

Policy instruments for an Inclusive Green Economy

Experiences from the East African region on policy instruments to reduce the use of fossil fuels, plastic pollution, and forest loss



Inclusive Green Economy in Practice



UNIVERSITY OF
GOTHENBURG

“We may have thought that green growth is not for us in early development countries, but it is! It needs to be country-specific and there has to be a political will for implementation.”

Dr. Claudine Uwera, Minister of State in Charge of Economic Planning in the Ministry of Finance and Economic Planning in Rwanda.



Inclusive Green Economy in Practice

The Inclusive Green Economy in Practice Program is a capacity development program for civil servants in East Africa on economic policy instruments for achieving a just green transition. It bridges the gap between research and policy to get evidence-based practices.

The program is financed by the Swedish International Development Cooperation Agency (Sida) and is implemented by the University of Gothenburg via the Gothenburg Center for Sustainable Development (GMV) and the Environment for Development (EfD) in collaboration with EfD centers and partners in the following five East African countries: Ethiopia, Kenya, Rwanda, Tanzania, and Uganda.

Read more about the program here:

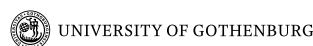
<https://gu.se/en/inclusive-green-economy-in-practice>



Please cite this report as: Environment for Development (2023). Policy instruments for an Inclusive Green Economy. Experiences from the East African region on policy instruments to reduce the use of fossil fuels, plastic pollution, and forest loss. Environment for Development: Gothenburg. ISBN 978-91-987472-8-7.



**GOTHENBURG CENTRE FOR
SUSTAINABLE DEVELOPMENT (GMV)**



SWEDISH INTERNATIONAL
DEVELOPMENT COOPERATION AGENCY

Table of contents

Introduction	4
Strategies for an Inclusive Green Economy in East Africa – a brief overview	8
Fossil fuels – how to promote alternative energy sources?	10
Plastic pollution – is a plastic bag ban enough?	18
Forest loss – what is needed to reduce deforestation?	24
References	32



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD



UNIVERSITY OF NAIROBI



MAKERERE UNIVERSITY



MIMCOFIH



የፖሊሲ ጥናት ኢንስቲትዩት
POLICY STUDIES INSTITUTE



DEAKIMA NTCHURU



Participants at Peer Learning IGE workshop in Rwanda November 2022
Photo: EFD/Anders Ekblom

Introduction

High and sustained economic growth is an important policy objective in East African countries to meet the aspirations of the young and rapidly growing populations. However, if not managed well, economic growth can come at a high price in terms of pollution, loss of environmental resources, and unequal impacts on human health. This report reflects on experiences in East Africa in addressing three key environmental and social challenges: the use of fossil fuels, plastic pollution and deforestation.



Through implementing different policy instruments, such as bans, taxes, fees, and information, governments have made attempts to tackle these challenges. But to reverse negative trends and make economic development greener and more socially inclusive much more will need to be done.

To gain further knowledge on what works and what doesn't, civil servants

and academics from Ethiopia, Kenya, Rwanda, Tanzania, and Uganda, in the *Inclusive Green Economy in Practice Program*, met in a three-day *Peer Learning Review Workshop* in Rwanda on November 22-24 2022., Before the workshop, the participants from academia and government ministries and agencies from each country had jointly developed National Green Economy Policy Reviews¹. These reviews are co-cre-

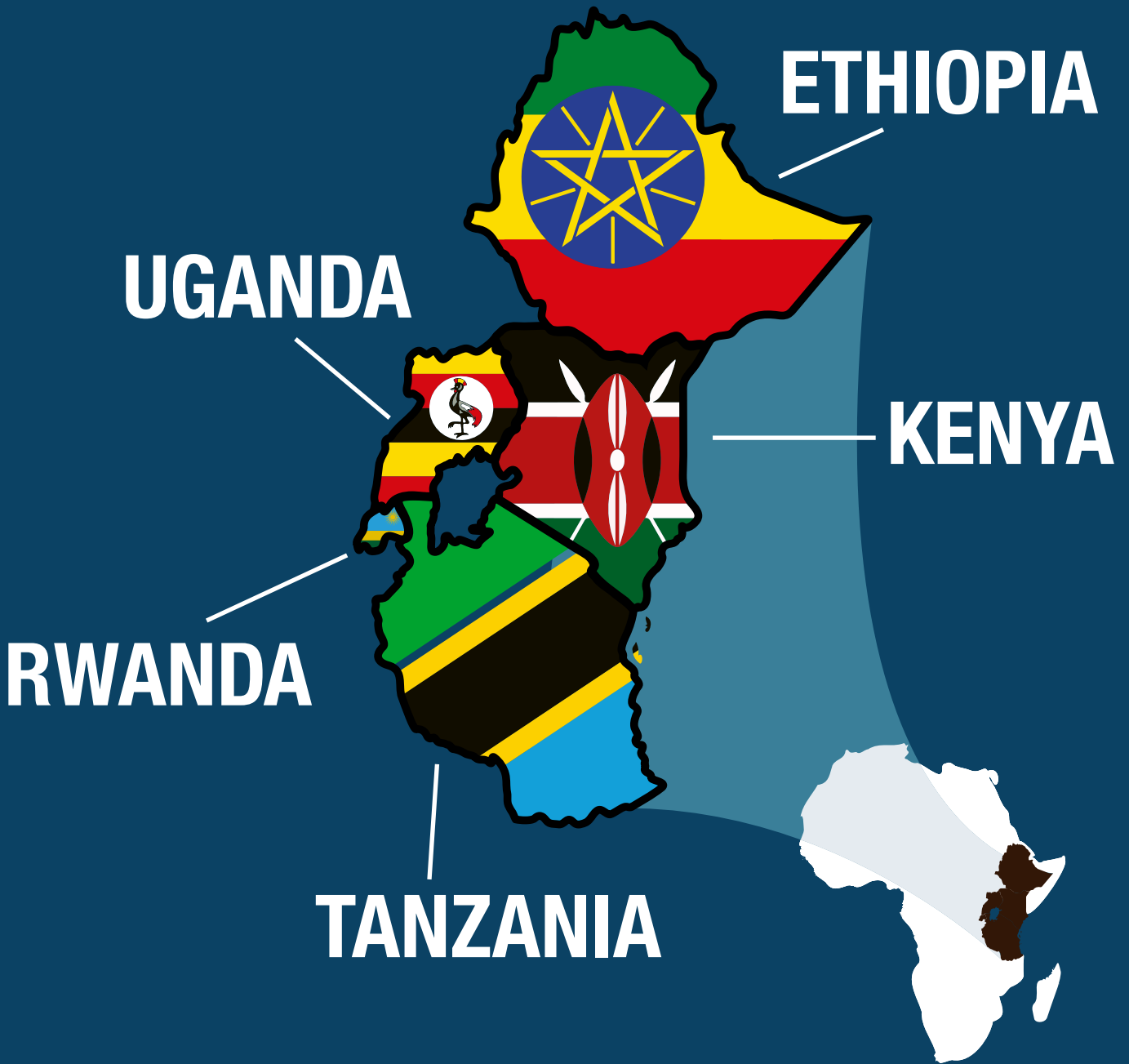
ated learning materials on current strategies, policies, and policy instruments for an inclusive green economy. Besides reflecting on the effectiveness of the policy instruments in reducing the use of fossil fuels, plastic pollution, and forest loss, the national policy reviews also discuss the level of support of the different instruments among the population and different stakeholders.

During the *Peer Learning Review Workshop* civil servants from one country conducted a friendly peer review² of

a neighboring country's green economy strategies and policy instruments to address each of the three challenges in focus.

This report synthesizes the key results and conclusions from the national policy reviews and the discussions during the workshop. The report was written by the research partners in the inclusive green economy program and does not necessarily represent the views of all the participants from ministries and agencies or their organizations.





