# Financing Strategy and Implementation Plan

## For Updated Ethiopia's Nationally Determined Contribution

OCTOBER 2021

ADDIS ABABA, ETHIOPIA

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## For Updated Ethiopia's Nationally Determined Contribution

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Ethiopian Environmental Protection Authority

UNDP
Empowered lives.
Resilient nations.

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## Acronyms

| | |
|---|---|
| CBOs | Community Based Organisations |
| CRGE | Climate Resilient Green economy |
| CSO | Civil society organizations |
| Covid 19 | Coronavirus |
| DRMCO | Disaster risk Management Commissions |
| ECSA | Ethiopian Chamber of Sectoral Associations |
| EEA | Ethiopia Energy Authority |
| EFCCC | Environment, Forest and Climate Change Commissions |
| ELEAP | Ethiopia Electrification Project |
| ETH NDC | Ethiopia Nationally determined Contributions |
| EPACC | Ethiopia's Program of Adaptation to Climate Change |
| ERBDHC | Ethiopian River Basin Development High Council |
| ESMAP | Energy Sector Management Assistance Program |
| FDI | Foreign Direct Investment |
| GEF | Global Environment Facility |
| GGGI | The Global Green Growth Institute |
| GTP | Growth and Transformation Plan |
| GHG | Greenhouse Gases |
| ICE | Internal Combustion Engine |
| IRMF | Integrated Resources Mobilisation Framework |
| IFAD | International Fund for Agricultural Development |
| JICA | Japan International Cooperation Agency (JICA) |
| LDCF | Least Developed Countries Fund |
| MFA | Ministry of Foreign Affairs |
| MoF | Ministry of Finance |
| MoIT | Ministry of Infrastructure and Transport |
| MoMP | Ministry of Mines and Petroleum |

| | |
|---|---|
| MUDHCo | Ministry of Urban Development, Housing and Construction |
| MoWIE | Ministry of Water, Irrigation and Energy |
| MoT | Ministry of Transport |
| MRV | Measuring, Reporting and verification |
| NAP- ETH | National adaptation Plan Ethiopia |
| NDC | Nationally Determined Contribution |
| NICFI | Norway's International Climate and Forest Initiative |
| ODA | Overseas Development Assistance |
| ODA | Official development assistance |
| PDC | Development Commission Commissions |
| 10 YPDP | 10-year Perspective Development Plan |
| REGREP | Renewable Energy Guarantees Program |
| UNFCCC | United Nations Framework Convention on Climate Change |
| USAID | United States Agency for International Development |

# Definitions of terms

**Adaptation** is the process of adjustment to actual or expected *climate* and its effects, to moderate harm or exploit beneficial opportunities associated with climate change.

**Mitigation** is the process of reducing the GHG emissions and also enhancing their sequestration or sink through technological advancement and ecosystem-based approaches.

**Carbon markets** are the markets that have been created to trade unit of GHGs that have been mitigated or avoided emissions

**Carbon trading** is the processing of selling and buying the GHG credits that have been that have been mitigated

**carbon credit** is tradable certificate or permit representing the right to emit one tonne of carbon dioxide or the equivalent amount of a different greenhouse gas ($tCO_2e$)

**Climate finance** is the financial resources mobilised to fund climate change adaptation and mitigation initiatives

**De-risking investment** is the action taken to reduce the risk that is likely to involve a financial loss

**Endowment fund** is an investment fund that has been established as a vehicle for raising revenue for specific investment opportunities. Originally, the endowment funds were set up for not-for-profit organisation such as universities, churches, and hospitals

**Investment risk** is the probability or likelihood of economic losses relative to the expected profit on an investment

**Financing strategy** is a set of specific strategic activities aimed at raising revenue/finance for specific project or programme.

**Financing gap** is the difference between available finance and finance required for an investment

**Green bonds** are debt securities issued by the central bank to raise revenue for environmental projects e.g. renewable projects

**Risk transfer schemes** is the process of transferring the potential loss from an adverse outcome from an investor or economic agent to a third party

# Executive summary

The Government of Ethiopia submitted its updated National Determined Contributions (ETH NDC) to the UNFCCCC in early 2021. As per the UNFCCC requirements, ETH NDC covers both the adaptation and mitigation activities. 18 adaptation activities have been prioritised to ensure a climate resilient green economy. These 18 adaptation activities are consistent with the Ethiopia National Adaptation Plan (ETH NAP). The mitigation activities cover the six sectors. Based on the conditional pathways, the country projects a reduction of 277.7 Mt $CO_2e$ by 2030. The proposed mitigation activities that will results in the GHG emission reductions are implemented in the context of the Climate Resilient Green Growth strategy which aims at transforming the country into a middle-income by 2025 with considerable reduction in poverty levels and healthy ecosystems.

Over the years, the Government of Ethiopia has developed robust systems and frameworks to support the implementation of the NDC through creating an enabling environment. These includes the development and adoption of the ETH NAP, Resources Mobilisation Strategy for NAP, the NAP implementation Plan amongst others. In addition, the country has established the CRGE Facility to oversee the mobilisation and management of the funds from the various sources. The CRGE facility is housed at the Ministry of Finance and Environment, Forest and Climate Change Commission (EFCCC). The Facility has established robust accounting and auditing system based on existing Government accounting policies and procedures of managing public funds. Thus, it is expected that the CRGE facility will play a central role in the mobilisation and management of the NDC fundings.

It is estimated that implementing the NDC will require approximately US$ 316 billion over a 10-year implementation period. The adaptation component accounts for USD 40.5 billion of the budget and the mitigation USD 275.5 billion. US$ 63.2 billion will be unconditional and US$ US$252.8 billion will be conditional.

An assessment of the existing financing sources and their contributions to the climate related investment (adaptation and mitigation activities) reveals that the NDC will have a financing gap of approximately US$ 197.94 billion which is equivalent to US$ 19.7 billion annually. Closing the financing gap will require mobilising from all the feasible funding sources. These include the government public spending, domestic private investment, international funding sources which constitute Climate Funds, Multilateral organisation, Bilateral/development partners, international NGOs and the international private sector.

On the basis of the identified funding sources, the main strategic objectives of the ETH NDC financing strategy are to

- enhance mobilization of funding from public finance sources;
- create an enabling environment for the private sector to increase their investment in the NDC implementation;
- mobilise funding from the international sources by capacitating the implementing entities; and,

- mobilise funding through innovative funding solutions mainly green bonds and payments for ecosystem schemes.

Mobilisation additional funding from the domestic public spending, cannot be taken for granted as the government has been funding the climate related activities. However, government funding is limited and overstretched. It is therefore critical that revenue is raised through cost recovery measures by adjusting service charges and users fees . Adjustment of the users fees such as forestry fees, health care facilities fees, water tariffs, transport infrastructures will generate additional revenue which the implementing entities can retain a certain percentage for implementing the NDCs. A good example is the current health care financing strategy which implemented cost recovery charges. In addition, the health institutions retaining 6% of the revenue generated for improving waste management and offgrid installations. In addition, it is critical that government introduce carbon levy/tax, establish, and operationalise PES scheme to raise revenue for the ETH NDC implementation. Moreover, the implementing entities need to be strengthened and capacitated to mainstream NDC activities into the planning and budgetary processes. These will enhance mobilisation of the resources from the domestic public spending.

Private sector is one of the feasible and possible reliable funding sources (compared to international funding) with enormous potential to raise revenue for the ETH NDC financing. In fact, NDC measures such as irrigation schemes, poultry and small-stock production, and biofuel production are economically viable projects which can be financed entirely from the private sector investment. An assessment of the barriers to private investment in the climate related activities reveals that some of the main barriers are lack of creditworthiness of the private sector and accessibility to credit. The private sector in the country has low creditworthiness particularly small-scale agriculture. A critical factor that makes the private sector credit unworthy is the lack of ownership for collateral, particularly land ownership. In addition, the climate mitigation activities are generally high risk, and the financers are reluctant to give credit/loans to investor in these areas. Another barrier to private investment is the lack of knowledge on the investment opportunities. Therefore, this financing strategy have devised activities that need to be implemented to create an enabling environment and enhance private investment flow into the NDC activities.

Enhancing the private sector investment in the ETH NDC hinges on two activities: the stakeholder engagement strategy and the Public private partners (PPP) strategy. This will create awareness of the available investment opportunities and enhance establishment of joint-investment ventures between the government and private sector. Furthermore, and most importantly put in place measures to de-risking the private sector investments.

The international funding sources will constitute the highest funder of the NDC budget which is estimated at US$252.8 billion as conditional finance. Through UNFCCC, the developed countries have pledged to raise US$100 billion per year for climate change-related projects. Ultimately, the annual ETH NDC budget (US$25.2 billion) constitute a quarter of the developed countries pledge. Between 2013 and 2017, international funding for environment-related projects in Ethiopia increased from US$ 250 million to US$1.1 billion. Therefore, increasing international financing from US$ 1.1. billion to US$25 billion in a year will not be an easy task, in fact it might not be achievable.

However, currently, Ethiopia is performing badly in terms of access climate funding. One of the reasons that have been highlighted by the implementing entities is lack of capacity to develop proposals as per the funder requirements. This is also compounded by the fact that the funding requirements are length and complex. It is therefore important that implementing entities are strengthened to enhance their capacity to meet the international funding requirements. Secondly, it is also critical that focal points are established within the implementing entities with the sole purpose of mobilising international funding for the ETH NDC.

Innovative financing mechanisms include establishment and operationalisation of the endowment fund, green bonds, and payments for ecosystems services schemes. Already the offgrid resource mobilisation strategy has recommended an establishment of the endowment fund. It is therefore important that it is operationalised to enhance mobilisation of international resources from investors. In addition, green bonds are innovative solutions that have been used in the country and internationally with significant success rates.

Lastly PES scheme is important to raise revenue for ecosystems services such as forest wetland, agroecosystems which are integral part of the NDC. It is important that revenue is raised through these mechanisms and used for the ETH NDC implementation. PES scheme include REDD+ which needs to established and operationalised nationally.

Management of the Funds mobilised from the financing strategy will be managed by The Facility. The Facility has established robust accounting systems as required by the government and the international funders. In addition, there are various funds such as Forest Funds, the proposed National Urban development & infrastructure Fund and Endowment Funds, the Climate Fund which will be managed individually by the implementing entities from revenue generated through taxes, services fees etc.

Lastly, the country has some important success cases such as the health care financing strategy. One of the recommendations of the health care financing strategy was to increase the service fees and retain 6% for improving services such as waste management and electrification. In addition, there are other existing strategies that will complement this ETH NDC strategy such as ETH NAP resource mobilisation strategy, offgrid resources mobilisation Health Care financing strategy etc, it is critical that they support this strategy.

Recommendation

Based on the analysis of the global climate change funding, the following recommendations are drawn:

- Prioritize the unconditional finance of US$63.2 billion to the NDC adaptation and agricultural mitigation projects, particularly on the climate change risk reduction initiatives, foods security and ecosystems-based approaches. Ecosystems are critical for the enhancement of the community resilience to climate change and building communities' adaptative capacity. Prioritizing the domestic funding to the NDC adaptation component would safeguard the country's resilience, build its adaptive capacity and protect its citizens from the adversity of climate change

- Create an enabling environment for the domestic private sector to invest in the economically viable projects such as large irrigation schemes, poultry, and biofuels. The stakeholder engagement strategy and the PPP strategies are therefore critical
- Facilitate an establishment of the carbon tax (taxing petroleum fuels petrol and diesel) and subsidies alternative off-grid renewable energy sources with emphasis on the rural community to protect ecosystems such as forest and rangeland from degradation. This will strengthen the rural community resilience and adaptive capacity to climate change
- Develop a budget for the implementation of the financing strategy to ensure that there is a sufficient budget for the implementation.

# 1. Introduction

The Government of Ethiopia (GoE) as party to the United Nation Framework Convention on Climate Change (UNFCCC), submitted its intended nationally determined contribution (INDCs) in 2015, signalling its commitment to global efforts to limit greenhouse gases (GHGs) emissions. In 2016, the Ethiopian's INDCs was adopted to Nationally Determined Contributions (ETH NDCs). The updated ETH NDCs was submitted to the UNFCCC in 2020, although approved and validated version was disclosed in 2021. The NDC is a national climate change plan consisting of planned climate change adaptation and mitigation measures to build the national economies resiliency and contribute to GHG emissions reduction over time as per the Paris Agreement and its global commitment of keeping the global temperature to well below $2^{o}C$ by 2100.

Consistent with the UNFCCC frameworks, the GoE submitted its updated NDC constituting adaptation and mitigation activities, which are anchored on CRGE and Eth-NAP, respectively; and well aligned with 10 YPDP and SDGs. With the implementation of updated NDCs in six sectors, the country aims to reduce its GHG emissions by 277.7 Mt $CO_2e$ by the year 2030. Thus, limiting its GHG emission to 125.8 Mt $CO_2e$ based on the conditional pathways. Consequently, the ambitious GHG emission reduction will require substantial financial resources to support the implementation of the proposed adaptation and mitigation measures. Furthermore, an ambitious low emission pathway will also call for technological transfers and capacity building amongst the various ETH NDC implementing entities. The updated NDC is in line with the country's green economy strategy, which aims at transforming the country to a middle-income country by 2025, through a carbon neutral green economy pathway. The updated ETH NDCs is anchored on the achievements of CRGE and GTP1-2, and well aligned with 10 YPDP towards meeting the country's commitment to contribute to address global climate change impacts; and to reduce its adverse impacts nationally.

## 1.1. Country situational context

Ethiopia is a developing country with agriculture dominated economy, with a low income per capita of US$936 /year. However, it is one of the fastest-growing economies globally at 9% per annum (climate finance pathfinder, 2020). Through its 10 YPDP (2021-2030), the country aims to attain middle-income status by 2025 through a green economy strategy which will accelerate economic growth whilst safeguarding the natural resource base and their ecosystems service to continuing supporting economic development and livelihoods. The 10 YPDP vision is to "enable the country's high growth trajectory and position Ethiopia as an African beacon of prosperity'' (Federal Democratic Republic of Ethiopia, 2021)

Ethiopia, as a developing country, is highly vulnerable to climate change adversities, as its major economic pillar, the agriculture sector, is highly climate/ rainfed dependent. The country is frequently cited as highly vulnerable with the least capacity to respond and adapt to climate anomalies such as drought and flood events (Thornton *et al*., 2006). This is a result of low adaptative capacity and dependency on economic sectors that are highly vulnerable to climate change. Studies reported that the agriculture GDP is highly correlated with annual rainfall

(Thornton et al., 2006). The country's adaptive capacity is constrained by limited livelihood options for most of the population, inadequate ability to either withstand or absorb disasters and the prevailing biophysical shocks it faces (Senbeta et al. 2002, Senbeta, 2006). According to the National Adaptation Plan report, the country is frequently experiencing climate-related hazards that affect the major economic sectors (agriculture) that support major livelihoods and the national economy (NMA 2006, 2007, Senbeta et al. 2002, Senbeta 2006). It is estimated that agriculture contributes over 40% to the national economy and accounts for over 80% of employment (Federal Democratic Republic of Ethiopia, 2021)

Some climate-related hazards that significantly disrupt the economic systems include droughts, floods, human and livestock diseases, crop diseases and pests, hailstorms, and wildfires (MoFED, 2010). As a result, it is estimate that climate change account for 2 to 6% of Ethiopia's annual agricultural losses (MoFED, 2010).

