, circular economy, incentivize sanitary landfills and disincentivize dumpsites

Incentives for private sector engagement in waste management. The government will provide incentives to promote private sector involvement in the waste management sector, including tax incentives, removal of investment barriers, creation of a conducive investment climate, and incentivize access to finance.

Encouraging circular business models. The government is keen in providing a range of incentives to promote circular business models. These include incentivizing adoption of EPR regulations, encourage recycling, offering preferential use of recovered materials over virgin materials, and promote the procurement and use of recycled goods. Support innovative waste to energy technologies

4.2 Enhanced green financial intermediation actions:

4.2.1 Green investment bank

The government will develop a green investment bank that will provide a range of funding instruments and associated incentives to support the public and private sector in overcoming barriers to making green investments at scale. The institution will help address the perception and/or reality that the capital costs and risks of green investments are too high, and the returns too low. It would provide a range of financial instruments which could potentially include ***credit guarantees, risk-reduction facilities, debt equity and blended finance***. It could also offer support and expertise to financing recipients and provide incentives to develop innovative financial instruments such as green bonds, blue bonds, resilience bonds and transactions using carbon credits.

The government will consult closely on the institutional design of a green investment bank. Considerations include which sectors it might focus on, the extent to which it might provide concessional versus market-priced capital, the products it might provide, and its appropriate institutional home and governance arrangements. The government currently expects that the new

institution will be given a clear mandate to support climate change mitigation and adaptation and green growth, but it will be important to ensure coherence with existing and planned funding institutions in Kenya.

The government recognizes the importance of developing robust governance and accountability mechanisms, and appropriate staffing structures, if the institution is to be successful in gaining the confidence of the private sector and leveraging significant new capital flows. Throughout, we will look to build on the growing international experience of green investment banks observed across the world, and the critical factors supporting their success.

There is a range of other complementary fiscal actions that the government intends to explore to promote green investments.

To direct investment to products and projects that have positive environmental impact, the government will set up the Green Investment Register (GIR). The GIR will be a database of green investments (building from a recent report, The landscape of Climate Finance in Kenya on the road to Implementing Kenya's updated NDC, 2021[67]), comprising national priority projects in the green sector, flagship green projects and green public–private partnerships. Establishing this database, and the information management system enabling investors to access it and intensive resources mobilization, could potentially be early activities taken forward by Kenya Green Investment Bank (KeGIB).

The government will promote green public procurement at national and county government level by developing guidelines to include environmental parameters in procurement.

The government will reform and increase financial support of research and development in the innovation and production of green technologies. Public funds that support green research, such as NRF, NETFUND, and the National Climate Change Fund (NCCF), will be capitalized and expanded to support innovation and local production/assembly of green technologies, ensuring complementarity between these initiatives and KeGIB. Particular attention will be paid to research on and development of battery energy storage, energy optimization technologies, grid infrastructure, light electric train, electric vehicles, tree growing and management, water harvesting schemes, small to medium irrigation systems, green buildings, payment for ecosystem, credit guarantees based on investors nature capital potential, demonstration projects and field trials, and the expansion of charging infrastructure.

The government will work with industry leaders to identify green innovation and technology needs and review the research policies and strategies in order to align them with prioritized green

[67] CPI (2021) The Landscape of Climate Finance in Kenya. Available at: https://www.climatepolicyinitiative.org/publication/the-landscape-of-climate-finance-in-kenya/

research gaps and needs. The objective is to link companies and research institutions and deepen existing linkages and cooperation on projects.

The government will implement regulatory 'sandboxes' for innovators to cushion them during the early development phase. Such sandboxes can allow green technology firms to test innovative products, services or business models in a live market environment, while ensuring that suitable protections are in place.

The government will develop and provide financial and technical support to green innovation and incubation hubs for innovators and nascent green technologies.

The government will establish and finance Green Special Economic Zone in all the 47 counties through KeGIB.

4.2.2 Carbon tax

Recognizing the ability of carbon taxes to both cost efficiently reduce GHG emissions and also to provide a revenue stream that can be used to meet broader government objectives, the government will explore the viability and design of a carbon tax in Kenya.