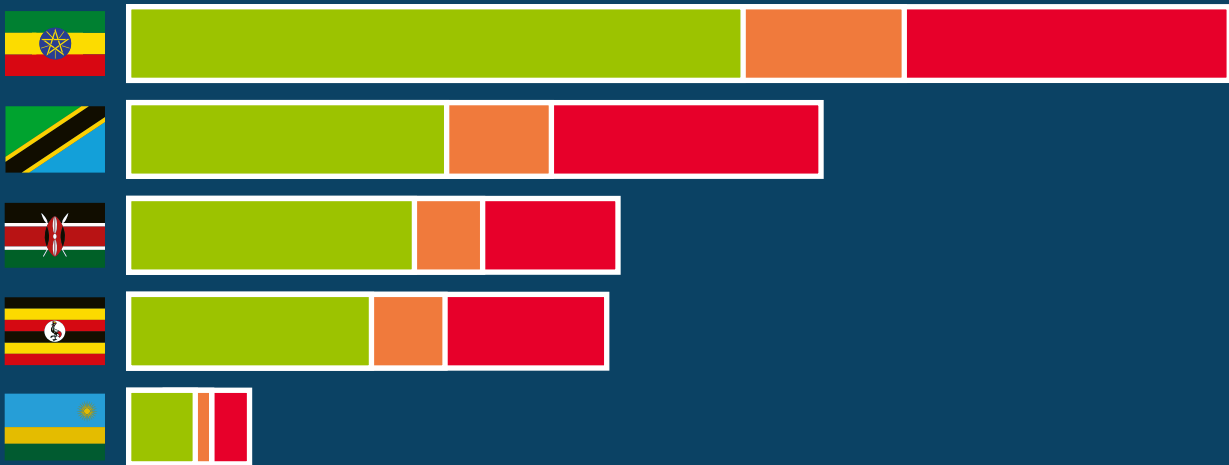
Population density³ & country size⁴ - People/km² (2020) & km²

<p>RWANDA</p> <p>533/km²</p> <p>26 338km²</p> 	<p>UGANDA</p> <p>221/km²</p> <p>241 038km²</p> 	<p>ETHIOPIA</p> <p>104/km²</p> <p>1 104 300km²</p> 	<p>KENYA</p> <p>91/km²</p> <p>580 367km²</p> 	<p>TANZANIA</p> <p>70/km²</p> <p>947 300km²</p> 
---	--	--	--	---



Population size (million people) in 2020⁵ / 2030⁶ / 2050⁷

	ETHIOPIA	TANZANIA	KENYA	UGANDA	RWANDA
2020	114.9M	59.7M	53.7M	45.7M	12.9M
2030	144.9M	79.2M	66.4M	59.4M	16.2M
2050	205.4M	129.4M	91.6M	89.5M	23.0M

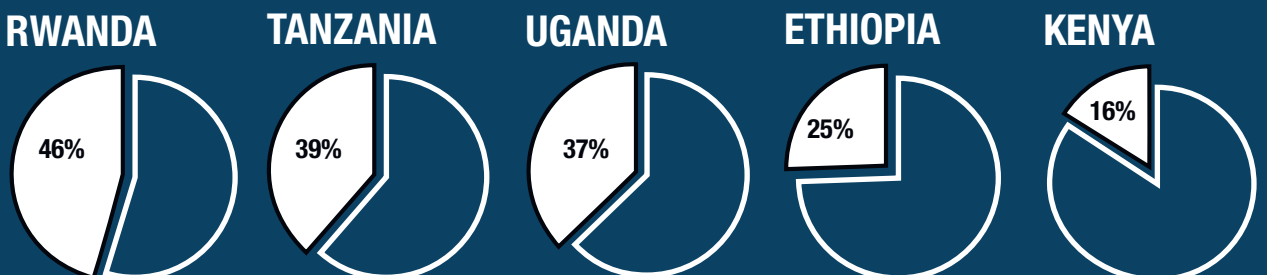


GDP/Capita⁸ - USD/Capita (2021)

KENYA	TANZANIA	ETHIOPIA	UGANDA	RWANDA
2082\$	1099\$	925\$	884\$	822\$



Poverty rate⁹ - Percent of population below 1.9\$ / day (2020)



Strategies for an Inclusive Green Economy in East Africa

A brief overview



East Africa is facing several joint sustainable development challenges. Population growth leads to over-exploitation of natural resources such as land and forests and growing demand for agricultural products. Other challenges are inefficient agricultural practices, climate change, increased traffic, pollution and waste, unsustainable energy sources (such as fossil fuels, charcoal, and firewood), and increased unplanned urbanization. Several national strategies have been developed, aiming to steer economic developments towards a greener and more inclusive pathway.

In Table 1, the main national Green Economy strategies in the participating countries are listed together with the responsible organization. This shows that explicit green economy strategies are in place in four out of the five countries. Tanzania, which is the exemption, does however emphasize the importance of reversing current trends in the degradation of natural resources and the environment in its vision. In addition to these strategies, there are several cross-sectoral and sector-specific plans and programs. The table only highlights the main strategies per country.

Table 1 - Main green economy strategy per country

Country	Main national Green Economy strategies	Year of implementation and valid until	Which organization is mainly responsible for monitoring?
Ethiopia	The Climate Resilient Green Economy Strategy (CRGE)	2011 – 2030	Environmental Protection Authority (EPA) (Previously Environment, Forest, and Climate Change Commission (EFCCC))
Kenya	Green Economy, Strategy and Implementation Plan	2016-2030	Ministry of Environment and Forestry
Rwanda	Green Growth and Climate Resilience Strategy (2022)	2022-2050	Ministry of Environment
Tanzania	Tanzania Development Vision 2025	1999-2025	President's Office - Planning Commission
Uganda	The Uganda Green Growth Development Strategy	2017-2031	Ministry of Finance, Planning, and Economic Development; Office of the Prime Minister

An inclusive green economy is not limited to a single sector and must involve the national government as well as the regional and local governments, the public and private sectors, as well as civil society. This calls for smooth coordination in implementing the IGE strategies. Today ministries and agencies at different levels and other stakeholders are not cooperating enough. Different sectors must also communicate to avoid unwanted impacts of one policy on another sector. It is essential to thoroughly assess the national circumstances to identify sectorial poli-

cies' impact on other sectors during the design and development of policies.

There is also a great variation in the financing of the IGE reforms in the five countries. Financing sources including domestic, international, and private sector resources for IGE implementation are important. It is a challenge to find a financial balance between international funding and national revenues for IGE reforms. There is still an untapped potential to use environmental taxes to increase public funds and engage the private sector further.

Fossil fuels

How to promote alternative energy sources?



The use of fossil fuels generates emissions of greenhouse gases and air pollution which has a severe negative impact on our climate and human health and well-being. This section focuses on fossil fuels used mainly for energy production and in the transport system. In general, low levels of greenhouse gases are emitted from East African countries from a global perspective, but the forecast in most of the countries foresee a rise in the consumption of fossil fuels ahead.

The transportation sector represents 14 percent of total greenhouse gas emissions globally. Road transport emissions in Africa are lower than in most regions but are among the fastest growing in the world¹⁰. Estimates, between 2000 and 2012, show an increase of transport fuel consumption in Africa by 82 percent, resulting in a transport emission increase of 88 percent, from 49 million tCO₂ eq to 92 million tCO₂ eq¹¹.

In many aspects, the challenges and contexts are similar in the region, but one important difference is the natural resources available in the different countries. Fossil fuel resources such as oil and gas are (or are about to be) explored in Uganda, Tanzania, and Ethiopia. In Rwanda exploration has been conducted, but no fossil resources were found while in Kenya oil reserves were found in 2012. Even though there are plans to engage in oil development, commercial production is yet to be exploited.