The country's vulnerability to climate change will be amplified by the unsustainably managed consumption patterns of natural resources and ecosystems. Furthermore, the unsustainable management and utilisation of ecosystems result in a decline in ecosystems services that would otherwise regulate and dampen the impacts of climate change on livelihoods and economic sectors. For instance, deforestation, over-grazing, soil erosion, desertification, and environmental pollution (climate finance pathfinder, 2020) are some of the ecological problems that are experienced in the country, which will worsen the impacts of climate change on the national economy and livelihood.

Whilst the country is faced with stern climate change challenges and impacts, the country's contribution to global Greenhouse gases is classified as extremely low on a global scale. It is estimated that the country emits around 302.9 Mt $CO_2e$ based on BAU (Benitez et al, 2021). The livestock sector makes the agriculture to be the largest emitter, estimated at 48%, followed by LUCF at 35%. The forest sector emission comes from deforestation of forests and woodlands for fuel and forest land burning for agricultural investment These sectors are followed by energy and waste which constitute 3% of the national GHG emissions and lastly industries and managed soils at 1.9% respectively (Benitez et al., 2021).

Faced with the challenges of climate change and its potential to adversely reverse the economic gains over the years, the GoE has devised a robust, resilient green economy strategy. Through the resilient green economy strategy, the country aims to achieve middle-income status by 2025. This will involve implementing a series of climate change adaptation and mitigation, which will build the economy resiliency to climate change and reduce GHG emissions by 277.7 Mt $CO_2e$. Consequently, the NAP- ETH, the ETH NDC and other subsequent climate-related strategies are building on the Climate-Resilient Green Economy (CRGE).

GoE submitted its Intended Nationally Determined Contribution (INDC) to UNFCCC on 10th June 2015 which was adopted as the 1st NDC after it ratified the Paris Agreement (PA) on 9th March 2017. Following the UNFCCC requirements, the ETH NDC has been updated and submitted in June 2021 for consideration and adoption by the Convention. The updated NDC builds on the CRGE strategy and the 10 YPDP. Its target is to reduce GHG emissions by 277.7

Mt $CO_2e$ by the year 2030. Furthermore, it aims at building a climate proof economy through mainstreaming adaptation in the national development planning processes.

## 1.2. Need for updated NDC financing strategy

NDCs are at the heart of the Paris Agreement and the instruments to ensure that the Paris Agreement long-term goals are achieved. Consequently, it is critical that they are implemented by the party members to achieve the UNFCCC global GHG emissions targets of limiting the rise in temperature to well below 2 $^{o}C$ by 2050. In addition, the NDC entail efforts that ensure that countries achieve sustainable growth amid climate change as per the country's CRGE strategy. To implement the NDC activities, countries must raise sufficient revenue.

The GoE will require approximately US$ 316 billion over the next 10 years (2021-2030) to implement its updated NDC conditional and unconditional adaptation and mitigation activities. This will enable the country to cut its GHG emission by 277.7 Mt $CO_2e$ and limit the GHG emissions to 125.8 Mt $CO_2e$. This thus calls for a comprehensive financing strategy to mobilise funding for the NDC implementation.

The GoE has set up a comprehensive structure for resource mobilisation for the updated ETH NDC implementation. This includes the creation of the CRGE Facility, a government's vehicle to mobilise, access and combine domestic and international, public and private financing to the NDC-CRGE Strategy. In addition, the government has also established a Resource Mobilisation directorate at EFCCC tasked with resource mobilisation responsibility. Furthermore, the country developed the NAP-ETH implementation and the resource mobilisation strategy for NAP. It is thus essential that The Facility has a guiding financing strategy that it can employ to mobilise NDC funding.

It is thus on this basis that this financing strategy is developed to enhance mobilisation of the ETH NDC financing.

## 2. Policies and legislation governing the strategy

This document is developed for the updated ETH NDC which is integrated to the 10 YDP. Accordingly, the updated ETH NDC, will be fully mainstreamed into the 10 YDP targets as depicted in Figure 1 below. The 10 YDP was completed in 2020 and provides a strategic sustainable development planning framework for 2021-2030. Its overall long vision is to make Ethiopia an "African Beacon of Prosperity". The 10 YDP is without doubt one of the critical documents that will support the updated NDC financing strategy as it has clear cut entry points for creating an enabling environment for financing the NDC activities. First and foremost, the 10 YDP recognises the roles and importance of the private sector as a catalyst of economic growth and development. Consequently, it aims at promoting the enhancement of the private sector participation through enabling environment. One of the ways in which the private sector participation will be promoted is through creation and strengthening of the public-private-partnerships (PPP). This will be achieved by launching 23 PPPs projects for the transportation sector. This is a fundamental strategic activity for the financing strategy for the updated ETH NDC, as PPP is one of the vehicles to raise revenue for the NDC (Federal Democratic Republic of Ethiopia, 2021).

One of the objectives of the 10 YDP, is to ‘’ building a prosperous country by creating a pragmatic market-based economic system and enhance the role and participation of the private sectors’’ (Federal Democratic Republic of Ethiopia, 2021). This strategic activity will also be an entry point for updated ETH NDC financing strategy. Market based economic are holistic and inclusive of the economic instruments which create a conducive environment for the economic players including incentivising the ecosystems managers (forests, wetlands, and agroecosystems) to promote sustainable production and consumption practises.

In addition, the 10 YDP aims to increase the implementation capacity of the institutions. It also aims to increase the various funds such as Road Fund Income, Insurance Fund amongst others by significant amounts. For the water sector, the 10 YDP, aims to reduce the rate of water loss from 39% to 20%. Clearly, these targets are some of the strategy activities for raising funds for the updated NDC.

Incidentally, the development and adoption of the ETH NDC financing strategy will be followed by its implementation which calls for institutional capacity to implement. The 10 YPDP incidentally emphasis on strengthening institutional capacity for implementation.

Therefore, the 10 YDP, is one of the important documents which will support this financing strategy. In fact, it is one of the strategic documents which has already highlighted strategic financing activities for the ETH NDC such as reduced unaccounted for water supply, increasing the annual revenue collected from transportation related services fees amongst others.

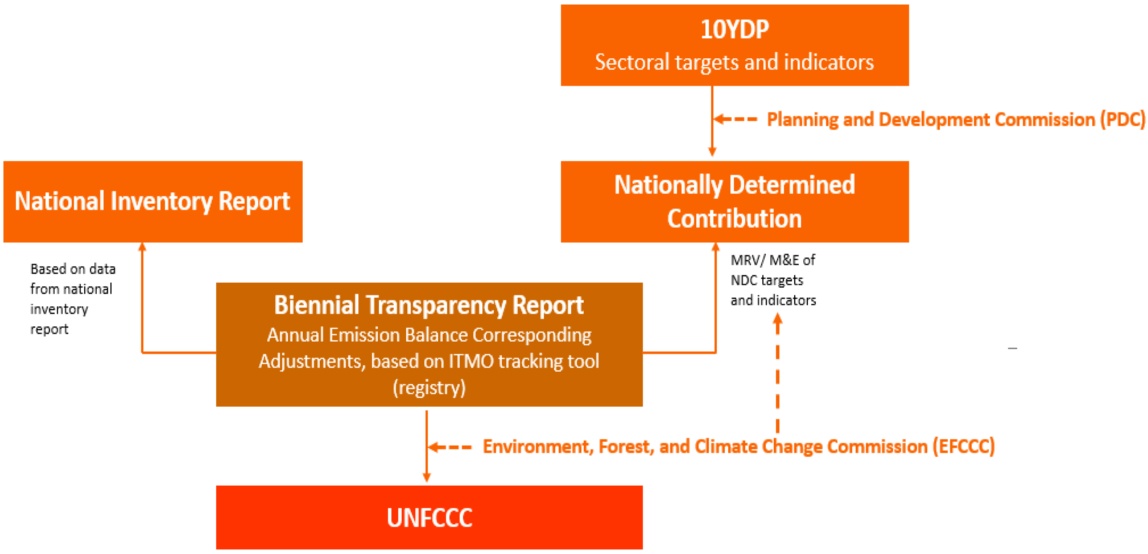


Figure 1:NDC-specific MRV and M&E framework
Adopted from Updated NDC

The resource mobilisation strategy of ETH-NAP is another important document which this finance strategy is aligned to. A Resource Mobilisation strategy for ETH-NAP was developed in 2020. This strategy aims at identifying and mobilising financing for adaptation. As the ETH NDC has the adaptation components, this makes the Resource mobilisation for the ETH-NAP to be relevant to the NDC. This strategic document similarly to the 10 YPDP 10 (2021-2030) take cognisance of the role and potential of the private sector in mobilising the resources for adaptation. To mobilise resources from the private sector, the ETH NAP resource mobilisation strategy emphasised on development and operationalisation of the stakeholder engagement strategy.

In addition, the strategy emphasis on training and strengthening the NDC sectors to mainstream climate change adaptation in sectoral planning and budgeting process which is one the core strategic activities. This is an important strategic activity as it will automatically advocate for increase in government public spending across the NDC sectors.

Ethiopia's National Adaptation Plan (NAP-ETH) is another document that will strongly create an enabling environment for the operationalisation of the updated ETH NDC financing strategy. Together with the Resource mobilisation strategy for the ETH NAP, they lay the foundation for mobilising resources of NDC particularly from the NDC adaptation component.

NAP-ETH was developed and adopted in 2019 and identify 18 major adaptation options to be implemented across the key economic sector throughout the country. NAP-ETH overall goal is to mainstream climate change adaptation into the country's development and planning process, such as the CRGE strategy and 10 YDP.

The NAP has identified finance mobilization as one of the main constraints for implementing the NAP-ETH. Another challenge identified was low mobilization of domestic financial resources. NAP thus recognise the roles of the private sector as one of the potential funding sources. To mobilise funding from the private sector, NAP calls for creating of enabling environment by providing incentives for the private sector to invest in the adaptation activities and through raising awareness of the private sector on the NDC investment opportunities.

One of the capacity gaps and needs identified in the NAP-ETH which will be addressed by the financing strategy is the capacity of the implementing entities (EIs) to implement the adaptation programs. The recommendations by the NAP to strengthen the capacity are: mainstream adaptation in government planning processes; coordinate capacity building efforts in order to develop critical mass of capacities; and enhance capacity of sectors to attract international and domestic adaptation finances. Consequently, these recommendations are some of the strategic activities that will be integrated into the financing strategy to enhance finance mobilisation from domestic and international sources (GoE, 2019). Another key and fundamental recommendation from the NAP-ETH is enhancing and strengthening institutional and governance structures to mobilise the finance for implementation and capacity development.

The NAP implementation plan is another strategic document that provides a conducive and enabling environment for the financing strategy. Its vision is to mobilize resources from public and private (domestic and international) sources to enable the country to implement its climate change adaptation initiatives and to develop appropriate technical, material, and expert capacities (EFCCC, 2020b). In addition to mobilizing resources, the implementation plan vision is to create an enabling environment for market-based solutions, robust financial policy frameworks, and innovative financial mechanisms (EFCCC, 2020b). Consistent to the other strategic documents, the NAP implementation plan has identified various funding sources such as government budget; Bilateral & multilateral partners (World Bank, UNFCCC, GCF, UNDP, GEF, etc.); Private investment; Community civil society organisation (CSOs) and community contributions. This implementation plan has identified strategic activities to be undertaken to ensure implementation of the NAP. These include amongst other improving women's and men's access to value chain services such as secure land and property rights, increasing awareness of the microfinance institutions on climate risk management investment in the risk insurance and improving access to farmers to payment premiums.

Another strategic document which has been developed in 2020 and adopted by the government is the offgrid funding strategy. One of the strong recommendations of the offgrid funding strategy is establishment and operationalisation of the endowment fund to attract the international funder to invest in renewable energy projects. Emphatically, the offgrid funding strategy should thus be nested within this ETH NDC financing strategy project for implementation.

In addition, there are multiple policy and legal frameworks that support this ETH NDC financing strategy. Amongst the various policy and legislation, is the environmental policy, which provide an umbrella policy framework for the different ecological thematic areas including climate change. The policy calls for the mobilisation of financial support from the industrialised economies through carbon initiatives to enhance afforestation, agroforestry and rehabilitation of the degraded ecosystems.

REDD+ policy is another legislation that has a significant potential to generate the much-needed finance of the NDC. The goal of the policy is to reduce deforestation and forest degradation and improve the sustainable management of forests to increase carbon stocks. The policy aims at, amongst others establishing and operationalizing a transparent REDD+ financial management mechanism and a fair benefit-sharing scheme. Thus, through carbon sequestration and carbon stock, the REDD+ policy can generate revenue for the NDCs components such as the purchase of efficient stoves, afforestation and payments to the community that manage the forests.

The Agriculture Policy and Investment Framework is another important policy that will support the financing strategy. GoE developed the national Agriculture Sector Policy and Investment Framework (PIF), a 10-year plan for agricultural development prioritising agricultural investment areas. To enhance agricultural sector investment, the PIF identifies and prioritises increasing agricultural productivity and production, rural commercialization, improving natural resources management, and disaster risk management and food security.

# 3. Institutional arrangements for the NDC

The updated ETH NDC will be implemented through the established multi-faceted institutional arrangement (GoE, 2021). The EFCCC is the lead agency for the coordination of country's NDC and the National Focal Point to the UNFCCC. Its main role and responsibility is to coordinate the country's implementation of the sectoral programmes and plans. The CRGE Facility which constitute the Ministry of Finance, is responsible for the financial mobilisation and Monitoring & Evaluation (M&E). The Planning and Development Commission (PDC) is an oversight body for the development planning process/discourses of the country. The National Meteorological Agency (NMA) collects, exchanges, and disseminates information and advice on meteorological data as well as adverse effects of weather and climate in Ethiopia. Lastly, there are various IEs which constitute the governmental departments/institutions that are responsible for the implementation of the sectoral climate change adaptation and mitigation interventions in the country. Furthermore, the communities, Community Civil Organisations and the private sectors will actively participate in the implementation of the NDC activities. Therefore, in line with the NAP ETH implementation framework, the NDC framework will be inclusive as depicted in Figure 2 below.