CHAPTER 5: IMPLEMENTATION, GOVERNANCE AND INSTITUTIONAL ARRANGEMENTS

As the implementation of the green fiscal incentive policy takes effect, it is essential to establish a robust monitoring, evaluation, and learning framework. This framework will enable the policy's impact to be closely monitored, and its effectiveness periodically evaluated to draw essential lessons that will enhance its efficacy over time. The evolving market context requires a flexible and adaptable approach to governance and institutional arrangements, and the policy's success will depend on the ability to respond to changes and emerging challenges. The matrix below provides an overview of the policy's implementation process.

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
Cross-cutting	Green investment bank	• Design, develop and institute a green investment bank • Develop credit guarantee instruments and schemes to enhance access to finance by green investments • Develop financing mechanisms/instruments to support access to concessional credit lines for green investments • Consult on priority sectors for green investments • Develop a green register and information system of prioritized national green investments portfolio (legibility list)	• Amount (KES) mobilized and lent via green investment bank • GHG reductions attributable to green investment bank investments • Percentage increase in green investments • Number of resilient infrastructures • Number of beneficiaries accessing the investment • Capitalization levels	• NT • MOTI • MOEF	•	•
	Carbon tax	• Design and legislate for carbon tax in government budget • Decide carbon tax rate, coverage, and how to allocate revenues	• Revenues raised through carbon tax • GHG reductions achieved through carbon tax	• NT • MOEF	•	•

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
		raised and competitiveness provisions • Complete institutional architecture for monitoring and compliance				
Disaster Risk Management	Water and flood control measures	• Fund flood control projects in relevant counties	• Number of flood control projects implemented	• WWDA	•	•
	Promote of crop and livestock insurance	• Develop insurance products to augment existing crop and livestock insurance	• Number of insurance products available to farmers • Adoption rate of insurance by farmers	• IRA • NT • NDMA	•	•
	Disaster risk financing	• Include financing instruments in relevant guidelines for companies operating in relevant sectors	• Disaster risk financing instruments available to Kenyan businesses	• NT • DPs • Private sector	•	•
	Climate information services	• Allocate additional funding for climate information services	• National coverage for EWS and other systems	• MET • MEF	•	•
	Compensation fund for climate impacts	• Establish a compensation fund to provide funding to victims of climate impacts	• Budget allocated to fund • Percentage of vulnerable people with access to medical, livestock and weather-based index insurance • Percentage of vulnerable beneficiaries covered	• NDMA • Counties	• FY 22/ 23	•
	Support community-based weather monitoring for indigenous people	• Provide meteorological information services at the county level • Conduct farmer training on the use of meteorological information to plan their farming activities	• Number of established meteorological monitoring systems • Number of farmers trained	• MOALFC • MET	• FY 22/ 23	•

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
Water and the Blue Economy	Enhance water harvesting, storage and flood mitigation	• Implement fiscal measures to reduce acquisition/installation cost of equipment used for water harvesting, storage and flood-mitigation infrastructure	• Amount of new equipment sold to farmers and agricultural companies	• NWHSA • MOWSI • NT	•	•
	Promote water efficiency	• Institute fiscal measures for innovations and equipment that promote efficient use of water	• Sales of water-use efficient equipment	• MOWSI • MOTI	•	•
	Elimination of invasive species	• Develop fiscal policies to encourage research and innovations on the utilization of invasive species (such as hyacinth and mathenge weed) as raw materials	• Amount of grants commissioned for relevant research	• MEF, • MOTI • KIRDI	•	•
	Promote sustainable fishing and restoration of coastal ecosystems	• Impose tax measures on large-scale fishing companies and trawlers to promote sustainable fishing • Implement appropriate fiscal policies for the restoration of shallow coastal water ecosystems, such as mangroves, tidal marshes and sea grass beds	• Fish stock levels • Mangrove, tidal marsh and sea grass area and carbon sequestration	• State Dept for Fisheries • KFS • NT	•	•
	Restoration of degraded wetlands	• Develop fiscal instruments to encourage private sector participation in the restoration of degraded wetlands	• Number of private companies engaged in wetlands restoration	• MEF • NEMA • MOWSI	•	•
Health and Sanitation	Combat increased incidence of Malaria	• Research grants availed for bio-control of mosquitoes	• Research reports identifying methods and techniques for bio-control of mosquitoes	• MOH • KEMRI	21/22–26/27	TBD