Kenya has significant geothermal potential and has invested heavily in the use of this resource, especially for electricity generation. Currently, geothermal energy accounts for the largest share of renewables in Kenya's electricity production (88%). Geothermal projects are also available in Ethiopia, one of the two East African countries with current geothermal projects. It is projected¹² that Ethiopia, just like Kenya has the potential to generate more than 10,000 MW of energy from geothermal (more than doubling the current electricity generation capacity in Ethiopia). At present, Ethiopia depends heavily on hydropower for its electricity generation (more than 80 percent). However, there are plans to diversify its power-generating sources to reduce the dependence on hydro due to its limited water resources¹³.

Tanzania is endowed with substantial energy resources both fossil (e.g., natural gas and coal) and renewable (hydro, solar, geothermal). Their National Power Supply Master Plan (2010 – 2035) anticipates a 75% rate of electrification by 2035. In Uganda, the government has continued to prioritize oil and gas investments with the hope of enhancing domestic revenue for further investments in other sectors like education, health, infrastructure, and technology. Even if some of the countries in the region have domestic fossil resources (such as natural gas, oil, and coal) there is still a high de-



Participants in the IGE program visiting the Olkaria geothermal production site in Kenya.
Photo: EfD/Anders Ekbohm

pendency on imported fossil fuels, especially in the transport sector.

Two main challenges that constrain the transition from fossil fuels to renewable energy are how to fund investments in renewable energy sources and how to make them available at affordable prices for the population. Additional challenges are insufficient power supply infrastructure, high initial capital costs for some renewable energy technologies, low technical capacity, inadequate data and documentation, weak enforcement of strategies, and poor coordination among governmental agencies.

Key lessons learned

Need to plan and invest in safe alternative transport to reduce the growth of car traffic. A modal shift from private cars to more transport-efficient modes is a possible pathway to reduce the de-

pendency on fossil fuels. This can be a shift toward public transport or active, non-motorized transport such as biking and walking. Even though there are several policy instruments to support a modal shift, there are several obstacles and sometimes mixed incentives.

One key aspect here is safety, in using public transport, biking, and walking. An example of how to address this is in Kenya where it has become mandatory to provide pedestrian lanes when constructing a new road. However, in Uganda, a planned pathway for non-motorized transport (NMT) in Kampala raised a lot of protests among stakeholders. It highlighted the need to improve the design of the non-motorized pathway and to better integrate it into the larger spatial planning process. Investments in public transport (bus rapid transit, light railway, etc.) and information cam-

paigns are additional measures needed to encourage the use of public transport. In Kenya, the bus rapid transit (BRT) system currently being developed along the 28 km of the Thika Superhighway is only meant to provide access to electric and hybrid buses and those that use biofuel blends.

Increased e-mobility with policy mixes that target affordability and availability. For a shift to more efficient vehicles and/or vehicles run on alternative fuels, a transition to electric mobility (e-mobility) is one alternative. Kenya and Rwanda are the countries where the most progress

has been shown in the region. In Rwanda, several policy instruments have been implemented to enable an increase in the use of electric vehicles, both for cars and motorbikes.

The incentives provided have shown progress in practice. In 2021 the country had 282 electric motorbikes with 17 charging stations and 94 electric cars with 3 charging stations¹⁴. In June 2022 these numbers had increased to 632 e-motorcycles, 18 charging stations, 146 e-vehicles, and 142 charging stations (the majority are, however, not public)¹⁵.

Rwanda's policy package for e-mobility¹⁶

- Electricity tariff for charging stations to be capped at the industrial tariff level
- Reduced tariff during the off-peak time for e-vehicles
- Exemption of import and excise duties on electric vehicles, spare parts, batteries, and charging station equipment
- Exemption of withholding tax of 5% at customs
- Zero VAT on electric vehicles, spare parts, batteries, and charging station equipment
- E-vehicles are to be granted access to dedicated bus lanes
- Building code and city planning rules include regulations to provide charging stations at commercial buildings and filling stations.
- Rent free land for building charging stations (for land owned by the government)
- Free license and authorization for commercial e-vehicles.
- Introducing a carbon tax for polluting vehicles¹⁷

In Kenya, the policy mix is not as comprehensive as in Rwanda, with its reduced excise duty on fully electric vehicles^{18,19}, awareness campaigns, and the building code having an amendment of electric vehicle charging stations for new constructions²⁰. The increase in e-vehicles is so far mainly for 2-wheelers such as motorcycles.

In Uganda, there is a subsidy for the manufacturing of electric vehicles which has increased the number and usage of electric vehicles, especially e-motorcycles in the country. However, no statistics are available to date.

In Ethiopia, a tax exemption on VAT, excise tax, and surtaxes as well as a reduction on the import tax were introduced in 2022 to make e-vehicles more affordable compared to conventional vehicles with combustion engines, including e-motorcycles. The only tax that remains is the customs tax, which has dropped to 15% for fully assembled vehicles, and 5% for semi-assembled, while vehicles that are being assembled in Ethiopia are not taxed at all²¹.

Address contradicting policy instruments for a shift to cleaner vehicles. In Ethiopia and Rwanda, there is an incentive for selecting an e-vehicle when buying a new vehicle. However, in other countries, there are policy instruments that work in the opposite direction. You are rather being punished for choosing a newer and cleaner car since the tax is higher on new cars than on older, more polluting ones. For example, in Kenya, the newer the imported vehicles, the higher the taxes. This hinders the benefits of reaching a vehicle fleet with lower emissions and higher safety.

Access to reliable and renewable electricity is key for sustainable e-mobility.

E-mobility is linked to reliable infrastructure. A key to more energy-efficient transport and a prerequisite for e-mobility is good and reliable access to electricity. This varies across the countries, from 71 % in Kenya to 40 % in Tanzania. The source for producing electricity is of course important for a sustainable value chain, and natural resource in the countries differs. In Ethiopia and Kenya, the share of renewable electricity production is very high (88-90%). The other countries are more dependent on fossil fuels, e.g. 66% of electric production in Tanzania.

Different policy mixes on how to promote the production of renewable energy.

The strategies on how to cope with the increased production of renewable energy, and the implemented policy mix in the countries varies, but they are not as comprehensive as for the transport sector. There are for example subsidies and other fiscal incentives for solar energy in Uganda, Kenya, and Rwanda. In Kenya, there is a Feed in Tariff System (FiT) to encourage investment in renewable energy. Meanwhile, in Ethiopia, there is a renewable energy strategy, but no specific policy instruments are yet in place, and in Tanzania, there are not any specific policy instruments to promote renewable energy.

The connection between energy consumption and development is strong, and the countries here need more energy supply to unlock social and financial opportunities. The prerequisite and pathways ahead differ among the countries to also meet climate and other environmental targets, via investments in renewable

sources. During the workshop, the contradictions between policy and practice in the Global North were raised, and its implication on the demands set on low and middle-income countries to be able to leap-frog for a faster transition. The Global North has been dominating the African energy conversation for decades and advocating for the development of renewable energy, but now they have increased their demand for fossil fuels as a response to the war in Ukraine²².

Public acceptance and policy support

The availability of affordable alternatives to fossil fuels is important to gain acceptance and policy support for a green transition. Since fossil fuels are so important in society today, and in fundamental sectors such as transport, a price increase can have a very large impact on the whole society. Therefore, in Tanzania, the risk of increased fuel prices was balanced by reducing the taxes during 2022 as a response from the government to the expected social unrest. In several countries, it was also highlighted that frustration in society towards different policy instruments is not always shown through big protests or open social unrest but can be seen in another way, such as expressed via social media and other platforms. One example of social unrest is from Uganda, where the construction of a non-motorized transport corridor in Kampala caused both social and political unrest, especially among the city's political leaders, mobile vendors of goods, and taxi drivers who felt that the corridor was interfering with their business routes and source of income²³. Another example from Rwanda is that people were forced to go back to using charcoal due to price increases of LPG for cooking. In Kenya, there was a public outcry when

the government in October 2022 declared it would lift the subsidy on petroleum fuel. Some motorists near the borders are reported to buy fuel from across the borders rather than in Kenya. Also, senators were protesting²⁴.