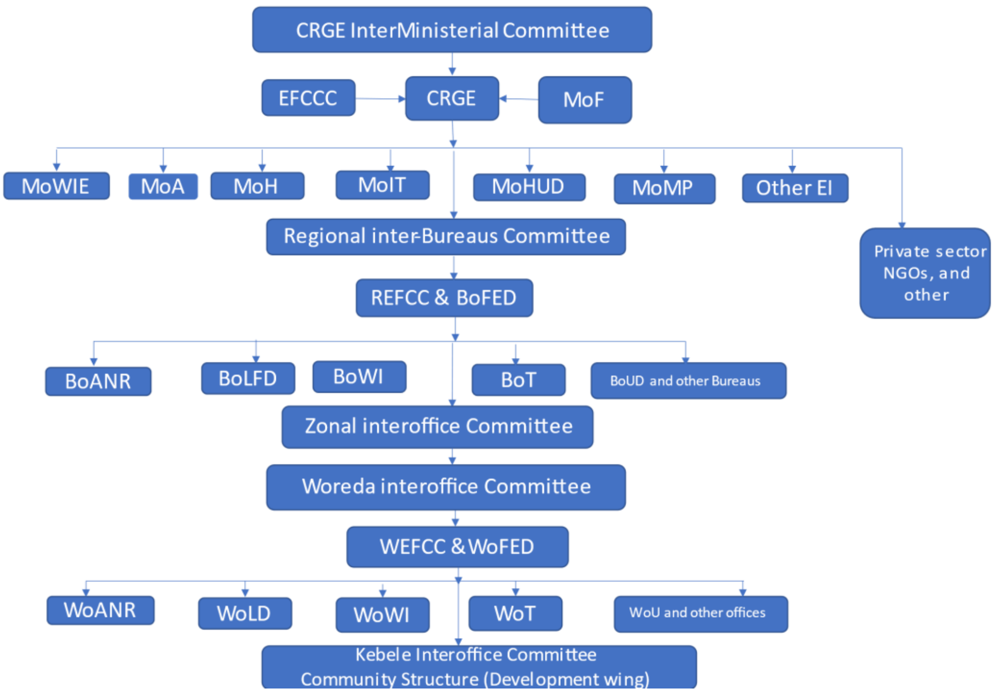


Figure 2: NDC Implementation structure
Adopted from the ETH NAP

## 3.1. Current institutional arrangements for funding and management

The CRGE Facility is housed at EFCCC and MoF, with additional support from national and international technical advisers on request. It was established with the overall purpose of mobilising and allocating, accessing domestic, international, public and private sources of finance for the implementation of the Ethiopia's CRGE Strategy. Furthermore, it coordinates the stakeholders in terms of how best to utilise available finance in the pursuit of the CRGE vision and goals. The CRGE Facility is guided by five principles to execute its objectives as follows:

- Principle 1: Be flexible and responsive enough to provide a single mechanism through which relevant stakeholders can finance and otherwise support CRGE;
- At all times channel resources to activities that are clearly aligned with the country's CRGE strategy;
- Support and incentivise a programmatic and transformative approach to climate change activities;
- Promote national ownership of and accountability for the effective use of all resources made available to the CRGE initiative; and,
- Ensure all its operations are efficient, effective, consistent and transparent.

The CRGE is made up of the Management Committee and the CRGE Secretariat (the Secretariat) which are housed at the MoF and EFCCC. It is responsible for the overall management and coordination of the Facility's portfolio (Figure *3*)**.** The Secretariat is made up of the Director, Coordinator and a technical team.

The Secretariat constitute the CRGE Facility director, a team from both the EFCCC and MoF. They are responsible for coordinating the Secretariat and ensures effective and efficient operations. A Finance Team, based in MoF, provides administrative and analytical support necessary to the mobilisation, recording, allocation, management, and oversight of pooled funds, ensuring that the CRGE Facility satisfies its responsibilities to all Finance Partners; and provides project implementation advice.

The EFCCC constitutes a Technical Team, whose responsibility include, providing technical support to the IEs to generate proposals and facilitates and leads the technical review of proposals. It is also responsible for measuring, reporting, and verifying (MRV) emissions and vulnerability outcomes stemming from approved actions

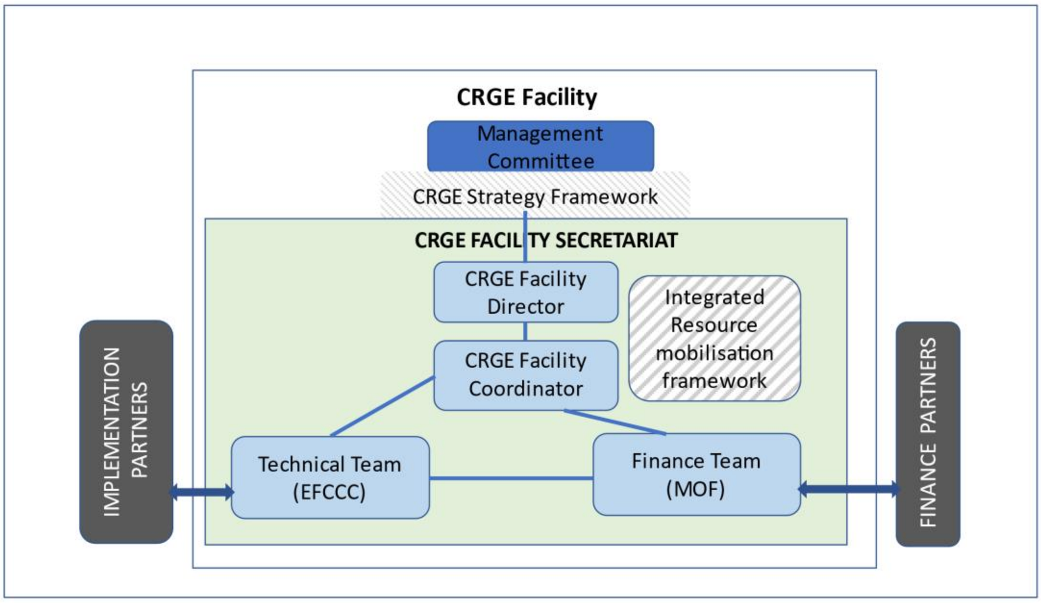


Figure 3. Basic Structure of the CRGE Facility

The management of the mobilised funds is based on an Integrated Resources Mobilisation Framework (IRMF) which consolidates the different elements of CRGE funds mobilisation, allocation and management (GoE, 2015). The facility operates two accounts being Facility Account and the International Account. Funds from the domestic sources mainly government public and the domestic which have no conditional requirements are defined as strategic agreements and deposited in the facility accounts. On the other hand, targeted allocations are those that have conditions, and will generally originate from the international funding. These funds are deposited in the international accounts (GoE, 2015). Figure 4 depicts, the facility operational model.

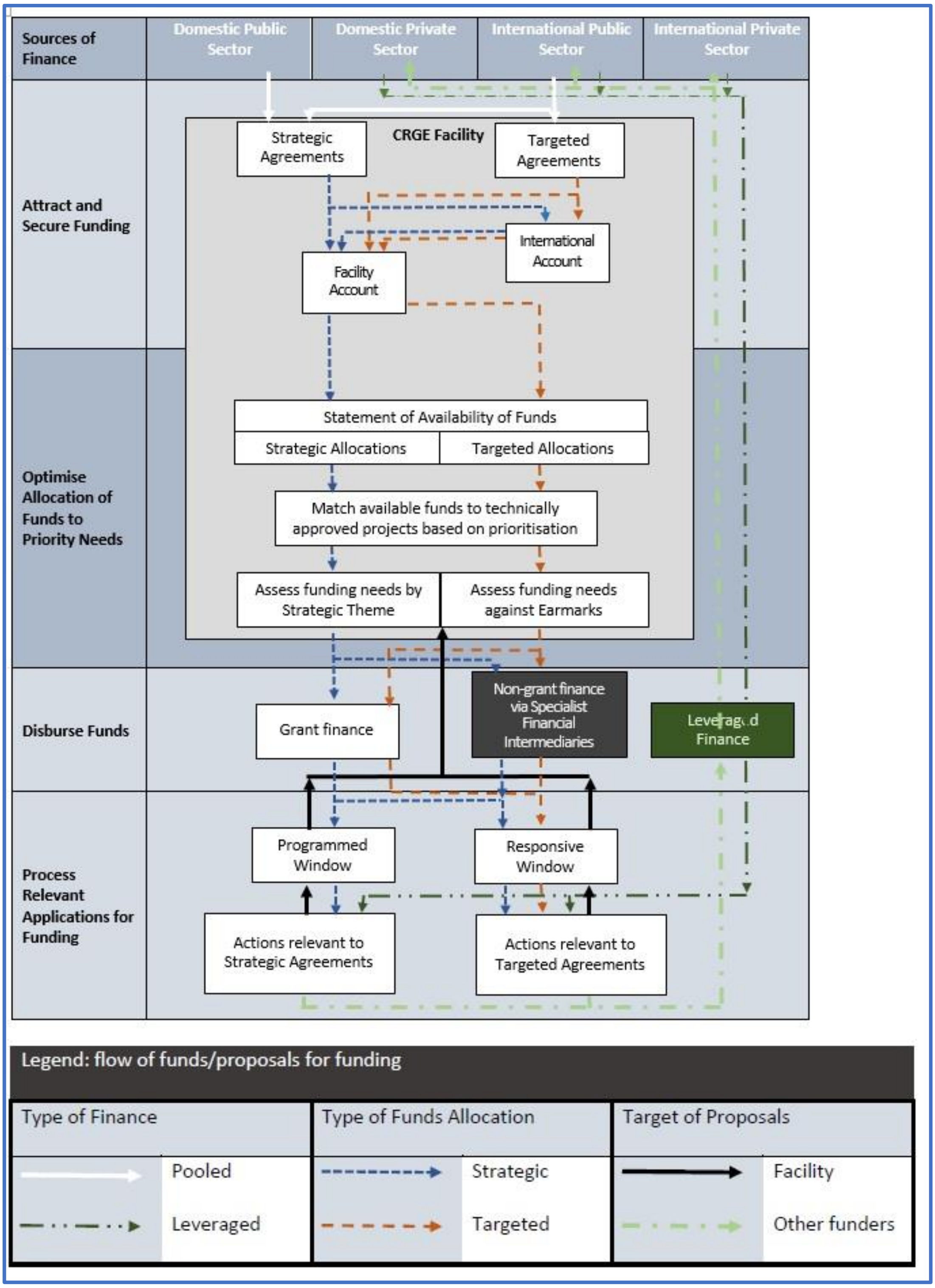


Figure 4. The CRGE Facility Operational Model

The management of the funds is aligned and compatible with the existing GoE accounting policies and procedures. GoE has adopted a double entry modified cash basis of accounting which is used at the Federal level and regions.

Following the existing accounting systems, the IEs will have separate ledger accounts for the Strategic and Targeted allocations. The IEs will account for the funds received and used and submit financial reports to the Treasury Directorate of MoF for consolidation at The Facility level. In addition, the system has robust auditing protocols for transparency to the international funders.

In the main, The Facility has robust and comprehensive systems in place and it is expected that it will effectively manage NDC mobilised funds. In addition, it is expected that various existing funds such as Forest Fund, a National Urban development & infrastructure Fund, Carbon Fund, REDD+ Fund, PES Fund will be established and be manage by the IEs based on the government accounting policies and procedures.

Prioritisation of the received fund will be determined by various factors such as funds conditionality, and the government priority areas. Funds that have conditions particularly from the funders will be used as per the funder's requirement. However, funds that have no conditionality (domestic funding) will be prioritised to adaptation measures. Adaptation must be prioritised over mitigation for domestic funding to building the country resilient and adaptive capacity to climate change. This strategy will avert country's vulnerability to famine, disease outbreak and possible human mortality. However, it is important that the Facility adopts the existing guidelines in prioritising the funds mobilised funding.

An assessment of The Facility to mobilise financial resources indicated that between 2015 and 2020, it has been able to raise approximately US$5.8 billion. Given the magnitude of the funding raises, it can be concluded that The Facility has the capability to manage the NDC funding.

# 4. Objectives, Scope and Methodology

## 4.1. Objectives

The main objective is to develop Ethiopia's NDC (ETH NDC) financing strategy and its implementation plan. This will involve cost analysis of the updated ETH NDC and estimating its financing gap. This will be followed by identification of the funding sources and development of the strategic activities to raise funding from each identified source. The financing sources will be identified from domestic (public and private) and international funding sources. Furthermore, the financing strategy will be supported by the implementation plan.

## 4.2. Scope

The specific objectives which determine the scope of the assignment are as follows:

- Estimate costing and overall investment needs to implement NDC mitigation, and adaptation actions set out in the updated NDC;
- Identify public sector funding gaps from the recently concluded CRGE Assessment study and also from the data sourced from the MoF that require international grant support and private sector investments to enable Ethiopia to implement climate actions to meet the mitigation and adaptation targets set under the NDC;
- Develop and financing strategy plan for resource mobilisation to help Ethiopia scale up investments in the implementation of NDC mitigation adaptation targets under the NDC revision process;
- Identify sectoral investment opportunities and barriers for private, sector investment and recommendations to address the barriers; and,
- Develop a detailed implementation plan for the financial strategy, including the required roles and responsibilities of the seven sectors involved in implementing the strategy based on assessing their resources and capacities to meet the requirements of the identified financial options for NDC implementation. This can be informed by the recently concluded NAP – Ethiopia resource mobilisation strategy, where the roles and responsibilities of the sectors have been identified.

## 4.3. Methods

Developing the ETH NDC financing strategy and its implementation plan involved a multi-methodological approach consisting of consultations with the key stakeholders, desk review and statistical data analysis and system thinking processes

The primary method employed was desk review on the government budgetary reports, reports on climate financing for the GoE, and the updated NDC report. This method was used to undertake costs analysis of the NDC, financing trends of the climate-related projects and ultimately projecting the financial flows. Based on the financial flow projection, the financing gap was established for the updated ETH NDC. In addition, desktop research was undertaken to identify possible international funding sources and modalities for accessing them. Development of the ETH NDC was also informed by lessons learnt, experience and best practices from various countries. Thus, desk review was also undertaken on the available NDCs financing strategies, and documentation on lesson learnt.

Furthermore, consultation with IEs was undertaken through questionnaires. The objective of the consultation was to identify the potential funding sources and the feasible strategic activities that can be employed to raise finance from each of the identified source. Furthermore, the consultation aimed at identification of the current challenges that is faced by the IEs and the private sector in investing in the NDC activities. In addition, capacity of the institutions to implement the financing strategy was also assessed.

# 5. Mainstreaming gender in the NDC financing strategy

Recognising that different gender groups have varying degree of vulnerability to climate change, the NDC financing strategy has embraced mainstreaming gender as one of the key considerations. This is also in line with the updated NDC as alluded to that ‘’across all the NDC measures, gender equality and inclusion of vulnerable groups and community has been the key element for designing and implementation to facilitate equitable outcomes (Benitez et al., 2021). The development of the NAP-ETH and its resource mobilisation strategy was also cognisant of the fact that women are often more vulnerable to climate change and therefore should be prioritised. Incidentally, one of the guiding principles for the NAP-ETH has been gender sensitivity (EFCCC, 2020). Similarly, the off-grid energy programme for the country prioritised gender mainstreaming as the key component of capacity enhancement initiative (EFCCC, 2020). To ensure effective gender mainstreaming in the climate change adaptation, the country developed the gender strategy with the sole purpose of ensuring full participation of all gender groups in the NAP-ETH.