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
	Discourage improper handling of hazardous waste	• Promote proper methods of waste disposal • Impose higher financial penalties for improper disposal of hazardous waste	• Increase in number of institutions adopting proper waste management • Increased collections per defaulter for improper handling of hazardous materials	• NEMA • MEF • KEBS	• 21/22–26/27	• TBD
	Promote energy efficiency in health facilities	• Tax exemption for importation of energy-efficient medical equipment	• Amount of imported energy-efficient medical equipment	• NEMA, • MOH • KEBS	21/22–26/27	TBD
	Promote use of plant-based pesticides	• Grants for research organic pesticides • Incentives for production of organic pesticides	• Increased local production of organic pesticides and reduced production of inorganic pesticides • Growing annual proportion of market share using organic pesticides and reduced proportion using inorganic pesticides	• KEBS • PBK • MOALFC	21/22–26/27	TBD
	Support surveillance of climate-related health risks	• Increased allocation for surveillance infrastructure capacity	• Studies completed documenting results of surveillance of climate-related health risks • Public investments in surveillance infrastructure	• MOH • KEMRI	21/22–26/27	TBD
Food, Agriculture and Nutrition security	Water-saving irrigation systems and strategies	• Conduct county extension training for farmers on drip irrigation systems and strategies including deficit irrigation and partial root drying	• Number of county governments that adopt the agricultural training under their extension activities	• MOWSI	FY 2022/2023	TBD

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
	Green technology in crop production	• Incentivize the use of green technology in agricultural production – electric trucks, integrated crop management technology, organic farming	• Number of county governments that adopt the agricultural training under their extension activities • Sales of electric tractors	• NT • MOALFC	FY 2022/2024	TBD
	Cooperative development for sustainable agriculture	• Incentivize cooperative development that supports strategies including land consolidation and mechanization and, hence, promotes large-scale crop production and value addition	• Number of farmers trained in sustainable agriculture • Acres of land consolidated under cooperatives	• NT • MOALFC	FY 2022/2024	TBD
	Land rehabilitation	• Explore government programs to protect and rehabilitate degraded lands	• Acres of land rehabilitated	• MOEF, MOALFC	•	•
	Livestock production	• Explore policies and fiscal incentives to promote adaptive technologies	• Agricultural productivity (production per acre of pasture)	• MOALFC	•	•
Forests, Wildlife and Tourism	Promote tree planting	• Consider options for promoting tree planting on public and private lands, to reach 10% of land covered by forest	• Forest cover percentage of total land	• MOEF	•	•
	Reduce pressure on forests	• Promote investments in sustainable bioenergy and clean cooking fuels	• Market share of bioenergy as cooking and heating fuel	• MOEF	•	•
	Ecological fiscal transfers	• Explore EFTs as part of funding strategy for county governments	• Change in deforestation rate by county	• MOEF • NT	•	•