Highlighting co-benefits can potentially increase public acceptance. Awareness of co-benefits beyond the environmental and economic ones, such as positive social and health benefits, can potentially increase acceptance. Related to this is also the general trust and transparency of the governmental institutions, but also the policymakers and their competence. Having more inclusive policy processes and using social impact assessments in which both stakeholders and the general public participate, can potentially increase trust and public acceptance of policy instruments. In Kenya, public participation is mandatory in policy making, and there is a possibility to take the case to court if participation has not been provided for²⁵.

Transparent use of revenues raised from fossil fuel taxes and other instruments. For price-based instruments or other instruments that generate revenues, the revenues should be used transparently to build public confidence, especially amongst the most vulnerable people in society. Acceptance increases significantly when it is communicated how the revenues from fossil fuel taxes are used. This was seen in a survey conducted in five program countries in 2022, as part of the IGE program.

The way ahead

A mix of policy instruments is needed for an inclusive transition to clean energy sources. No single instrument can manage this complex transition alone. The policy instrument mix needs to address

different aspects of sustainable development in a more comprehensive way, including economic benefits, social inclusion, environmental sustainability, and climate resilience. Well-functioning and coordinated institutions are a prerequisite for successful design, implementation, and enforcement.

Secure funding for large investments to enable a shift to more renewable energy. Large investments are needed to enable the transition from fossil fuels to renewable energy. But how can it be expected that low- and middle-income countries should make this transition when high-income countries currently are going back to fossil fuel usage? The cost of investment varies in the different countries, and their possibilities to receive foreign funding from e.g., development banks or private investors vary. In general, there is a high risk in investing in the East African Region. If the private sector is involved in the policy process their willingness to invest may be enhanced. One way to secure funding is also through the tax system, where for example a carbon tax can be an efficient policy instrument in achieving both a reduction of emissions and generating revenues. However, a carbon tax may have negative welfare effects on poorer households. This may hamper economic development and reduce the possibility to use the revenues for investment purposes. For example, the implementation of a carbon tax in Uganda would generate trade-offs between access to cleaner fuels and food security, and there could be negative consequences in terms of forest degradation. Hence, energy and development policies should be coordinated to address these issues. If carbon pricing would be combined with revenue redistribution, for example via a lump sum transfer to all households, then the nega-

tive effects on poorer households could be mitigated in Uganda and the broader Sub-Saharan African region²⁶.

Use subsidies only for a limited time and with a specific purpose. When it comes to subsidies and tax exemptions, the recommendation is to implement them carefully, since they are not sustainable in the long run. If subsidies are used, they should be limited in time, it is important to be aware of the alternative cost and use of this money. Subsidies should also have a very clear purpose, for example making renewable alternatives affordable compared to conventional products. Also, policies should be coherent so that taxes and subsidies, for example on vehicles and fuels, all incentivize a transition to renewables. A way forward here could be that the fellows trained in the Inclusive Green Economy in Practice program guide their governments on economic policy instruments. For example, on the use of taxes and subsidies to reorient the economy towards a more inclusive green economy. A regional meeting with the finance ministers in the five countries was one suggestion during the workshop on how to move forward.

Evaluations are crucial to improving current policy practice. There are considerable knowledge gaps concerning the effectiveness of the many different fossil fuels-related policy instruments used in the transport and energy sector. Impact assessment should be conducted before policy instruments are implemented and impact evaluations should be used when the policy instruments have been implemented. Such assessments and evaluations are crucial to achieving more evidence-based use of policy instruments. Extended use of evaluations would also make it possible to adjust the instruments and make them a better fit for purpose.

Participants: Fossil Fuels



Yizengaw Yitayih

Climate Resilience and Green Economy Strategy Team Leader at Ministry of transport and logistics, Ethiopia



Laurent Ndizihiwe

Transport Economist at Ministry of Infrastructure, Rwanda



Getachew Beyene

Senior Expert, at Ministry of Water and Energy, Ethiopia



Benjamin Kabandana

Budget Policy Formulation and Reforms Officer at Ministry of Finance and Economic Planning, Rwanda



Pricillah Angatia Shiroko

Economist II at Ministry of Energy, Kenya



Victor Mkama

Senior Statistician at Ministry of Energy, Tanzania



Justus Taali Bitienyi

Economist II at Ministry of Energy, Kenya



Andrew Masaba

Principal Economist at Ministry of Finance, Planning and Economic Development, Uganda



Fred Onyai

Monitoring and Evaluation Manager at National Environmental Management Authority, Uganda



Edward Bbaale

Center Director at EfD Uganda, Makerere University



Helen Osiolo

Policy Engagement Specialist at EfD Kenya, University of Nairobi



Anna Mellin

Policy Engagement Coordinator at EfD Global Hub, Sweden



Michael Ndwiga

Policy Engagement Specialist at EfD Kenya, University of Nairobi



Emelie César

IGE Program Co-lead at GMV, Sweden



Amin Karimu

Senior Research Fellow at EfD South Africa, University of Cape Town

Plastic pollution

Is a plastic bag ban enough?



On a global level, plastic pollution has received considerable recognition, and in 2021 negotiations on a global plastic treaty were initiated within the United Nations with the aim of a binding agreement by 2024²⁷. While the average per capita use of plastics in East Africa is relatively low – around 16 kg per person in 2015 compared to 136 kg per person in Western Europe²⁸ – deficient waste management systems have created massive problems in terms of plastic pollution. Key problems, among others, include blockage of waterways and water drainage systems, widespread littering affecting agriculture, tourism, fishing, and other economic sectors, air pollution from open burning of plastics and at open dumpsites, and pollution of lakes, rivers, coastal waters, and oceans.

Informal recycling activities provide livelihoods for marginalized communities, but also expose them to persistent organic pollutants and other toxicants in the plastic waste flow. On a global scale, plastics also account for an increasing share of global greenhouse gas emissions (around 3.4% in 2019, which is expected to double by 2060)²⁹.

The five East African countries have to varying degrees implemented policy instruments to reduce plastic pollution. Plastic littering is the main problem that the policy instruments aim to address. The most common instrument is a ban on plastic carrier bags. Rwanda implemented a ban on plastic carrier bags already in 2008, which included a ban on the manufacture, use, sale, and importation of such bags.

Kenya implemented a similar ban on plastic carrier bags in 2017 and Tanzania in 2019. Uganda and Ethiopia have enacted bans on extra-thin plastic bags (less than 0.03 mm), but these bans have hardly been enforced. Uganda also tried to implement a more comprehensive ban on plastic bags, but this was derailed by protests from plastic manufacturers. In 2019, Rwanda extended the plastic bag ban to also cover single-use plastics, such as straws, cups, and cutlery³⁰. Kenya has also implemented a ban on single-use plastics, but only in protected areas. There is some evidence that the plastic bag bans in Rwanda and Kenya have resulted in reduced plastic littering and pollution, even though plastic bags



Plastic bottles for recycling at Enviroserve Rwanda Green Park 2022.
Photo: EfD/Anders Ekblom

to some extent continue to be imported and used illegally.³¹

The implementation of the bans has been accompanied by different information campaigns to raise awareness about the problems associated with plastic pollution. While taxes has not yet been used for reducing plastic consumption or pollution, low fees on imports, use and disposal have been used to varying degrees in the five countries. All countries but Ethiopia also have provisions for Extended Producer Responsibility (EPR) in place. However, the implementation of EPR is still in its infancy stage.