Likewise, the NDC finance strategy embraces gender mainstreaming as one of the key factors that will determine the success of this strategy. This is because sectors such as offgrid rural energy and subsistence agriculture are dominated by women. Therefore, there is a need to have their full participation. This realisation has also resulted in a Closing gender Gaps Across Ethiopia’s Energy sector initiative project (The World Bank, 2019).

Ultimately, this financing strategy has been developed taking gender as a key priority. To achieve full participation of women and vulnerable groups, it is important that the ministry responsible for gender, youth and other vulnerable groups are strengthened to ensure women and vulnerable groups full participation in the ETH NDC implementation. Furthermore, projects that are women, youth and other vulnerable groups centric should be subjected to cross-subsidisation *e.g.* rural off-grid renewable projects.

# 6. Experience from other countries on NDC financing and lessons learnt

In order to develop a robust and practical financing strategy that will enhance mobilisation of finance for the ETH NDC implementation, it is important to assess the international experience, challenges, lesson and countries best practices/experiences in financing NDC. This approach will assist in developing financing strategy that is enriched with practical lessons from other countries. However, an assessment of the international experience on the NDC financing and implementation has scant information as they are relatively new. Countries are just starting to prepare for their implementation by producing their implementation plans and financing strategies. For instance, Kenya is one of the first countries in Africa to develop a NDC financing strategy in 2020.

The NDC financing landscape is highly dynamic and competitive as more and more developing countries become more active in scaling investments into the NDC implementation. In fact, most of the developing countries see more opportunities in the NDC as engines of their economic transformation.

The IKI MI program, has documented best practises and experience, opportunities, and challenges of different countries in their quest to mobilise financing for the NDCs. The first lesson documented is on the appropriateness of the approach to use in mobilising finance for NDC implementation, whether top-down or a bottom-up approach or a combination of the two. One of the key lessons learnt is that both approaches work well in mobilising resources. The experience from the various countries is that it is imperative to have macro-economic interventions in the finance mobilization strategies to enhance the World Bank's Ease of Doing Business rankings (Electric Capital Management, 2020). The top-down and bottom-up approaches have been used for mobilising financing for climate change mitigation projects in Bangladesh, Kenya, Vietnam, and Peru amongst others.

Another key lesson is the importance of stakeholder engagement. The lesson learnt is that engaging the private sector stakeholders (individual companies, industry associations, individual investors) is essential and could raise significant financing (Electric Capital Management, 2020). This key lesson is learnt from countries such as Peru, Bangladesh, Vietnam and others.

The use of engagement strategies (communication strategy) is fundamental to raising awareness on the opportunities and attracting investment from the private sector. The strategy was successfully applied in Peru, Kenya, and Vietnam to raise private sector awareness on the NDC investment opportunities.

One of the instruments that is highly emphasised in the available financing strategies are green bonds to mobilise financing. Countries such as Kenya and Cote d'Ivoire are strongly looking into issuing of green bonds to finance its NDCs implementation. However, their success cannot yet be attested since they have not been implemented. In developed countries such as New Zealand, UK and USA, green bonds have been used successfully to raise finance for green projects such as renewable energy, electric trains etc. In China, the green bonds worth more than US$ 120 billion have been issued and accounted for over 52.6 million tons of $CO_2e$ emission reduction.

Another key lesson learnt from the NDC Partnership that contributes to the success of NDC financing is multi-stakeholder engagement. The benefits of the multi-stakeholder engagement include the following:

Enhanced mainstreaming of NDC into national and sectoral plans and budgets;

Identification and possibly commitment of domestic, international, and private finance; and,

Alignment between the NDC, the national development agendas and the Sustainable development Goals (SDGs) (NDC Partnerships, 2019)

Countries such as Saint Lucia, Honduras Jordan, Mali, Rwanda, and Uganda amongst others are developing the multi-stakeholder engagement strategies.

Different countries have different experiences and lessons learnt on the barriers impeding mobilising financing for the NDCs. These include existence of unfavourable tax and pricing which makes the NDC projects non-viable. Another important lesson learnt is the lack of capacity of the government officials to develop proposals to mobilise international funding. In terms of availability of funding, a lesson learnt is that there is a mismatch between the adaptation and mitigation funding request and available funding. Therefore, funding availability will be a limitation for the implementation of the NDC goals. For the adaptation activities, it is estimated adaptation financing gaps is in the order of magnitude of 50–85% (ACT, 2017).

## 7. Updated NDC total implementation cost analysis

One of the prerequisites of a comprehensive financing strategy is the development of a detailed budget. The budget constitutes the total costs (capital expenditure and operational expenditure). According to the updated NDC, the total budget is estimated at US$316 billion. The total cost constitutes 20% as unconditional (US$63.2 billion), whilst 80% (US$252.8 billion) will be conditional. Table 1 below depicts the summary of the NDC budget for the ETH NDC. To ensure effective cross-reference between this financing strategy and the updated ETH NDC report, the NDC sectoral interventions are described in detail in the updated ETH NDC report.

Table 1: Cost estimates for the NDC sectors (updated NDC report)

| NDC sectoral intervention area | budget (US$ billion) |
|---|---|
| agriculture &forest: Microlevel household level and biodiversity response | 7.6 |
| Urban development: establish a National Urban development & infrastructure Fund; urban planning and risk management, local economic development, urban infrastructure, and services | 8.26 |
| water, irrigation & energy: power generation, access to energy, irrigated agriculture, Access WASH, Cross cutting, capital investment | 24.38 |
| Health: reduced tropical diseases, increase proportion of households with improved toilet, increase proportion of households with safe water supply, increase proportion of health care facilities safely managing health care waste, Increase proportion of health facilities with safe energy sources (electricity, solar | 0.23 |
| agriculture: Agricultural Mechanization, Value chain efficiency improvement (improved feeding, reduced Shoats and calf mortality, improved cattle breed, increase offtake) Enhancing and intensification of diversifying animal mix, rangeland, and pastureland management, Enhance lower-emitting techniques for agriculture, small- and large-scale irrigation (water efficiency) | 95.87 |
| forestry: reduced deforestation (Fuel efficient stoves, LPG) Large- and small-scale afforestation/ reforestation and area closure (Afforestation) Large- and small-scale afforestation/ reforestation and area closure (Re-afforestation) Large- and small-scale afforestation/ reforestation and area closure (Degraded Forest land restoration and assisted natural regeneration) Forest management | 0.76 |
| Mines: Biodiesel in fuel mixture, Ethanol in fuel mixture Ethanol for cook stove, Plantation and LPG | 0.05 |
| urban development: landfill gas management, reuse, reduced and recycling of solid waste, Urban greenery, and integrated infrastructure planning & Implementation of energy efficient buildings | 0.62 |
| transport: improved public transit in Addis Ababa light rail transit, improved public transport infrastructure, Improving NMT environment, promotion of hybrid and electric vehicles and improved emission standards Para transit/informal transport, like taxi system, etc | 16 |
| water & energy: Generating energy from renewable sources, Climate resilience water land management, Reducing electricity demand through efficient light renewable energy, climate resilience water land management, energy efficient appliance and irrigation light, | 80.35 |
| industries: clinker substitution, waste heat recovery, energy efficiency, fuel switch, alternative production processes and improved industrial waste management system | 81.78 |
| Total | 316 |

Consistent with the CRGE strategy and the resource mobilisation strategy NAP ETH, the derived budget will be financed from the domestic (government public spending) and international sources. As per the updated ETH NDC, it is envisaged that 80% of the budget will be conditional and will be raised from international sources.

## 7.1. Budget projections and financing gap for the NDC area

Another aspect that is required in the development of the NDC financing strategy is the financing gap. A financing gap is estimated as the budget deficit, *i.e.*, the difference between the budget and the available finance.

At the global level, UNFCCC, estimates that global partners need to jointly mobilise at least US$ 1.5 trillion per year of climate finance, to implement the mitigation measures to close the 17 GtCO2e emissions gap for the year 2030 (UNCC, 2017). However, the pledges by the developed country have been to mobilise the US$ 100 billion for the developing countries to implement their mitigation measures. Thus, globally the climate finance gap is quite significant.

For the updated ETH NDC, to estimate the financing gap, it is necessary to distinguish the cost estimates for the NDC adaptation and mitigation measures. This is necessary to develop the NDC financing strategy and its implementation plan.

The total budget for the implementation to the NDC for 10 years (2020-2030) is US$ 316 billion (GoE, 2021). The NDC adaptation component constitutes US$ 40.486 billion while the NDC mitigation accounts for US$ 275.45 billion.

The basis for estimating the ETH NDC financing gap was on assessing the past government expenditure on the climate related investments and the international funds received. Eshetu et al. (2014) made the first attempt in estimating the magnitude of public budget allocation to climate change in Ethiopia using the CPEIRs methodology. The study indicated that the estimated average annual percentage share of climate change-related public expenditure accounted for about 15 per cent of total government expenditure or 1.8 per cent of GDP between 2008/2009 and 2011/2012. Therefore, using the 10 YPDP government expenditure, it is projected that government expenditure on climate-related intervention will increase from US$ 3 billion to US$ 9 billion annually from 2021 to 2030, respectively. Based on this projection, the total revenue that can be raised by the government is approximately US$51 billion. This leaves a domestic ETH NDC financing gap of approximately US$ 12.2 billion over its implementation period.

However, the projected financing gap is based on the business-as-usual scenario. Due to the uncertainty presented by various factors such as Covid 19, domestic and regional political instabilities which could affect economic growth, it is necessary to estimate financing gap under worst-case scenario. For instance, Demiessie (2020) noted that Covid 19 will have a significant impact of the government expenditure. Under the worst-case scenario, it is assumed that the government expenditure will be lower than the projected in the 10 YPDP due to Covid 19 and other factors which will dampen economic growth. It is estimated that COVID-19 has resulted in a decline in the country's economic growth by 2.9% points for the year 2020 (World Bank, 2020c). Based on the projected economic growth decline, reallocation of the budget to social protection nets and increase expenditure to Covid 19 vaccination, an 8% government expenditure on climate related expenditure is used under worst case scenario. Therefore, total revenue that will be raised domestically is approximately US$ 30 billion resulting in a financing gap of US$33.2 billion over a 10-year period. Thus, the domestic financing gap ranges from US$ 12.2 billion to US$ 33. 2 billion with an average of US$ 22.6 billion.

In addition to the government public spending, the NDC will be financed from the international funding sources, mainly the MDB and bilateral climate funds sources. To estimate the expected amount from the international funding sources, an assessment the past global financing flow into the country was made. Based on the analysis of past international flow, projections on future funding from the international sources were made under a business-as-usual scenario and the worst-case scenario. The business-as-usual scenario assumes that international financing growth trajectory will be like past growth and hence a linear growth. On the other hand, worst-case scenario assumes that international funding source will grow at a lower rate due to issues to Covid 19 and the regional conflicts as fuelled by the Grand Ethiopian Renaissance dam and the Tigray Conflicts.

Over the past years, GoE has received international funding from various sources. The country has over the years maintained a well-diversified portfolio of donors. The funders include a mixture of bilateral and multilateral sources mainly ODA, loans and grants.

An assessment of the climate finance flows into the country indicates a steady growth over the years from the various sources, totalled US$ 3.87 billion between 2013 and 2017. Figure 5 below depicts the annual international finance flows supporting both the climate adaptation and mitigation projects. These funds constitute contributions from the multilateral development banks (MDBs), bilateral partners and climate funds.

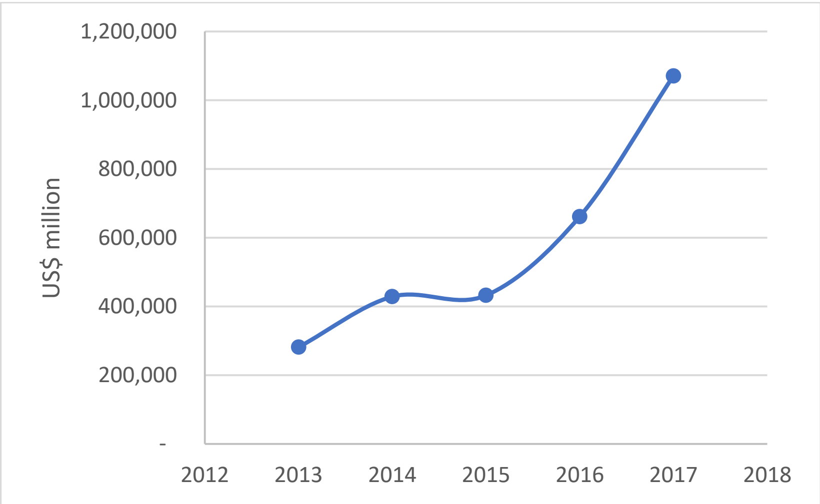


Figure 5: climate finance flow into the country
Source (Care & Consortium for climate change Ethiopia, 2020)

An analysis of the financial flow reveals that the climate finance from the MDBs constituted approximately 22% of the total climate finance flow (Figure 6).

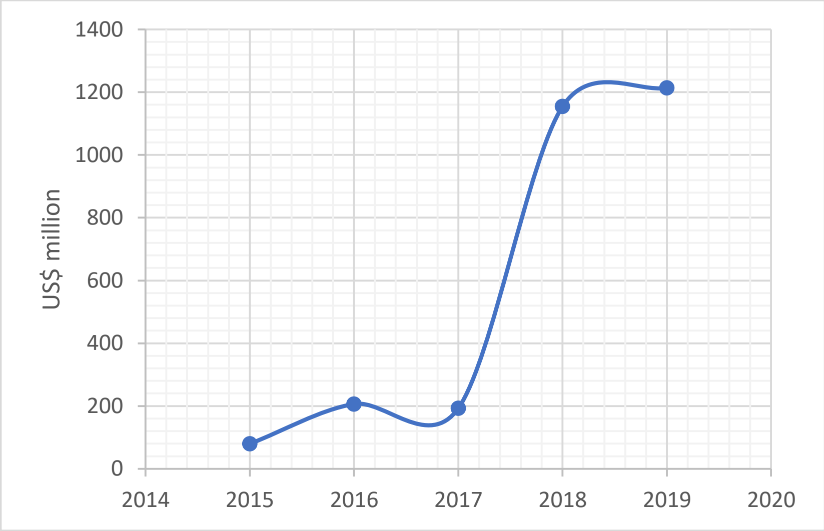


Figure 6: climate finance from the MDBs
Source (world Bank, 2020)

However, in terms of total official development assistance (ODA), Ethiopia is the highest recipient of foreign aid (OECD, 2019). Figure 7 below depicts ODA received by the GoE between 2015 and 2017. However, the financial assistance received is distributed to various sector with multi-sector under which climate change fall receiving less than 7% of funding (OECD, 2019).