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
	Payment for ecosystem services	• Investigate development of PES program for Kenya	• Percentage of forested land restored or under formal protection	• MOEF • NT	•	•
	Integrate afforestation and reforestation into carbon tax design	• Evaluate inclusion of afforestation or reforestation projects in national carbon tax (see above)	• GHGs reduced through carbon offset projects used to meet carbon tax liability	• MOEF • NT	•	•
	Further support ecotourism	• Review ecotourism policies for new incentives to further promote ecotourism	• Tourists surveyed as visiting Kenya for ecotourism	• MTW	•	•
Human Settlements and Infrastructure	Enhance the climate resilience of roads	• Amend the roads design to include 'roads for water' concept • Sensitization of road contractors to new construction approaches	• Amended roads design to include for 'roads for water' concept • Percentage of road contractors adopting resilient construction and maintenance methods	• NT • State Departments for Infrastructure	FY 2022/2023	TBD
	Integrate the circular economy into infrastructure development	• Provide tax incentives for building materials locally manufactured using more than 50% recycled content in their production	• Use of recycled content in new building construction	• NT • State Departments for Infrastructure	FY 2022/2023	TBD
	Support the circular economy in construction	• Inclusion of climate-resilience criteria in Public Investment guidelines for funding infrastructure projects	• Climate-resilience criteria established in the Public Investment guidelines and rate of adoption by infrastructure developers	• NT and implementing agencies	FY 2021/2022	0
	Support green building development	• Provide incentives to meet green buildings specifications and code • Develop tax incentives to facilitate solar passive structures	• Budgetary allocation toward green building incentives • Percentage of new building developments consistent with green specifications and code	• NT • KRA • East African Community	•	•

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
		• Fiscal incentives to encourage setting construction waste/ materials re-use facilities • Incentives for importation/ local manufacture and sale of water-saving devices				
Electricity	Phase out fossil-based thermal energy.	• Ministry of Energy to identify thermal power plants that require phase-out • Negotiate with independent power poviders for a mutual plan for phase-out • Accelerate development of green power generation options • Accelerate the process of hybridization of the existing isolated power stations with solar/wind	• Number of power plants with agreed timelines for phase-out	• MOE • MOITE • NT • County governments	•	•
	Support geothermal development	• Provide concessional funding or public support to pre-investment geothermal resource assessments	• Funds mobilized/ allocated for geothermal developments	• MOE • MOITE • NT		
	Expand off-grid electricity solutions	• Consider tax exemptions and credits for off-grid renewable energy installations	• Off-grid renewable energy installed and connected capacity	• MOE • MOITE • NT		
	Incentives for electricity connection	• Design consumer-level incentives that promote electricity connectivity	• Number of households connected to electricity grid	• MOE • NT		

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
Clean Cooking	Incentives for clean cooking fuels and technologies	• Consider tax exemptions or waivers for companies producing clean cooking technologies	• Clean cooking technologies as a percentage of household cooking fuel use	• NT		
	Enhance public awareness	• Build consumer awareness campaign about benefits of clean cooking technologies	• Consumer adoption of clean cooking technologies	• MOE		
	Harness innovative financial models	• Design pay-as-you-go or pay-as-you-consume models for clean cooking appliances	• Sales of clean cooking appliances using innovative financing	• NT • MOE		
Manufacturing	Promote efficient management production systems	• Promote private sector use of energy-efficient machinery	• Adoption of energy-efficient machinery models	• MOITE		
	Develop eco-labelling schemes	• Develop green standards and eco-labelling for products and services	• Green standards developed and implemented	• KEBS		
	Develop Eco-Industrial Parks (EIPs) or green zones	• Provide fiscal incentives to promote EIPs	• Designated zones for EIPs or green zones	MITI		
	Develop a national green manufacturing strategy	• Develop a policy to green Kenyan industries	• Green industrial policy developed	MITI		
	Green Public Procurement	• Integrate green procurement into procurement laws	• Integration of green procurement into existing law on procurement	National Treasury		
Transport	Promote electric mass transit	• Shift public expenditure toward electric mass transit	• Government investment in electric public transportation	• MOT		
	Incentives for electric vehicles	• Provide incentives for the import, manufacture and assembly of electric and hybrid motor	• Electric vehicle sales • Manufacturing capacity within electric vehicle supply chain	• MOT • NT		