Despite these policy instruments, the use of plastics in East Africa is projected to further increase if additional policy instruments are not implemented. However, in Rwanda, both the importation and consumption of plastic products, particularly the use of plastic bags have decreased since the strict enforcement of 2008 regulations. Additionally, the 2019

ban on single-use plastics is expected to further decrease the overall consumption of plastic in Rwanda³².

Key lessons learned

The visibility of plastic pollution has created momentum for policy change.

Unlike fossil fuel emissions, plastic littering is a visible problem. This has facilitated communication, awareness raising, and the development of coalitions advocating for policy change. However, the differences between the policies implemented in the five countries demonstrate that the mere visibility of the problem is not enough to implement significant policy changes. A deeper understanding of country-specific governance challenges is needed to explain why the implementation of bans on plastic carrier bags differs between the five countries.³³

Effective plastic bans have been accompanied by large enforcement efforts.

The bans on plastic carrier bags in Rwanda and Kenya have been strictly enforced

and violators have faced tough sanctions. In Kenya for example, anyone found manufacturing, importing, or selling a plastic carrier bag could be fined up to 40,000 USD or face a prison sentence of up to four years. Users of banned plastic carrier bags can be fined 500 USD or face a prison sentence of up to a year.³⁴ To impose these tough sanctions, the inspectors at the Kenyan National Environmental Management Authority are often accompanied by police officers when doing enforcement visits. This tough enforcement has led to a high degree of compliance with the law, but also implied a large cost for enforcement and for those individuals that have had difficulties in finding suitable alternatives to the banned bags.

The lack of good alternatives makes more extensive bans challenging. As a response to the bans on plastic carrier bags and single-use plastic ban (in Rwanda) alternatives in cloth, cardboard, and other materials have emerged. However, a key challenge in addressing the problem of plastic pollution is that there are no good alternatives to many uses of plastics. Banning all uses of plastics would come at a very large cost to society, and also banning all single-use plastics is challenging. Often bans will need to be accompanied by administratively costly systems for granting authorizations (exemptions from bans) for certain uses. It is hence important to, in parallel to specific bans, encourage the development of alternatives and to find ways to adequately manage those uses of plastics that are allowed.

The illegal trade in plastics calls for harmonization of policies in the East Africa region. Illegal markets for plastic bags have emerged in the countries with the most stringent bans. Bags are smuggled into Kenya and Rwanda from Ugan-

da, where they can be legally produced, and from Tanzanian ports³⁵. This makes it more costly for authorities to enforce the bans and calls for enhanced regional cooperation in policy development, implementation, and enforcement within the East Africa region.

Funding of waste management infrastructure. There is a large need to improve the systems for waste collection, disposal, and recycling in the region. A key challenge is to finance the necessary investments. One concern is that revenues raised through fees on plastic use are not used for improving the waste management infrastructure. However, Rwanda is an exception, as the fees³⁶ that producers and importers pay when putting plastics on the market are channeled into the Rwandan green fund. The fund is used for waste management and other environmental projects.

Public acceptance and policy support

Strong public support for bans on plastic carrier bags – especially in the countries with the most stringent policies. A population survey in 2022, with more than 5000 respondents implemented as part of the IGE program in the five countries, indicates that there is strong public support for bans on plastic carrier bags in the region. 66% of the respondents state that they are either “somewhat in favor” or “strongly in favor” of a ban on plastic carrier bags. The strongest support was found in Kenya (82%), Rwanda (75%), and Tanzania (67%), the countries with the most stringent policies. In the countries without stringent bans, the support was lower (even though still substantial) with 57% and 52% of respondents in Uganda and Ethiopia respectively supporting a ban on plastic carrier bags. This

could indicate a possible learning effect – that people learn to live with a ban and perhaps discover that there are workable alternatives and that the bans have led to environmental improvements. The same survey indicates that there is also quite large support for a ban on single-use plastics and a tax on single-use plastics, with 59% and 49% respectively of the respondents across the five countries stating support for such policies.³⁷

Reform processes need to be backed by strong commitment and leadership.

Despite the relatively large public support for policies addressing plastic pollution, experiences show that strong leadership and political commitment are needed to successfully implement plastic bag bans. In Uganda, political attempts to implement a stringent ban have been met with protests from plastic manufacturers and other interest groups which have derailed reforms³⁸. Also in Kenya, the ban on carrier bags was met by protests among plastic manufacturers and industry workers, but the political commitment to implement the ban seems to have been stronger.

Public awareness raising and thorough stakeholder engagement are needed alongside the design and implementation of policies to curb plastic pollution. To facilitate the transition away from single-use plastics, the Rwandan government gave manufacturers a two-year grace period after the enactment of the ban on single-use plastics. This is just one example of measures that can be agreed upon during such stakeholder consultations.

The effects of reforms on informal sector employment and working conditions merit special attention. Collection, recycling, and disposal of plastic waste,

as well as selling street food and other items, often in small plastic bags, constitute important economic activities in the informal sector. Authorities need to pay specific attention to how bans and other policies affect informal sector actors who often have few resources to adapt or seek the type of special use permits that larger businesses can afford. For example, small vendors and traders have complained about the difficulties in finding alternatives to small plastic bags. Through dialogue and engagement with informal sector actors, there is a possibility to design more inclusive policies.

The way ahead

Imposing a ban is a start in addressing the bigger challenge of plastic pollution.

The partial success of the bans on plastic carrier bags could inspire Uganda and Ethiopia to implement similar policies. It is also a good starting point for exploring alternative policy instruments for tackling other aspects of plastic pollution in a cost-effective and socially inclusive way.

Implement stronger provisions for extended producer responsibility.

Further developing regulations and guidelines on EPR for different types of plastics and other materials is crucial. The companies placing materials on the market, through imports or manufacturing, should also have a clear responsibility to establish systems (and cover the costs) for reuse, refurbishment, recycling, and disposal. EPR systems for plastic bottles could be a tangible next step.

Regional collaboration and learning.

The different experiences in the region provide a fertile environment for policy learning that could be further explored. Authorities would also benefit from collaboration against the illegal trade of plastics and more harmonized policies.

Participants: Plastic Pollution



Rehima Mohammed

Senior Climate Change Adaptation and Mitigation Expert at Environmental Protection Authority, Ethiopia



John Bosco Mutabazi

Sector Investment Officer at Ministry of Finance and Economic Planning, Rwanda



Girma Mekonnen

Climate Resilience and Green Economy Strategy Expert at Ministry of Industry, Ethiopia



Jeanne Francoise Ingabire

Sector Strategic Planning, Monitoring, and Evaluation Specialist at Ministry of Trade and Industry, Rwanda



Isabel Joy Ochieng

Senior Economist at The National Treasury, Kenya



Joyce Msangi

Energy Officer at Ministry of Energy, Tanzania



Stephen Kariuki Nyaga

Economist II at Ministry of Environment & Forestry, Kenya



Nathan Mununuzi

Senior Environmental Officer at Ministry of Water and Environment, Uganda



Ezra Ssebuwufu

Deputy Director at Kampala Capital City Authority, Uganda



Azizi Mussa

Policy Engagement Specialist at EfD Tanzania, University of Dar es Salaam



Robert Lawrence Kyukyu

Deputy Director at Kampala Capital City Authority, Uganda



Peter Babyenda

Policy Engagement Specialist at EfD Uganda, Makerere University



Fred Sabiti

UNDP's Technical Advisor at Ministry of Finance and Economic Planning, Rwanda



Daniel Slunge

Policy Engagement Director at EfD Global Hub, Sweden



Richard Mulwa

Center Director at EfD Kenya, University of Nairobi

Forest loss

What is needed to reduce deforestation?