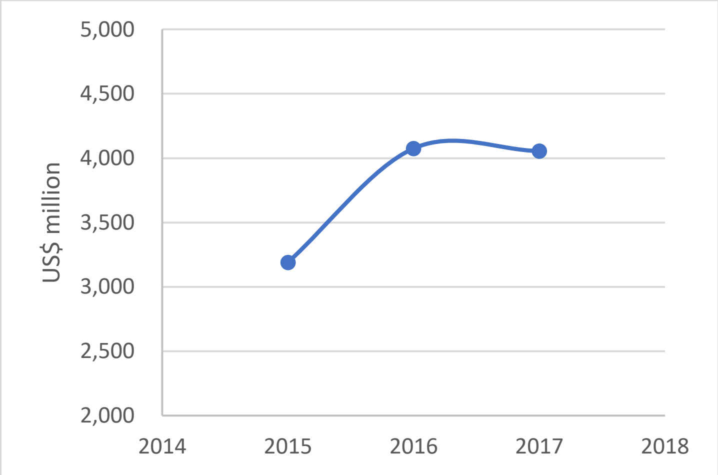


Figure 7: Total official development assistance to GoE

Based on the past financial flows and using business as usual (BAU), and worst-case scenario, financial projections for the international flow were derived as in Figure 8.

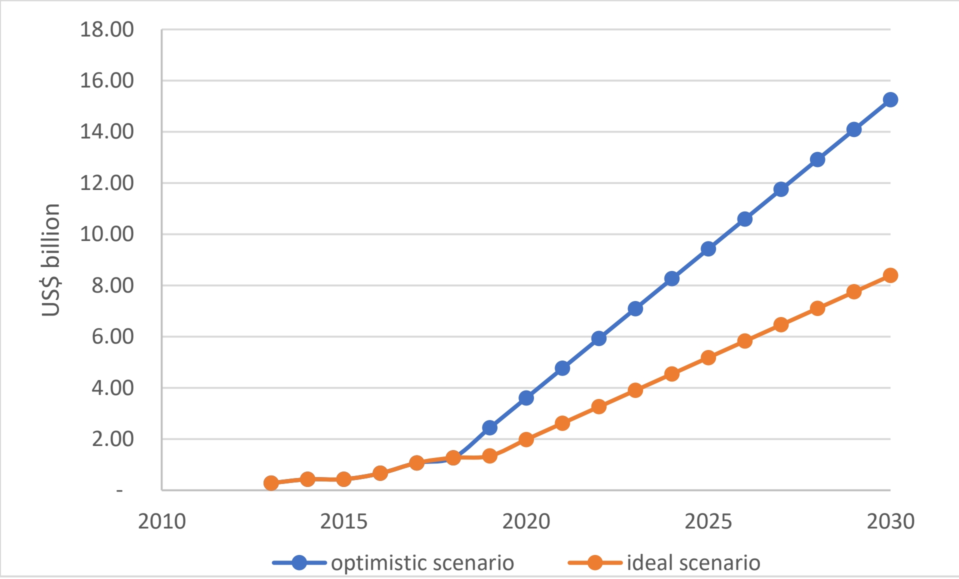


Figure 8: projected international financial flow for climate related financing

Based on the two scenarios, total projected financial assistance on climate related activities is estimated to range between US$55 billion to US$100.08 billion over the 10 years of NDC implementation. According to the updated NDC, the expected conditional financing from international sources is US$ 252.9 billion which leaves an international ETH NDC financing gap ranging from of US$ 152.82 billion to US$ 197.86 billion. The average international financing gap is thus US$175.34 billion. This is a huge financing gaps which will be extremely difficulty to close given the limited international finance available and the competition from the developing countries.

The estimated total ETH NDC financing gap (unconditional and conditional financing) is estimated at between US$164.82 billion to US$231.06 billion. Thus, an average total ETH NDC financing gap of US$ 197.94 billion.

Closing this estimated ETH NDC financing gap could be very difficult due to domestic and international challenges ranging from stagnating economic growth from Covid 19, possible reallocation of government budget to address the health crisis caused by Covid 19 and reduced flow of international funding due to the regional and domestic conflicts.

Nevertheless, it is expected that this financing gap will be closed through raising additional revenue from the government budget through cost recovery measures such as review and adjustment of users' fees, payments for ecosystems services (PES), sale of carbon credits, private sector investments and international funding from both ODA, loans and grants from climate funds.

## 7.2. Estimated Analysis of ETH NDC financing gap

Climate change adaptation is defined as activities that aim to reduce community and natural system vulnerability to climate change and climate-related risks by increasing the system's resilience. This is achieved by increasing the systems (socio-economic and natural systems) adaptive capacity to climate change. The adaptation section of the NDC focused on agriculture and forestry, urban development, water, irrigation and energy, and health. Therefore, the ETH NDC adaptation measures are fully consistent with the NAP ETH.

The budget for the adaptation section of the NDC is estimated at US$ 40.48 billion (GoE, 2021). The budget breakdown was based on the estimates by SSN as depicted in Table 2 below.

Table 2: Cost estimated for the adaptation component of NDC

| ETH NDC adaptation sectoral and measures | budget (US$ million) |
|---|---|
| Agriculture & Forest: Microlevel household level and biodiversity response | 7.6 |
| Urban development: establish a National Urban Development & Infrastructure Fund; urban planning and risk management, local economic development, urban infrastructure, and services | 8.26 |
| Water, irrigation & energy: power generation, access to energy, irrigated agriculture, Access WASH, Cross cutting, capital investment | 24.38 |
| Health: reduced tropical diseases, increase proportion of households with improved toilet, increase proportion of households with safe water supply, increase proportion of health care facilities safely managing health care waste, Increase proportion of health facilities with safe energy sources (electricity, solar) | 0.234 |

Estimating the ETH NDC financing gap for the various sectoral activities assumed that allocation of the available funds will be based on the proportion of adaptation and mitigation to the ETH NDC total budget. As adaptation sectors constitute 12% of the budget, its financing gap was estimated to be 12% of the total ETH NDC financing gap. Thus, ETH NDC adaptation financing gap was derived to range from a minimum of US$19.78 to US$27.7 billion with an average of US$ 23.76 billion, which is equivalent to US$2.37 billion per annum. Figure 9 depicts the projected financing gap over the NDC implementation period.

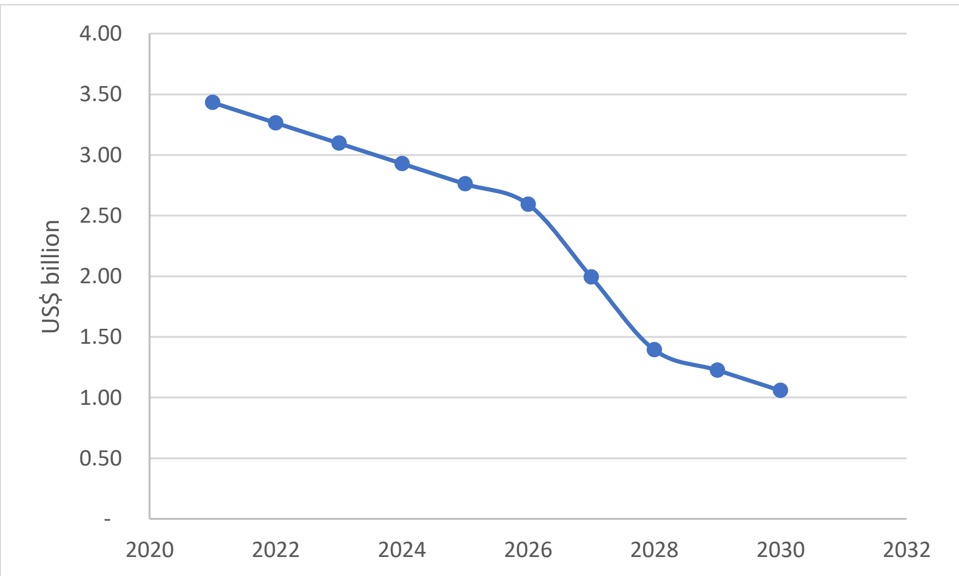


Figure 9: Annual financing gap for NDC adaptation

Furthermore, financing gap was estimated for the components of NDC adaptation and Table 3 depicts the projected average ETH NDC adaptation sectors financing gap.

Table 3: Estimated financing gap for the NDC adaptation sectors

| NDC adaptation sector | budget (US$ billion) | financing gap (US$ billion) |
|---|---|---|
| Agriculture &forest: Microlevel household level and biodiversity response | 7.6 | 4.45 |
| Urban development: establish a National Urban development & infrastructure Fund; urban planning and risk management, local economic development, urban infrastructure, and services | 8.26 | 4.84 |
| Water, Irrigation & Energy: power generation, access to energy, irrigated agriculture, Access WASH, Cross cutting, capital investment | 24.38 | 14.29 |
| Health: reduced tropical diseases, increase proportion of households with improved toilet, increase proportion of households with safe water supply, increase proportion of health care facilities safely managing health care waste, Increase proportion of health facilities with safe energy sources (electricity, solar) | 0.23 | 0.13 |
| Total | 40.486 | 23.73 |

## 7.3. Cost analysis and financing gap for the NDC mitigation sectors

The Mitigation component of the ETH NDC has the lion's share of the budget, estimated at US$ 275.45 billion. Table 4 depicts the budget details of the mitigation by sector.

Table 4: Cost estimates for the NDC mitigation sectors

| NDC mitigation sectors | US$ billion |
|---|---|
| Agriculture: agricultural mechanization, value-chain efficiency improvement (improved feeding, reduced Shoats and calf mortality, improved cattle breed, increase offtake) Enhancing and intensification of diversifying animal mix, rangeland, and pastureland management, enhance lower-emitting techniques for agriculture, small- and large-scale irrigation (water efficiency) | 95.87 |
| Forestry: reduced deforestation (fuel efficient stoves, LPG) large- and small-scale afforestation/ reforestation and area closure (afforestation) Large- and small-scale afforestation/ reforestation and area closure (re-afforestation) large- and small-scale afforestation/ reforestation and area closure (Degraded Forest land restoration and assisted natural regeneration) Forest management | 0.765 |
| Mines: Biodiesel in fuel mixture, Ethanol in fuel mixture Ethanol for cook stove, Plantation and LPG | 0.05 |
| Urban development: landfill gas management, reuse, reduced and recycling of solid waste, Urban greenery and integrated infrastructure planning & Implementation of energy efficient buildings | 0.62 |
| Transport: improved public transit in Addis Ababa light rail transit, improved public transport infrastructure, Improving NMT environment, promotion of hybrid and electric vehicles and improved emission standards Para transit/informal transport, like taxi system | 16 |
| Water & energy: renewable energy, climate resilience water land management, energy efficient appliance and irrigation light, | 80.35 |
| Industries: clinker substitution, waste heat recovery, energy efficiency, fuel switch, alternative production processes and improved industrial waste management system | 81.78 |
| Total | 275.45 |

Using the same approach for estimating the ETH NDC adaptation component financing gap, of assuming equitable distribution of available resources by NDC activities, the financing gap for mitigation was estimated at an average of US$ 174.18 billion which accounts for 88% of the total

ETH NDC financing gap. This is a financing gap of approximately US$ 17.18 billion annually as depicted in

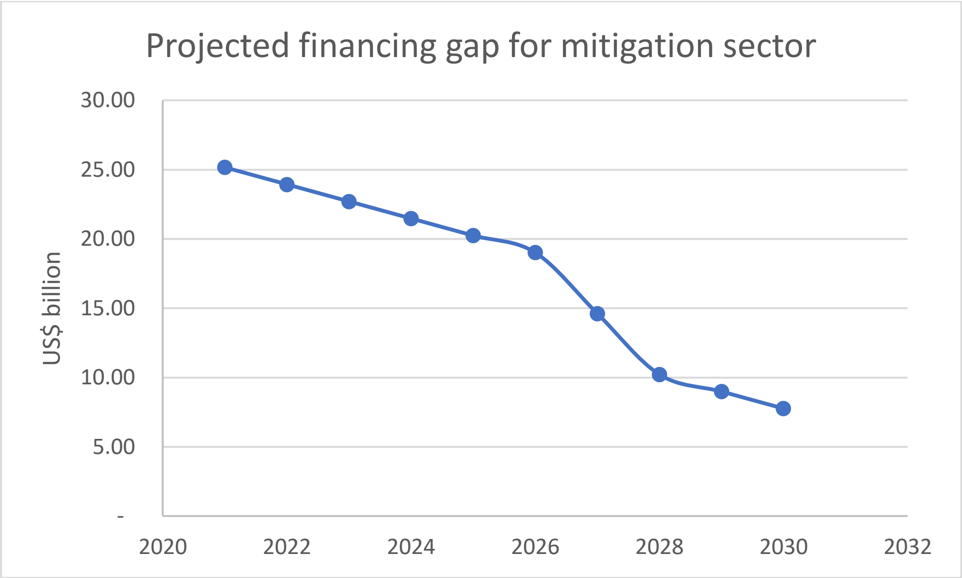


Figure *10* below.

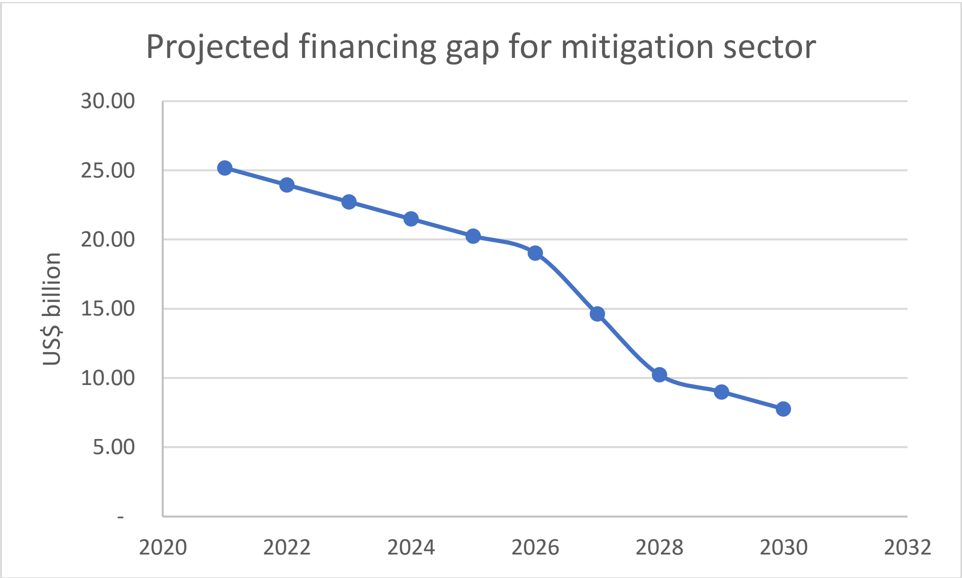


Figure 10: Annual financing gap for NDC mitigation

Table 5 below depicts the estimated ETH NDC sectoral mitigation financing gap breakdown.