GREEN FISCAL ACTIONS TO REDUCE EMISSIONS						
Policy Area/Sector	**Policy (Fiscal) Action**	**Policy (Fiscal) Activities**	**Key Performance Indicator**	**Lead Actors (see table legend)**	**Time Frame**	**Cost**
		vehicles, motorcycles and their spare parts				
	Support for charging infrastructure	• Offer incentives for electric vehicle and e-mobility infrastructure	• Number of electric vehicle chargers installed	• MOT • NT		
	Congestion charging	• Explore congestion charging in major cities	• Congestion charging schemes adopted • Changes in traffic following implementation of congestion charge	• NT • City governments		
	Transport fuel taxation	• Consider changes in transport fuel tax rate, particularly in combination with carbon tax	• Fuel-use changes compared to growth in vehicle miles traveled	• NT • MOT		
Waste management	Develop a comprehensive financing strategy	• Establish a waste management fund mechanism to incentivize sustainable approaches as part of a broader finance strategy	• Funds distributed to sustainable waste management companies	• MOEF • NT		
	Incentives for private sector engagement in waste management	• Explore incentives to encourage private sector firms into waste management sector	• Number of private firms operating in waste management and meeting sustainability criteria	• MOEF • NT		
	Effluent fee charges	• Consider effluent fees to promote greener waste management	• Revenue raised through effluent charges	• MOEF • NT		
	Encouraging circular business models	• Explore circular business model incentives	• Rate of recycling among Kenyan households and businesses	• MOEF • NT		

GLOSSARY

BAU	Business As Usual
BOD	Biological Oxygen Demand
Cat DDO	Catastrophe Deferred Draw Down Option
CEEC	Center for Energy Efficiency and Conservation
CIDPs	County Integrated Development Plans
CO_2	Carbon Dioxide
CSA	Climate Smart Agriculture
DP	Development partner
EFTs	Ecological Fiscal Transfers
FDI	Foreign Direct Investment
FLLoCA	Financing Locally-led Climate Action
GDP	Gross Domestic Product
GHG	Green House Gas
HAP	Household Air Pollution
HSNP	Hunger Safety Net Program
IFC	International Finance Corporation
IRA	Insurance Regulatory Authority
KAIRMP	Kenya Agriculture and Crop Insurance Management Program
KAM	Kenya Association of Manufacturers
KEBS	Kenya Bureau of Standards
KEGIB	Kenya Green Investment Bank
KEMRI	Kenya Medical Research Institute
KENIA	Kenya National Innovation Agency
KES	Kenya Shillings
KESP	Kenya Environmental Sanitation and Hygiene Policy
KFS	Kenya Fisheries Service
KIPPRA	Kenya Institute of Public Policy Research and Analysis
KIRDI	Kenya Industrial Research and Development Institute
KLIP	Kenya Livestock Insurance Program
KRA	Kenya Revenue Authority
LPG	Liquified Petroleum Gas
LULUCF	land-use change and forestry
ME	Ministry of Energy
MET	Kenya Meteorological Department
MIP-	Incentives Program for the Improvement of Municipal Management
MoALFC	Ministry of Agriculture, Livestock, Fisheries and Cooperatives
MoEF	Ministry of Environment and Forestry

MoH	Ministry of Health
MoITE	Ministry of Industrialization, Trade and Enterprise
MoT	Ministry of Transport
MoTI	Ministry of Trade and Industry
MoWSI	Ministry of Water, Sanitation and Irrigation
MTPs	Medium Term Plans
MTW	Ministry of Tourism and Wildlife
NACOSTI	National Commission for Science, Technology and Innovation
NAMA	National Appropriate Mitigation Action
NCCAPs	National Climate Change Action Plans
NDC	Nationally Determined Contributions
NDMA	National Drought Management Authority
NEMA	National Environment Management Authority
NEMA	National Environment Management Authority
NRF	National Research Fund
NT	National Treasury
NWHSA	National Water Harvesting and Storage Authority
PBK	Pyrethrum Board of Kenya
PET	polyethylene terephthalate
PIM	Public Investment Management.
R&D	Research and Development
SDG	Sustainable Development Goals
T2GS	Tree Growing Guarantee Scheme
TACs	Total Allowable Catches
TSOF	Three Stone Open Fire
TSS	Total suspended Solids
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Organization
USA	United States of America
USD	United States Dollar
VAT	Value Added Tax
VoCA	Voluntary Conservation Agreements
WFW	Working for Water
WHO	World Health Organization
WWDA	Water Works Development Agency