Forest loss is a common problem in all five East African countries – Ethiopia, Kenya, Tanzania, Rwanda, and Uganda. This is mainly because forest is a mean of livelihood and a source of income in all countries. Deforestation and forest degradation are accelerated by the need for charcoal, fuelwood, timber production, and unregulated logging. In addition, the competition for land, mainly agricultural land and urbanization are also contributing to deforestation in these countries. However, the rate of forest loss differs across the five countries. For instance, the annual rate of forest loss in Ethiopia is about 0.54%³⁹ whereas it is about 1.95% in Uganda⁴⁰.

In addition to the overarching forest strategies, as discussed in the Inclusive Green Economy Policy Reviews⁴¹, various policy instruments, including price-based, regulatory-based, rights-based, and information-based policy instruments, have been designed and implemented to reduce forest loss. Some of these policy instruments include different types of forest permits^{42,43,44}, eco-tourism benefit-sharing schemes (in Rwanda 10% of gross tourism revenues

is shared with communities living around the protected areas⁴⁵), payment for ecosystem services including carbon markets (such as in Ethiopia and Tanzania)^{46,47,48} agroforestry policy⁴⁹ and bans on cutting immature trees in Tanzania and Rwanda, as well as tea plantations around forest land in Kenya.

To implement these strategies and policy instruments, countries use different institutional arrangements according to their national circumstances. For instance, in Rwanda, while the central government oversees the policymaking process, implementation is usually the responsibility of the lower-level administration. In Tanzania, the Vice President's Office is responsible to coordinate, monitor and oversee the implementation of policies and strategies related to the environment whereas each ministry through its established environmental unit report on behalf of the Ministries to the Vice President's Office. In addition, since November 2018 the Tanzanian Forest Service Agency is structured under the military service instead of being under a civil institute to improve the conservation and protection of the reserved forests.



Lush green foliage along the banks of a the Mara river in the Masai Mara, Kenya.
Photo: Jane Rix

The countries face similar challenges in implementing their policy instruments. The common challenges include overdependence on biomass energy, low social acceptance, institutional capacity, culture (e.g., food prepared by charcoal is perceived to have a better taste), leakage (e.g., in Ethiopia during forest conservation), and social unrest (e.g., Kenya, Ethiopia, and Uganda). In addition, there is a lack of policy coordination among the different institutions to avoid inefficient and contradicting policy instruments.

Table 2 - Key indicators

Country	Forest Land ⁵⁰ (2020)	Tree cover loss ⁵¹ (2000-2021)	Forest (land) ownership
Ethiopia	17,068,500 ha (15%)	3.7%, 204MtCO _{2eq}	State-owned
Kenya	3,611,090 ha (6.2%)	11%, 179 MtCO _{2eq}	State-owned
Rwanda	276,000 ha (10.5%)	8.2%, 25.8 MtCO _{2eq}	State-owned
Uganda	2,337,900 ha (9.7%)	12%, 440 MtCO _{2eq}	State- and private-owned
Tanzania	45,745,000 ha (48.3%)	11%, 970 MtCO _{2eq}	State- and community-owned

Key lessons learned

Providing an alternative source for charcoal production is key! Several countries are working to find alternative energy sources to charcoal to reduce deforestation. For instance, Tanzania established forest plantations in Morogoro, Pwani, and Tanga regions to produce fuelwood that can reduce deforestation. Ethiopia also produces charcoal in some low-land parts of the country by using invasive species (*Prosopis juliphora*) to reduce the pressure on the forest. There are several challenges with these plantations. For instance, the plantations increase the competition for land and many of these plantations are a monoculture of invasive species not contributing to the recovery of biodiversity. Hence, other energy sources, such as ex-

panding the electricity grid (read more under Fossil fuels), are important to find more sustainable alternative fuels for cooking.

Increasing the use of forest trading permits and fighting corruption is important to stop illegal logging. Forest trading permits for selling, cutting, and transporting timber is one of the price-based policy instruments used in the countries. However, in most countries, the fee or revenue collected through this type of policy instrument goes to a consolidated fund, which makes it difficult to allocate a budget to finance forest conservation. Thus, the revenue collected from the forest sector is not going back into the sector to ensure sustainable forest development.

In addition, corruption is also a problem when considering forest trading permits. In Rwanda, however, the permit is provided at the district level and even the police are involved in the monitoring process to minimize corruption. While illegal logging associated with corruption is a serious problem in most of these countries, there are several good examples of how to tackle it. For instance, Rwanda has examples of different policies related to the forest being well communicated to the local authorities or communities. Thus, members of the community are well aware of the right to ask for a permit; and if they find anyone cutting trees in their area without a permit they know how to report this to the police. Furthermore, there is a well-developed bottom-up regular reporting system from the district to the central government, which helps to monitor any activity conducted in the forest daily.

Need for a national or local land use policy to allow forest lands to compete with other land uses. As agriculture is often more lucrative than forestry, there is a rapid agricultural land expansion in forest areas. Hence, it is important to identify and determine the appropriate land for forests based on different criteria. Rwanda has a national land use policy and, in some areas, there are also land use policies at the district level. The district-level land use policies are developed through consultations with different stakeholders in the village including elders, youth, women, etc.

The consultation is conducted before and after the planning of the land use to make sure the opinion of stakeholders is well incorporated into the developed plan. After approval of the land policy, there

is compliance monitoring so that no one violates the policy. In addition, no one is allowed to change the land use policy unless permission is granted only from the National Land Authority.

Agricultural intensification practices help to limit the expansion of agricultural land into forestland. In these East African countries, the government in collaboration with various development partners is working on increasing the productivity of existing agricultural land through improved seeds, mechanization, fertilizer, and other climate-smart agricultural practices. Accordingly, various policy instruments such as creating access to credit, improving input and output markets, and providing extensive agricultural extension advisory services are used to enhance the adoption and diffusion of agricultural intensification practices.

To further enhance agricultural productivity, the Ethiopian government has recently begun to implement a cluster farming approach through an amalgamation of lands of neighboring smallholder farmers. The objective of cluster farming is to achieve economies of scale by increasing the total farm size which makes it possible to apply modern farm machinery and other farm technologies at lower per unit cost and boost agricultural intensification. However, the amalgamation of farms owned by the different holders may be by destroying the farm borders which often have strips of grasses that are important for livestock feeds and birds. While intensification of agriculture through cluster farming may decrease the pressure on the forest, the loss of important biodiversity in the agricultural landscape could be a negative outcome.



The Bwindi Forest National Park in Uganda.
Photo: Travel Stock

Public acceptance and policy support

Increase public acceptance by considering people's livelihood and cultural value during the policy process. The development of policy instruments without considering the countries' cultural values often results in low public acceptance. For instance, the use of charcoal is highly culturally associated with the community in all East African countries. In Rwanda and Tanzania, charcoal is culturally associated with coffee making, barbecue, and rice cooking (by putting charcoal on top to slowly cook the rice). In Kenya, Uganda, and Ethiopia, people also prefer to use charcoal to prepare dishes and make coffee. Hence, banning charcoal might be accepted from an environmental standpoint but not from a cultural one.

Benefit-sharing schemes smoothen the transition for forest-dependent communities. Countries need to develop policy

instruments that complement the livelihood of the community living around the forest, like benefit-sharing schemes, instead of only focusing on reducing forest loss. Considering the livelihood of the community will help to increase the acceptance of policy instruments.

For instance, in Rwanda, the government provides 10% of the revenue collected from eco-tourism to the community living near the forest or national parks. In Tanzania, by organizing the community in groups, the government allows the groups to put their beehives in the forest for free, so they only need permission when they need to maintain the beehives or harvest honey. Moreover, in Tanzania, the nearby communities are allowed to enter the forest reserve with permission from the forest office to collect dry firewood, fruits, medicinal plants, mushrooms as well as other non-timber forest products.