Table 5: estimated financing gap for the NDC mitigation sectors

| NDC Mitigation sector | Budget US$ billion | Financing gap US$ billion |
|---|---|---|
| Agriculture: agricultural mechanization, value chain efficiency improvement (improved feeding, reduced Shoats and calf mortality, improved cattle breed, increase offtake) enhancing and intensification of diversifying animal mix, rangeland and pastureland management, enhance lower-emitting techniques for agriculture, small- and large-scale irrigation (water efficiency) | 95.87 | 60.63 |
| Forestry: reduced deforestation (Fuel efficient stoves, LPG) Large- and small-scale afforestation/ reforestation and area closure (afforestation) large- and small-scale afforestation/ reforestation and area closure (re-afforestation) large- and small-scale afforestation/ reforestation and area closure (degraded forest land restoration and assisted natural regeneration) forest management | 0.77 | 0.48 |
| Mines: Biodiesel in fuel mixture, Ethanol in fuel mixture Ethanol for cook stove, Plantation and LPG | 0.05 | 0.03 |
| Urban development: landfill gas management, reuse, reduced and recycling of solid waste, Urban greenery, and integrated infrastructure planning & Implementation of energy efficient buildings | 0.63 | 0.40 |
| Transport: improved public transit in Addis Ababa light rail transit, improved public transport infrastructure, Improving NMT environment, promotion of hybrid and electric vehicles and improved emission standards Para transit/informal transport, like taxi system, | 16 | 10.12 |
| Water & energy: Generating energy from renewable sources, climate resilience water land management, Reducing electricity demand through efficient light renewable energy, climate resilience water land management, energy efficient appliance and irrigation light | 80.35 | 50.81 |
| Industries: clinker substitution, waste heat recovery, energy efficiency, fuel switch, alternative production processes and improved industrial waste management system | 81.79 | 51.72 |
| Total | 275.45 | 174.19 |

# 8. An assessment of barriers to financing the NDCs

To develop a comprehensive financing strategy for the ETH NDC, there is a need to undertake an in-depth assessment of the current/existing barriers and challenges that could inhibit investment and financing. This is critical as the financing strategy aims at creating an enabling environment that will remove the identified barriers and thus encourage financing from the government, private sector and international funding sources. This section thus identifies and highlights the barriers to the ETH NDC sectors for all the possible funding sources.

Based on the existing barriers, a financing strategy is developed with strategic financing activities aimed at removing the obstacles. To avoid repetition, the obstacles are not discussed under a specific sector, resulting in duplication.

**Limited international funding and many competing developing countries**

The first and significant barrier to financing the updated ETH NDC which will be difficult to resolve and will impede the implementation of the ETH NDC activities is limited international finance and many competing countries for the limited finance. According to the UN Climate Press, the required global investment is estimated at approximately US$1.5 trillion annually, while the developed countries have pledged US$100 billion for developing countries to implement their NDCs. It is estimated that by 2018, US$80 billion was raised which is short of the pledged. To put issues into perspective, the ETH will require a US$25 billion annually for its implementation, which is a quarter of the annual developed countries pledges for 2020. It is thus unrealistic to assume that ETH NDC can be allocated 25% of the developed countries pledges alone. Therefore, international funding is one of the major limitations for finding the NDC.

**Limited financial resources to implement the required investment**

GoE is classified as a low-income economy with an estimated per capita income of US$936 (World Bank, 2021). However, over the years, the country has experienced accelerated economic growth averaging 9.4% a year from 2010/11 to 2019/20 (World Bank, 2020). The country, through the CRGE strategy, aims to achieve middle-income status by 2025. Despite the massive economic growth rates, the country has significant budget constraints to implement the required ETH NDC capital costs. One of the immediate challenges faced by the GoE is a high level of poverty. It is estimated that the national poverty rate in the country is around 26 per cent (World Bank 2020b). Thus, the country is faced with challenges of prioritising the immediate socio-economic challenges over the NDCs projects particularly the NDC mitigation components.

According to the 10 YPDP, the national budget deficit is projected to grow from approximately US$ 2 billion to US$12.61 billion[1] investment from 2019/20 to 2030 per year. An increase in the national budget deficit could constrain the country from implementing the ETH NDC investment needs as it cuts down on its expenditure to reduce the growing budget. Additionally, the country may be forced to increase borrowing to close the budget deficit, resulting in high national debt and the cost of borrowing.

[1] Exchange rate US$1=ETB44.03 on the 22 July 2021.

**Political stability**

Political stability is one of the main determining factors for foreign direct investments (FDI) and ODA. Currently, Ethiopia is faced with internal conflicts in the Tigray region and with the neighbouring countries, mainly Sudan and Egypt, over the Grand Ethiopian Renaissance Dam filling. These political instabilities create risks and uncertainty hence limits FDI. Similarly, this political instability will also reduce the ODA received by the GoE. For instance, British Broadcasting Corporation reported that the USA would likely reduce aid to Ethiopia over the filling of the dam (BBC, 2020).

Thus, given the already stretched national budget, a reduction in FDI and ODA will further put a financial strain on the country ability to implement the ETH NDCs. Subsequently, Ethiopia is one of the most significant recipients of ODA, constituting 8% of the total assistance received by Africa (OECD, 2019).

**Covid 19 crisis**

Covid 19 pandemic presents the immediate and possibly long terms significant impact to the Ethiopia economy. The pandemic has resulted in health crisis and a significant decline the country's economic growth, with projection of decline ranging from 2.9% to 4% (AU, 2021). The implications of Covid 19 impact are reallocation of the budgeted or earmarked NDC funds to the health sector mainly purchase of vaccines and protective clothing. In addition, Covid 19 will have a significant impact on the agricultural sector resulting in food shortages and possible famine. This could force the government to reallocate the earmarked revenue to social protective nets such as distribution of food basket to the households. Moreover, it could result in additional households falling into poverty and increasing the households requiring social protective nets programme. Consequently, Covid 19 impacts will undoubtly significantly slow down the country's efforts to raise mobilise and allocate financial resources for the ETH NDC implementation.

**Underdeveloped private sector and creditworthiness**

According to the World Bank (2020) the private sector in the country is highly underdeveloped. The private sector in the country is dominated by small scale and informal sectors with low financial muscle. Therefore, this creates a barrier for the private sector to invest significantly in the NDC. For instance, farmers in the country are mainly small-scale with limited financial resources to invest in the ETH NDC projects such as large-scale irrigation and commercial poultry projects.

Another factor that will prevent the private sector from participating in the ETH NDC implementation is access to credit facilities. According to the World Bank (World Bank, 2019), only 16 per cent of the private sector uses finance from banks for its activities, compared with Kenya, where the comparable figure is 41 per cent. Therefore, it will be difficult for the small farmers for instance, to mechanise the farming activities without credit/loans from the financial facilities.

Linked to the low accessibility to credit is creditworthiness of the private sector mainly small-scale agriculture. A critical factor that makes the private sector credit unworthy is the lack of ownership of collateral, particularly land ownership. According to the World Bank (2019), the barrier of creditworthiness and lack of access to credit is mainly experienced by women. It is estimated that 49 per cent of female-managed firms identified access to finance as a significant constraint, compared with only 19 per cent of male-managed firms (World Bank, 2019). It is thus important that women centric or dominated ETH NDC measures are subsidised.

**High transaction cost and limited financial viability**

ETH NDC projects such as large-scale irrigation, mechanisation of the farms and the energy sector are high investment costs. Linked to the high initial investment costs, there are also limited financial viability, mainly due to low tariffs and market prices for the product. This thus discourages private sector investment in these projects.

**High investment risks and lack of risk transfer mechanisms**

Sectors such as agriculture and forestry are characterised by multiple hazards such as drought, pests, diseases and fires amongst others. Considerable investment risk implies that it contributes to the non-viability of the investment or project collapse. This subsequently discourages both the lending institutions and investors from investing in the project.

The barrier of high investment risk is compounded by the absence of the risk transferring mechanisms such as insurance schemes and on-lending schemes for crops and livestock, amongst others.

**Lack of infrastructure and technology development**

Another barrier that could inhibit the investment into sectors, particularly the agriculture sector, is infrastructure development. This is particularly evident for animal health centres, poultry facilities, electricity connections and waste management facilities. For instance, the CRGE strategy identified the lack of chicken grandparent farm in Ethiopia as one of the major factors that create barrier to the expansion of the poultry sector. In addition, there is also a need for improvement of the roads to ensure swift transportation of the products to the market centres. The livestock master plan has also articulated various barriers which inhibit investment in the agricultural sector. These include lack of technology development and capacity of the animal health extension in advising the private sector and lack of infrastructure for the animal health services

**Defined property rights**

Land in the country belongs to the state as defined in the constitution ''the right to ownership of rural land and urban land and all-natural resources is exclusively vested in the state and the peoples of Ethiopia''. Therefore, lack of formal ownership to land makes it difficult to use the land as collateral for credit. Subsequently, small-scale farmers are limited to undertake development that can result in the commercialisation of their farmers. Lack of defined property rights land will dis-incentivise the farmers and rural community to implement adaptation and mitigation that are ecosystem-based such as sustainable land management, small-scale afforestation, and integrated sustainable land management as outlined in the updated ETH NDC report.

**Capacity and lack of knowledge of officials to mobilise resources**

According to the EFCCC (2020b) and the NAP ETH and based on consultation with the stakeholders, one of the significant barriers identified to mobilise resources is the government officials' limited capacity to develop proposals are per the fund's requirements. linked to government officials limited capacity is the complexity and length process and requirements by the international financing institutions. The combination of these two factors makes it extremely difficult to access international funding.

The institutions are constrained to develop the proposal and mobilise the international funding. In addition, government officials tasked with implementing the NDC related activities have limited knowledge of international funding sources.

In addition, since the government officials lack knowledge on the available international funding, it is challenging to communicate the availability of international financing opportunities to the private sector. It is, therefore, important that the government officials are capacitated on the available budget and their requirements.

**Lack of knowledge on available climate-related investment opportunities**

One of the main barriers consistently highlighted by the stakeholders is a lack of information on climate-related investment opportunities. This is made by the fact that there is a lack of communication between the private sector and the government on the NDC activities. Consequently, this makes it difficult for the private sector to invest in the available ETH NDC opportunities. In addition, when the NDC opportunities are presented to the private sector, they are not done in business language as investment viable business opportunities.

**Lack of database on climate financing**

It is important that the country has a well-managed climate fund database which constitutes both the domestic, private and international sources. This data based can be used for monitoring purposes and guide the country in terms of planning and areas of improvements. Currently, the GoE has no such database which makes it difficult in terms of planning and organisation for improvements. **Pricing policies causing disincentives**

Another barrier that has been identified by the livestock master plan is the pricing policies which dis-incentivise the farmers to invest in the agricultural sector. The policy dis-incentivise the farmers by allowing imports which are cheaper and outcompete the locally products such as dairy. The master plan recommended introduction of protective trade policy that includes increasing import tariffs or bans and/or subsidies for domestically-produced milk to enable competition with imports; and establishment of a grading and standards system for dairy products.

**Lack of clear policies and regulatory frameworks on climate change and lack of implementation of existing policies**

Implementation of the NDC activities calls for a well-defined legalisation and policy framework. This can create a conducive environment and enhance the NDC projects viability. This is critical for the private investment. However, consultation with the stakeholders and desk review has identified significant lack of clearly defined policies and regulation frameworks on climate change. This therefore does not motivate change in favour of the climate mitigation projects such as hybrid and electric vehicles, and renewable engine. Whilst the NDC advocate for improved emission standards, the implementation of the existing policies and the standards has also been found to be lacking. This creates a barrier particularly for private investment in the ETH NDC.

Addressing the identified barriers for investment in the ETH NDC will involve creating an enabling environment such as de-risking the ETH NDC investments, strengthening the private investment, establishment of an agricultural bank. This can be achieved through creating PPP, a partnership between the public and private sector. These strategic activities are highlighted under the financing strategy for each NDC sector as a way of mobilising the funding from the different sources.

# 9. Investment opportunities for the NDC

Despite the identified financing barriers, the ETH NDC equally presents various investment opportunities which can be used as vehicle for raising financing. In addition, the NDC also presents a chance to contribute to accelerated economic growth and reduce poverty in the country, particularly in the rural areas. Below are some of the investment and economic opportunities that are offered by the NDC interventions.

**Commercialisation and increased viability of the agricultural sector**

The ETH NDC calls for mechanisation of the agricultural sector through the purchase of tractors and increase the value chain of the agricultural sector. Improved value chain of agriculture will present opportunities for sectors such as transport, processing of products. This offers an investment opportunity for the private sector/members of the communities to venture into the various investment areas such as transport, processing, and construction of warehouses for the storage components of the agricultural value chain. Consequently, an improved value chain presents limited investment opportunities, including the manufacturing sector and packaging materials (tin manufacturing, leather processing).

**Increased viability and accessibility to credit**

The mechanisation of the agricultural sector and improved value chain will increase the efficiency of the farm sector and the declining cost of production. In addition, the improved value chain (storage, marketing and transportation of the products) will reduce the harvest losses associated with perishables being spoilt, etc. This will ultimately improve the viability of the agriculture sector and increase the creditworthiness of small- and large-scale farmers. This is one of the significant barriers identified for the farmers to venture into commercial farming.

**Investment in renewable energy and income generation**

ETH NDC energy presents an investment opportunity for the private sector to generate electricity at the household and sell the excess to the national electricity authority. This is achieved through the feed-in-tariffs where consumers connected to the national grid can produce electricity, and excess electricity generated goes into the supply. The household is paid the equivalency of the excess electricity generated based on market prices per kWh. This presents an opportunity for the private sector to invest in wind turbines and solar panels and revenue long term revenue from the sales of electricity and at the same time reduce the electricity bills.

**Income generation from the PES schemes**

Farmers generally engage in watershed management activities and incur costs which are not compensated. Yet, their efforts offer benefits to the other users of the ecosystems. This is called an externality that discourages farmers and forest managers from engaging in ecosystem-based or conservation approaches. The ETH NDC offers an opportunity for forest managers and farmers who engage in conservation activities to be paid through ecosystem services (PES schemes). Similarly, communities will also benefit through the REDD+ schemes, which will encourage them to use their forests sustainably.

Consequently, the benefits will be in terms of revenue generated and increased ecosystems services that contribute to their well-being and livelihoods. Ecosystems services support the rural economy through regulating (floods, soil erosion, wind etc.), provision (food, fibre, shelter, medicine etc.). Thus, the ETH NDC, through an ecosystem-based approach, offers a vast range of opportunities to increase the production of forest-based products (gums and resins, honey) as investment opportunities.

**Carbon Markets**

Linked to the income generation from the PES schemes, is the opportunities from carbon markets. The carbon markets present amble opportunities for the private sector and the rural community to participate in income generating activities through carbon sales. The Carbon markets through REDD+ scheme will contribute to income generation. Furthermore, through the carbon markets, the ETH NDC presents opportunities for the private sector to invest in efficient technologies through CDM arrangements.