The way ahead

Providing economic value to standing forest. There is more value in a forest than timber, fuel wood, and charcoal. If the economic value is not provided to standing forests, it will be difficult to compete with other land use such as agriculture, which brings a lot to the national economy. Several policy instruments can be used to economically value standing forests, such as carbon market and carbon trading, non-timber forest product (NTFP), which encourages people to use standing forests for honey production, mushroom production, participatory forest management (PFM), and promoting Eco-tourism.

Accounting Natural Resources in the National Account also provides economic value to standing forests. Ethiopia, for instance, has recently started natural resource accounting with support from the World Bank.

Regional coordination and initiatives are needed to increase the effectiveness of forest policies. Better regional coordination could help to reduce the impact of one country's policy on another country's resources. For instance, Tanzania has a cross-country Memorandum of Agreement (MoU) with Zambia and Kenya on the control of the transportation and marketing of timber and charcoal production respectively. However, for this to work enforcement is – as always – key.

Apply policy mixes! Applying only one type of policy instrument will not be effective

to tackle the complexity of deforestation. Therefore, there is a need to have a mix of policy instruments and understand the synergies of policy instruments. In addition, during the development of forest policy, there is a need to consider other important aspects like livelihood, biodiversity, etc. instead of just focusing on the forest resources or carbon.

Use successful mechanisms to increase public acceptance of policy instruments.

Awareness and sensitization campaigns on policy instruments as well as research and development on alternative sources of energy and agriculture production systems can be successful mechanisms to increase the acceptance of policy instruments that should be used more often. For example, providing affordable cookstoves to low-income communities and making alternative sources of energy available to the population can increase public acceptance.

Reduce overdependence on biomass.

This is important to minimize pressure on the forest. Overdependence can be minimized by diversifying the energy basket in the countries. In addition, investing in renewable energy structures will contribute to addressing the need for fuelwood, and charcoal, which are the main root cause of forest loss. An example of this is from Tanzania, where the construction of a hydropower project (Julius Nyerere Hydropower) across the Rufiji river in the Morogoro region for energy production, may reduce the overdependence on forests as a source of energy.

Participants: Forest Loss



Getu Dame

Climate resilient green economy expert at Ministry of Agriculture, Ethiopia



Daphne Babirye

IGE Macroeconomist at National Planning Authority, Uganda



Hillary Korir

Senior Economist at The National Treasury, Kenya



**Jean d'Amour
Uwimana
Shumbusho**

Director at Ministry of Local Government/ City of Kigali, Rwanda



Mercy Ngacha

Senior Economist at The National Treasury, Kenya



**Michel Christopher
Uwijuru**

Environmental Planning Specialist at Rwanda Land Management and Use Authority, Rwanda



Aaron Werikhe

Senior Planner at National Planning Authority, Uganda



Mariam Mrutu

Principal Forest Officer at Tanzania Forest Service, Tanzania



Kamwesige Mtembei

Agriculture Officer at Ministry of Agriculture, Tanzania



Asaye Ketema

Policy Engagement Specialist at EfD Ethiopia, Policy Studies Institute



Hailemariam Teklewold

Center Director at EfD Ethiopia, Policy Studies Institute



Anna Nordén

EfD Research Fellow, Jönköping International Business School, Sweden



Aloyce Hepelwa

Senior Research Fellow at EfD Tanzania, University of Dar es Salaam



Abias Maniragaba

Policy Engagement Specialist, Ministry of Finance and Economic Planning, Rwanda

References



1. *Link to the National Green Economy Policy Reviews*
<https://www.efdinitiative.org/publications/inclusive-green-economy-policy-review-ethiopia>
<https://www.efdinitiative.org/publications/inclusive-green-economy-policy-review-kenya>
<https://www.efdinitiative.org/publications/inclusive-green-economy-policy-review-rwanda>
<https://www.efdinitiative.org/publications/inclusive-green-economy-policy-review-tanzania>
<https://www.efdinitiative.org/publications/inclusive-green-economy-policy-review-uganda>
2. *The method was inspired by the OECD peer learning reviews*
<https://www.oecd.org/dac/peer-reviews/>
Accessed: 2023-02-13
3. *World Development Indicators | DataBank (worldbank.org)*
<https://databank.worldbank.org/reports.aspx?source=World-Development-Indicators>
Accessed: 2023-02-13
4. *Countries by Area - WorldAtlas*
<https://www.worldatlas.com/features/countries-by-area.html#countriesBySize>
Accessed: 2022-02-04
5. *World Development Indicators | DataBank (worldbank.org)*
<https://databank.worldbank.org/reports.aspx?source=World-Development-Indicators>
Accessed: 2022-02-04
6. *World Population Prospects 2019, Volume I: Comprehensive Tables (un.org)*
https://population.un.org/wpp/Publications/Files/WPP2019_Volume-I_Comprehensive-Tables.pdf
Accessed: 2022-02-04
7. *World Population Prospects 2019, Volume I: Comprehensive Tables (un.org)*
https://population.un.org/wpp/Publications/Files/WPP2019_Volume-I_Comprehensive-Tables.pdf
Accessed: 2022-02-04
8. *World Development Indicators | DataBank (worldbank.org) World Development Indicators | DataBank (worldbank.org)*
<https://databank.worldbank.org/reports.aspx?source=world-development-indicators>
Accessed: 2023-02-13
9. *2020 Africa SDG Index and Dashboards Report - Sustainable Development Report*
<https://www.sdginde.org/reports/2020-africa-sdg-index-and-dashboards-report/#:~:text=The%202020%20Africa%20SDG%20Index,on%20the%20SDGs%20in%20Africa.>
Accessed: 2021-12-01
10. *Creutzig et al. (2014), F., 2014: Transport, Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA.*

11. Hogarth, J. R., Haywood, C. & Whitley, S. (2015) *Low-carbon development in sub-Saharan Africa – 20 cross-sector transitions*, Overseas Development Institute.
<https://cdn.odi.org/media/documents/9878.pdf>
Accessed: 2023-01-20.
12. Kebede, S., Woldemariam, F., & Kassa, T. (2020). *Status of geothermal exploration and development in Ethiopia. Paper Presented at the World Geothermal Congress 2020+1, Reykjavik, Iceland.*
13. *The hydro-dominated systems have been severely affected by drought, and the Government of Ethiopia (GOE) is now diversifying the generation mix with other sources such as solar, wind, and geothermal that will result in a more climate-resilient power system. The major source of energy production considered for the coming 10 years include water, geothermal, wind solar energy, and waste to energy. FDRE Plan and Development Commission (PDC). 2021. 10-Year Development Plan: A pathway to prosperity (2021-2030). Addis Ababa. Ethiopia. (የፕላንና ልማት ኮሚሽን. 2013. የአስር ዓመት የልማት ዕቅድ (2013-2022): ኢትዮጵያ፣ አፍሪካዊት የብልጽኛ ተምሳሌት. አዲስ አበባ. ኢትዮጵያ.)*
14. Ministry of Infrastructure (2021) *Strategic paper on electric mobility adaptation in Rwanda. Kigali: Republic of Rwanda*
https://mininfra.prod.risa.rw/fileadmin/user_upload/Mininfra/Publications/Laws Orders and Instructions/Transport/16062021 Strategic Paper for e-mobility adaptation in Rwanda-Final.pdf
Accessed: 2023-01-18
15. Ministry of Infrastructure (2022) *Backward-looking JSR report for 2021/22 fiscal year, Republic of Rwanda*
<https://www.mininfra.gov.rw/index.php?eID=dumpFile&t=f&f=57522&to-ken=e1dab534528c65e5b751ce-7c15556e09fd0772ff6>
Accessed: 2023-01-18
16. Ministry of Infrastructure (2022) *Backward-looking JSR report for 2021/22 fiscal year, Republic of Rwanda*
<https://www.mininfra.gov.rw/index.php?eID=dumpFile&t=f&f=57522&to-ken=e1dab534528c65e5b751ce-7c15556e09fd0772ff6>
Accessed: 2023-01-18
17. *It's under discussion to see its feasibility and hence, not yet implemented.*
18. Kenya Revenue Authority (2023) *Learn about Importation.*
<https://kra.go.ke/individual/importing/learn-about-importation/procedures-for-motor-vehicle>
Accessed: 2023-01-20;
19. Auto Kenya (2023) *Kenya Car Import Tax Goes Up Due to the New Finance Bill Effective 07/11/2019.*
<https://www.auto-kenya.com/kenya-car-duty-rises/>
Accessed: 2023-01-20.
20. ICC (2023) *Building code amendments for electric vehicle charging*
<https://codes.iccsafe.org/content/ICCEV-BCSGGR2021P1/building-code-amendments-for-electric-vehicle-charging>
Accessed: 2023-01-20.
21. EfD (2022) *E-vehicles exempted from tax in Ethiopia – IGE fellow wrote proposal, Nov 7, 2022*
<https://www.efdinitiative.org/news/e-vehicles-exempted-tax-ethiopia-ige-fellow-wrote-proposal>
Accessed: 2023-01-20.
22. Mulugetta et al. (2022) *Africa needs context-relevant evidence to shape its clean energy future, Nature Energy, 7, pp 1015- 1022*
<https://doi.org/10.1038/s41560-022-01152-0>
Accessed: 2023-01-20