**Electricity generation from waste**

Improved waste collection, separation, disposal at the landfills, and wastewater management offer an opportunity to generate the electricity and production of biogas at the landfills and sewerage ponds. Through partnerships with the public-private associations, this presents an economically viable investment opportunity.

In addition, at the household levels, the initiative also presents an opportunity to produce biogas. This will reduce the cost of time collecting fuel wood and hence reallocating time for productive agricultural activities. Thus, the energy generation from waste will, directly and indirectly, is an investment opportunity for the private sector and at the household level.

**Income generation from sale of organic manure**

The ETH NDC promotes the use of organic fertilisers. This also presents an opportunity for the rural community to produce organic fertilisers from animal waste, organic waste, crop residue and decomposed plants and generate revenue. With the demand for organic crop on the raise, this presents opportunities for the rural community. In addition, as the NDC calls for the diversification of the chicken in the animal production mix, the chicken farmer owners will have the opportunity to sell the chicken manure to the farms

**Poultry production**

The CRGE strategy emphasises enhancement and intensification of animal mix diversification, mainly small-stock and chicken. This presents an investment opportunity for farmers with small land to invest the poultry production. Poultry similar to small-stock (goats and sheep) are some of the rural economic activities that have short term returns and require small land. They can also be implemented as backyard garden activities. The poultry industry has various services sectors that are vital for its operations. The investment opportunities that the private sector/household can invest in include the following

- Chicken feed production;
- Processing plants for the chicken feed;

- Sale outlets for the chicken feed;
- Transport sector;
- Production of pullet;
- Egg production;
- Hatcheries plants; and,
- Production of medicine.

Other investment opportunities will include the construction industry where builders will be hired to construct poultry houses or shelters.

**Establishment of the fuel production plants**

The NDC calls for the biodiesel production and increased ethanol in the fuel mix. This will require the establishment and operations of the biodiesel and ethanol production plants. Therefore, this is a viable investment opportunity with guaranteed markets as the legal policy documents will support it. Some of the services that will be supported and hence equally important investment opportunities for the private sector are as follows:

- Production of sugarcane;
- Transportation of the inputs;
- Construction of facility plants; and,
- Biomass for clinker production (cement).

The ETH NDC offers unlimited investment opportunities to both small and big investors. It will also support the rural communities to invest in viable economic activities that will generate revenue.

The outlined investment opportunity will be available as soon as the updated ETH NDC is rollout. It is expected that the financial resources will be mobilised from the private through direct investment on these identified opportunities and through PPP schemes. Thus, it is important that a stakeholder engagement strategy is developed and operationalized to ensure that the private sector is on board and have awareness on the investment opportunities. In addition, it is of outmost importance that the identified barriers are removed by implementing the financing strategic activities outlined in the financing strategic activities. This includes amongst other de-risking the investment by offering collateral, establishment of PPP and establishment of an agricultural bank amongst others.

# 10. The strategy/financing strategy

This financing strategy aims to mobilise sufficient resources sustainably to ensure the ETH NDC implementation. The ETH NDC financing strategy places emphasises on both domestic funding (government/public and private financing) for the adaptation measures to reduce dependency on external financing. This is to ensure financial autonomy and the country's ownership. Whilst for the mitigation measures, it is consistent with the updated NDC which puts more emphasis on the international funding for mitigation measures at 80% contribution for the international/donors and 20% for the domestic financing.

As this ETH NDC is embedded within the CRGE, 10 YPDP, which is a vehicle to achieve middle-income status, it is paramount that financial autonomy and reducing reliance on external funding are emphasised. The strategy takes cognizance of the existing resources mobilisation strategies mainly ETH NAP resource mobilisation strategy, Health care financing strategy, the offgrid funding strategy amongst others. Thus, the ETH NDC financing strategy incorporated these existing funding strategies where to produce the overall strategy.

The specific objectives of the financing strategy are to:

- Enhance mobilisation of domestic financial resources from the public spending and private sector in a sustainable manner that will not negatively impede national economic growth and negatively affect livelihoods;
- Enhance mobilisation of additional financial help from the international funding (multilateral and bilateral and development partners and climate funds) to close the existing financing gaps; and,
- implement innovative financing instruments and raise revenue domestically through green bonds, payments for ecosystems services (PES) eco-tax and carbon tax.

## 10.1. The strategy

A multi-pronged strategy constituting a combination of government funding, private sector investment, international funding through MDB, bilateral development partners and climate funding is proposed. In addition to these potential sources, it is critical that cost synergies be emphasised between the similar adaptation and mitigation measures. Cost and financial synergy will result in improved efficiency of financing activities and hence cost reduction in the ETH NDC implementation costs. The blending of the different funding sources is as depicted in Figure 11. Mobilising the funding from these sources are distilled into the strategic activities under each ETH NDC sector.

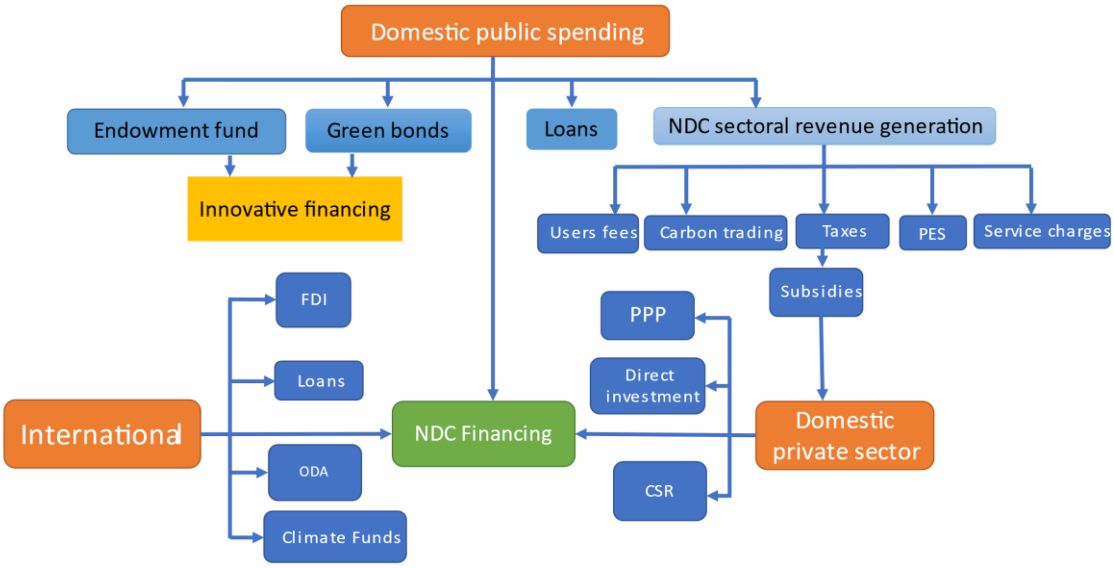


Figure 11: ETH NDC financing sources

### 10.1.1. Financial and operational synergy

Cost-effectiveness and efficiency are one of the strategies that is emphasised in the NDC financing strategy. Consequently, this financing strategy is aimed at cost-saving to ensure that scarce and limited resources are optimally allocated on the various ETH NDC adaptation and mitigation measures. Cost efficiency will not necessarily mobilise revenue but will nevertheless ensure that fewer financial resources are used to cover multiple NDC adaptation and mitigation activities.

One of the strategies that must be employed to achieve cost efficiency is financial and operational synergy. Cost and functional synergy involve combining similar adaptation and mitigation activities and implement them under one thematic area. The advantage of operational and financial synergies is to reduce the cost of capital. An analysis of the proposed ETH NDC adaptation and mitigation activities reveals some overlaps and duplication of the activities between the adaptation and mitigation measures, which inflates the overall budget.

## 10.2. Overall review of the existing financing options for the NDC

Four financing options have been identified to closing the identified financing gap for the NDC implementation being:

- increase government spending through ministerial budgets and to be financed through cost recovery measures and revenue generation mechanisms;
- domestic private investment through creating an enabling environment;
- international funding; and,

- Innovative financing options.

### 10.2.1. The target from each funding source

The target is to mobilise finance from the three sources being government public spending, private sector, and international funding (MDB, climate funds and private sector) to close the estimated financing gaps. For both the ETH NDC adaptation and mitigation components, the target is to raise 20% from the domestically (government public spending and domestic private sector) and 80% from the international funding sources. This is in line with the baseline information on government spending vs international funding for climate related adaptation projects.

### 10.2.2. Domestic funding

Domestic funding constitutes government public spending through national budget allocation to the various line ministries and respective departments (EFCCC, MoA, MoH etc.). This is one of the most reliable sources of funding for the ETH NDC. Although already the government is funding some of the NDC activities and there is still a financing gap, it is expected that the government can raise additional revenue through review and adjustments of users' fees (waste collection, hospital charges, payment for ecosystems (PES), introduction of carbon tax, operational of climate funds and green bonds).

For the relevant departments to mobilise additional government budget allocation to the NDC sector, there is a need to create awareness and prioritisation of the NDC and mainstreaming the prioritised activities into annual sectoral budgets. This will result in various sectors to budget for the ETH NDC adaptation and mitigation activities.

Another important source of domestic funding is the domestic private sector. The CRGE strategy and the NAP ETH emphasise the role of the private sector in mobilising resources for the ETH NDC financing (CRGE, 2010; GoE, 2019). The private sector is an integral part of the economy with the significant financial muscle to participate in the economically viable ETH NDC measures. Activities such as the agricultural sector, transportation sector, energy sector and industries can receive substantial funding from the private sector. However, for the private sector to actively participate in the ETH NDC implementation there is a need to improve access financing from the banks' loans to both commercial and state banks. It is also important to develop a promote corporate social responsibility strategy to attract big companies such as Ethiopian Airline to invest in NDC adaptation and mitigation social projects.

Thus, mobilising the help from the private sector will involve creating an enabling environment and de-risk ETH NDC investments. In addition, the formation of a strong Public Private Partnership (PPP) can also facilitate active participation of the private sector. It is therefore important that a PPP strategy is developed with clear objectives and operational standards.

### 10.2.3. International funding

The NDC international climate finance landscape is highly dynamic and complex (Watson and Schalatek, 2021; Electric Capital Management, 2020). It constitutes various multilateral channels within and outside the UNFCCC financial mechanism, bilateral and regional sources. These financial channels provide various climate financing ranging from grants and concessional loans, to guarantees and private equity. Figure 12 depicts the global climate finance architecture and sources that the GoE can tap into its NDC financing.

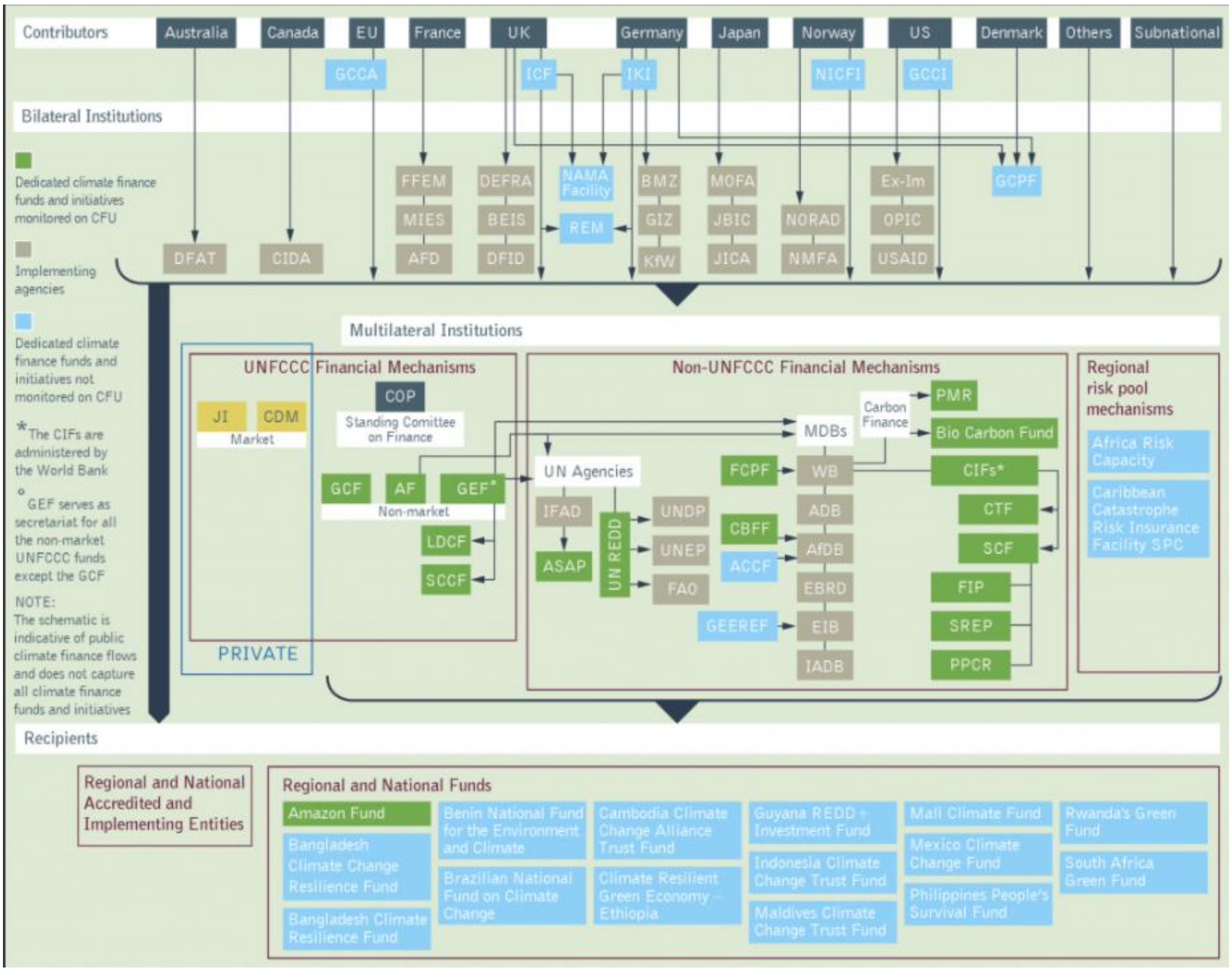


Figure 12: Global climate finance architecture
Source: Watson and Schalatek (2021)

The GoE is a recipient to some of the climate financing sources. However, it is one of the minor international funding recipients as it is not among the 40 most highly funded countries between 2013-2016 (Timperley and Pearce, 2017). Therefore, there is room for improvement to raise additional revenue from the international funding sources to finance the ETH NDC. It is estimated that the target by the developed countries is to mobilise around US$100 billion per year for climate change-related projects (Timperley and Pearce, 2017). As depicted in figure 12, there are various international funding sources can be tapped into, to mobilise revenue for the ETH NDC financing. These include Multilateral Funding Sources and bilateral funding sources. Table 6 depicts some of the MDB and bilateral sources that the GoE can tap into to close the financing gaps.