23. Monitor (2022) *Kampala City's non-motorised transport fails to take off two years later, Feb 14 2022.*
<https://www.monitor.co.ug/uganda/news/national/kampala-city-s-non-motorised-transport-fails-to-take-off-two-years-later-3716428>
 Accessed: 2023-01-20.
24. People Daily (2022) *Senators protest fuel price increase, June 16 2022.*
<https://www.pd.co.ke/news/senators-protest-fuel-price-increase-132707/>
 Accessed: 2023-01-20
25. *Public participation in Kenya is a process that directly engages the public in decision-making and considers public input in making that decision. The Public Participation Bill No. 2 of 2019, of the Constitution regarding public participation; to provide for the parameters for public participation and define the obligations of state organs and public offices in conducting public participation and for connected purposes.*
26. Aggarwal, R., Ayhan, S. H., Jakob, M., Steckel, J. C., (2022) *Carbon Pricing and Household Welfare: Evidence from Uganda, SSRN*
<http://dx.doi.org/10.2139/ssrn.4028712>
27. UN news (2022) *Nations sign up to end global scourge of plastic pollution*
<https://news.un.org/en/story/2022/03/1113142>
 Accessed: 2023-02-13
28. Sadan, Z. and De Kock, L. (2021). *Plastic Pollution in Africa: Identifying policy gaps and opportunities.* WWF South Africa, Cape Town, South Africa. Note, the figures cover Africa, with per capita consumption likely to be lower in East Africa.
wwfke.awsassets.panda.org/downloads/wwf_plastic_pollution.pdf
 Accessed: 2023-02-13.
29. OECD (2022) *Global Plastics Outlook*
<http://doi.org/10.1787/aa1edf33-en>
30. *Law no 17/2019 of 10/08/2019 relating to the prohibition of manufacturing, importation, use and sale of plastic carry bags and single-use plastic items.*
31. See e.g. Wahinya & Mironga (2020) *Effectiveness of the Implementation of Plastic Bags Ban: Empirical Evidence from Kenya*
<https://www.iosrjournals.org/iosr-jest-ft/papers/Vol14-Issue6/Series-2/H1406025361.pdf>
32. Babayemi, J.O., Nnorom, J.C., Osibanjo, O., Weber, R. (2019). *Ensuring sustainability in plastics use in Africa: consumption, waste generation, and projections.* *Environmental Sciences Europe* 31:60
<https://doi.org/10.1186/s12302-019-0254-5>
33. See for example Behuria (2021) *The comparative political economy of plastic bag bans in East Africa: why implementation has varied in Rwanda, Kenya and Uganda*
<https://journals.sagepub.com/doi/pdf/10.1177/2399654421994836>
34. BBC news (2019) *Has Kenya's plastic bag ban worked?*
<https://journals.sagepub.com/doi/pdf/10.1177/2399654421994836>
 Accessed: 2023-02-13
35. *Reject (2022) Illegal Trade and Smuggling of Plastic Bags in East African Community Rampart-Study Finds*
<https://reject.awcfs.org/article/illegal-trade-and-smuggling-of-plastic-bags-in-east-african-community-rampart-study-finds/>
 Accessed: 2023-02-13

36. 90 Rwanda francs per kg plastics put on the market.
37. The results from the IGE population survey will be reported in more detail in a separate report.
38. Monitor (2021) Buveera ban starts as manufacturers protest.
<https://www.monitor.co.ug/uganda/news/national/buveera-ban-starts-as-manufacturers-protest-1471362>
Accessed: 2023-02-13
39. Federal Democratic Republic of Ethiopia (2017). Ethiopia's Forest Reference Level Submission to the UNFCCC. Ethiopia
https://redd.unfccc.int/files/ethiopia_frel_3.2_final_modified_submission.pdf
40. Ministry of Water and Energy (2018). Proposed Forest Reference Emission Level for Uganda. Republic of Uganda
https://redd.unfccc.int/files/uganda_frl_final_2018_submitted.pdf
41. Link to the Inclusive Green Economy Policy Reviews, see reference 1.
42. Langat D., Otuoma J., Kagombe J., Cheboiwo J.K., Ongugo P. and Kigomo B. (2017) Guidelines for Establishing Payment for Ecosystem Services Schemes in Kenya, KEFRI, Nairobi
<https://www.kefri.org/WaterTowers/PDF/PES%20Guideline.pdf>
43. Kenyan FOREST (CHARCOAL) RULES (2009) LN 186/2009. Rev.2012
<http://extwprlegs1.fao.org/docs/pdf/ken101362.pdf>
44. Legal Notice No. 21, The Forests Act, 2005
<https://infotradekenya.go.ke/media/Legal%20Notice%20No%20%2021%20-%20Forest%20Fees%20and%20Charges.pdf>
45. Rwanda Development Board. (2022) National guidelines for community-based tourism enterprises (CBTES) in Rwanda
<https://rdb.rw/wp-content/uploads/2022/02/National-CBTE-Guidelines.pdf>
46. Biryahwaho B, Misiko M, Tefera H, Tofu A. (2012). Humbo Ethiopia assisted natural regeneration project. Institutional Analysis and Capacity Building of African Agricultural Carbon Projects Case Study. Copenhagen, Denmark: CCAFS
<https://hdl.handle.net/10568/21220>
47. Farm Africa (2021) How coffee and carbon credits cut deforestation in Bale, Ethiopia.
<https://www.farmafrica.org/latest/post-card-from/post/976-how-coffee-and-carboncredits-cut-deforestation-in-bale-ethiopia>
Accessed: 2023-02-13
48. Mulugeta Lemenih, Claire Allan and Yvan Biot (2015). Making Forest conservation benefit local communities; Participatory Forest Management in Ethiopia. Farm Africa
<https://www.farmafrica.org/downloads/resources/pfmfinalweb.pdf>
49. Ministry of Environment. (2018). National agroforestry strategy (2018-2027). Kigali, Rwanda: Republic of Rwanda
50. FAO (2022)
<https://www.fao.org/faostat/en/#home>
Accessed: 2023-01-12
51. Global Forest Watch (2022) Forest monitoring designed for action
<https://www.globalforestwatch.org/>
Accessed: 2022-01-12



GOTHENBURG CENTRE FOR SUSTAINABLE DEVELOPMENT (GMV)