Table 6: examples of multilateral and bilateral funding sources

| Type | Institution | Description |
|---|---|---|
| Multilateral development banks | World Bank | The World Bank is like a cooperative, made up of 189 member countries. It offers loans, interest free-credit and grants for developmental projects. Focus area under climate change include adaptation and resilience, climate finance and ambitious climate action. The Bank launched Climate Change Action Plan (2021-2025) which aims to increase climate finance to reduce emissions, strengthen climate change adaptation and align financial flows with the goals of the Paris agreements. In fiscal year 2020, it allocated nearly $21.4 billion to climate-related investments. The bank has funded various projects such as ESMAP in Ethiopia |
| | African Development Bank | AfDB was established to promote economic and social development efforts on the continent. It offers loans, line credits, and grants and green bonds for various thematic area including climate change. AfDB established African Climate Change Fund in 2014 which support adaptation and mitigation projects in the continent. The fund has mobilised over US$11.4 million since inception. The bank also launched the African Carbon Support Program in 2010. Its main aim is to facilitate clients in regional member countries to access carbon finance in order to ensure the commercial viability of their investments. |
| Multilateral organisations | IFAD | (IFAD), an international financial institution and specialized United Nations agency based in Rome, the UN's food and agriculture hub. It provides grants and low interest loans. Since 1978, it has provided US$23.2 billion in grants. It assists vulnerable groups such as smallholder farmers, pastoralists, foresters, fishers by providing, among others, access to weather information, disaster preparedness, social learning and technology transfer that enables farmers to feed growing populations and increase the climate resilience of rural farming systems |
| | GGGI | GGGI was establish with the main purpose of ensuring that the countries' green growth policies and strategies are translated into green investment plans and to mobilizing the required finance for low-carbon and climate-resilient economic development and strong institutional capacity development. Furthermore, the GGGI assists countries to develops funding proposals for Green Climate Fund (GCF). It is proposed to open a regional office in Addis Ababa |
| | Germany (GIZ) | GIZ, is a German development agency that operates in many different sectors, including education, climate change mitigation, health, digitalisation, and sustainable economic development. The agency provides grants mainly through co-financing for climate change related projects and has significant impacts on countries NDCs. In 2019, the total amount committed by the German for climate change adaptation and mitigation was estimated at US$5.12 billion. |
| | NICFI | Established in 2008, NICFI offer development assistance to the developing countries through grants. NICFI has pledged approximately US$350 million – per year in development cooperation funding until 2020 to support REDD+. It is also Norway's biggest development assistance programme. Almost $1.6 billion has been invested so far in programmes across Latin America, Asia and Africa, as well as in multi-lateral initiatives and civil society organisations. |
| | The United Kingdom: Overseas | The United Kingdom through its Overseas Development Assistance offers international aid (grants) to the development partners. In 2016, the UK spent €13.4 billion on overseas aid and |

| | | |
|---|---|---|
| bilateral | Development Assistance | by 2021, it is projected to be €14.5 billion. 64% of the aid is through bilateral, and 12% goes to Health sector and 13% is multisectoral which include climate change adaptation and mitigation. |
| | United States: Development Finance Corporation | U.S. International Development Finance Corporation (DFC) is America's development bank. DFC partners with the private sector to finance solutions to the most critical challenges facing the developing world with focus on climate change adaptation and mitigation. It offers loans, equity investments and risk insurances. |
| | USAID | The USAID offers grants to foreign countries to assist them in providing humanitarian assistance and economic development. The budget for 2022 is estimated at US$58.5 billion which includes US$27.7 billion for USAID fully and partially managed accounts. To combat climate change, more than US$600 million will be allocated to Bilateral climate change programming to combat climate change including through investments in adaptation and resilience, renewable energy, and sustainable landscapes |
| | JICA | Governmental agency that delivers the bulk of Official Development Assistance for the Government of Japan. It offers ODA loans and grants for developmental projects such as low-carbon, climate-resilient urban development, and infrastructure investment, Enhance climate risk assessment and countermeasures, conservation and management of forests and other ecosystems, |

### 10.2.4. Climate change funds

In addition to the multilateral funding, there are specific funding sources that have been established specifically for climate change adaptation and mitigation that the GoE can tap into to close the estimated ETH NDC financing gap. The international community, through UNFCCC, has pledged to jointly mobilize $100 billion dollars a year by 2020 from a wide variety of sources to address the NDC needs of developing countries. The source of revenue will constitute the public and private, bilateral and multilateral, including alternative sources of finance (UNFCCC, 2015).

The UNFCCC financed will be channelled through operational climate funds, namely Adaptation Fund (AF), Climate Change Fund (CCF), Global Climate Fund (GCF) etc. These funds are listed below and their descriptions (Table 7).

Table 7: Climate funds and their descriptions

| Name of fund | Area of funding | Type of finance | Description |
|---|---|---|---|
| Adaptation Fund | Adaptation | Grant | The Adaptation Fund was first created by the 7th session of the Conference of Parties (COP 7) in 2001. It aims at helping developing countries to build resilience and adapt to climate change. To date the fund has disbursed over US$ 814 million to financing climate adaptation related projects. |
| Global Environment Fund | Adaptation & mitigation | Grant | established in 1992, the GEF has disbursed over US$18.1 billion. GEF has supported GHG |

| | | | |
|---|---|---|---|
| | | | emission reduction and climate resilient initiatives |
| Global Environment Facility | Adaptation & mitigation | Grant | established 30 years ago on the eve of the Rio Earth Summit to tackle our planet's most pressing environmental problems. it has disbursed over $21.5 billion in grants and mobilized an additional $117 billion in co-financing. The GEF is the largest multilateral trust fund focused on enabling developing countries to invest in issues amongst others climate change |
| Green Climate Fund | Adaptation and mitigation | Grant, concessional debt, guarantees or equity instruments to leverage blended finance and crowd-in private investment for climate action | GCF was established under the Cancún Agreements in 2010 and has funded over 100 projects. In 2019, contributors have pledged US$9.8 billion |
| Least Developed Countries Fund (LDCF) | Adaptation and mitigation | Grants | Is a multilateral fund established in 2001 under the UNFCCC and operationalized in 2002. The LDCF was established to address the adaptation needs of the Least Developed Countries (LDCs) which are vulnerable to climate change. |

Accessing these funds involve the development of the proposals as per the funds' requirements. The calls for submissions are typically published on the fund's websites, and all the processes are listed which must be met.

Moreover, there are also various foundations, Philanthropies and Faith-based organisations that can funding some of the ETH NDC. These include to name a few Bloomberg philanthropies, Bill Gates & Melinda Gates Foundations, Ford foundation, Hewletee foundation, Christian Aid, Dan church Aid, Diakonia Sweden, amongst other.

## 10.3. Management of the mobilised funds

The CRGE facility was established with the overall purpose of mobilising and allocating, accessing domestic, international, public, and private sources of finance for the implementation of the CRGE. The ETH NDC falls within the sphere of the CRGE, and it is thus expected that the CRGE facility will have the responsibility of managing these mobilised resources. The CRGE has robust systems to disburse and audit for the money that has been allocated to the various implementing entities. Likewise, the implementing entities have the capacity to manage the funds allocated to them as they have been managing their budgets. In addition, to the CRGE facility, the IEs will also be expected to raise mobilise revenue through users' fees (services fees) as cost recovery measures. Part of these funds will be retained by the IEs to implement the NDC mitigation activities. For instance, the health sector retains a certain percentage of the revenue raised from the service fees and uses it to for service improvement. Therefore, the IEs are expected to establish and operationalize various funds. For the private domestic sector, it is expected that funds raised internationally will be accessed through the Facility. Otherwise, funds that they raise independently, they will invest it on their facilities.

An assessment of the implementing entities in terms of managing the funds revealed that they have the capacity to managing the funds for the ETH NDC. IEs indicated that they have been managing their budget and therefore the funds for the NDC will be business as usual.

## 10.4. Financing options to mobilise resources for the adaptation measures

The adaptation section of the NDC requires approximately US$ 40.486 billion, with a financing gap of US$23.76 billion. Financing sources for the ETH NDC adaptation section are discussed under each sector and the strategic activities that must be implemented to raise funding.

### 10.4.1. Agriculture and forest sector

The agriculture sector is one of the main backbones of the Ethiopian economy contributing approximately 40% of the national GDP and accounting for over 80% of the employment (EFCCC, 2020b). However, it is projected that its contribution to national GDP will decline to 25% by 2025. Similarly, the forest sector is an important sector to the national economy and the rural population. The values of forests are multiple and can only be captured through the concept of total economic value as they provide support, regulation, and cultural services (MEFCC, 2018).

The financing gap estimated for the agricultural and forest sector is US$ 4.45 billion. The proposed financing strategic options are aligned with the existing government agricultural and forest policy and strategies such as the Agricultural development-led industrialization strategy, farming and rural transformational, the CRGE strategy, 10 YDP and the National Forest Sector Development Program. Emphatically, the strategy is aligned to the ETH NAP resource mobilisation strategy. Four funding sources have been identified for the agricultural and forest sectors: domestic (public and private) and international (Multilateral, bilateral and climate funding). Table *8* depicts the funding sources, strategic objectives and the activities proposed to raise revenue and close the financing gap. It is important to prioritise domestic funding for adaptation as it affects livelihoods and should not rely on international financing. However, where the agricultural mitigations have multiple co-benefits and increased food security they should also be prioritised for domestic funding.

Table 8: Financing strategic activities for the agriculture and forest adaptation measures

| Source | Strategic objective | Target for closing the financing gap (US$ billion) | Strategic activities to raise revenue | Responsible agent |
|---|---|---|---|---|
| Government | To mobilise additional financial resource from the public spending | | Mainstream adaptation into ministerial budget and planning processes to support investment in agricultural and forest sector and identify key sectoral interventions | EFCCC<br>MoA |
| | | | Implement the National Forest Sector Development program which has activities like NDC | EFCCC |

| | | | | |
|---|---|---|---|---|
| | | 0.445 | Develop and operationalise PES Fund to raise government revenue to support farmers to engage in climate smart agriculture and for forest conservation | EFCCC MoA |
| | | | Implement REDD+ projects | EFCCC |
| | | | Develop the capacity of the sector to mainstream climate change adaptation into planning and budgetary processes | MoF |
| Domestic private sector | To create a conductive environment that will facilitate investment flow from the private sector into the agriculture | 0.445 | Develop and operationalise the stakeholder engagement strategy[2] | |
| | | | Develop a legal framework that will allow farmers to lease land and become shareholders in large commercial farms | MoA |
| | | | Develop a legal framework for agriculture specific financial services mainly micro-lending, crop insurance and forward contracts | MoF |
| | | | Develop and operationalise a PPP strategy to facilitate joint venture on irrigation schemes | EFCCC |
| | | | Encourage Corporate social responsibility for the private sector to invest in afforestation project | EFCCC |
| International funding | To mobilise additional funding from the international funders (MDB, climate funding and development partners | 3.56 | Establish and operationalise a national NDC partnership strategy | EFCCC |
| | | | Capacitate the EFCCC, MoA to develop bankable proposal as per the funding requirements | EFCCC |
| | | | Establish focal personnel within the MoA and EFCCC tasked with development of proposal for accessing international funding | EFCCC MoA |
| | | | Lobby for the establishment of GGGI[3] regional office to be established in Addis Ababa | MoFA |
| Innovative financing mechanism | To mobilise finance through innovative solutions | Linked to government spending | Establish and issue out green bonds to raise revenue from the private sector | MoF |

### 10.4.2. Urban development

This thematic adaptation area has identified three strategic priorities: urban planning and risk management, local/ community economic development, and urban infrastructure and services. Consequently, this thematic area of the ETH NDC adaptation aligns with the country's integrated land use policy, which aims to achieve sustainable development through optimal land allocation and uses. Furthermore, this strategic area is aligned to the national policy and strategy on disaster risk management of 2013 and the ETH NAP resource mobilisation strategy. Aspects of the ETH NAP that is critical that need immediate implementation in this strategy include building capacity

[2] This activity is also highlighted in the Resource Mobilisation strategy for ETH NAP to mobilise the private sector to invest in the proposed NDC adaptation activities.

[3] Already GGGI and the Federal Democratic Republic of Ethiopia have signed a Host Country Agreement to open a regional office for Africa in Addis Ababa

for mainstreaming adaptation into the sector planning and budgetary processes. The proposed activities under these thematic areas include establishing a National Urban Development & Infrastructure Fund, improved land use planning, risk reduction through increased capacity for early warning systems, etc.

The financing gap estimated for the urban development adaptation is estimated at US$ 4.84 billion. Funding sources for the urban development will be mobilised from the government public spending, the private sector and the international funding sources. It is critical that cost recovery measures are put in place to ensure financing sustainability of the urban systems.

Table 9 shows the strategic financing activities for urban development adaptation measures.

Table 9: strategic financing activities for the urban development adaptation measures

| Source | Strategic objective | Target for closing the financing gap (US$ billion) | Strategic activities to raise revenue | Responsible agent |
|---|---|---|---|---|
| Government public spend | To enhance additional financial resource from the government budget | 0.677 | Mainstream urban development adaptations activities into budget | MUDHCo |
| | | | Increase budget on Federal disaster response and recover Fund to a sustainable % of the national budget as per Sendai Framework | DRMCO |
| | | | Establish a national urban development and infrastructure Fund | MUDHCo |
| | | | Review council property rates and infrastructure users fee adjust for cost recovery and portion of the revenue to be deposited in the national urban development and infrastructure Fund | MUDHCo |
| | | | Develop the capacity of the sector to mainstream climate change adaptation into planning and budgetary processes | MoF |
| Private sector | To mobilise the private sector to invest in urban development | 0.29 | Develop and operationalise the stakeholder engagement strategy | |
| | | | Mobilise the private sector through corporate social responsibilities (CSR) to invest in urban development | Municipals |
| International funding | To enhance flow of financial resources from international funding sources | 3.87 | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international climate and DRM financing sources | EFCCC |
| | | | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | MoFA |
| | | | Establish and operationalise a national NDC partnership strategy | EFCCC |
| Innovative financing strategies | Mobilise financing resources through innovative financial mechanisms | Linked to government spending | Introduce Green Bonds to raise revenue from the private sector | MoF |

### 10.4.3. Water, irrigation and energy sector

The ETH NDC adaptation's water, irrigation and energy sector is one of the most expensive adaptation thematic areas. It calls for access to potable water to the public. Furthermore, the adaptation activities include power generation and access to the public and the development of the irrigation schemes. These activities will reduce community vulnerability to climate change by increasing their adaptive capacity, particularly by reducing reliance on rainfed agriculture.

The financing strategy is aligned to the ETH NAP resource mobilisation strategy which calls for a mixture of international public finance, with an emphasis on domestic particularly the private sector. Therefore, to develop water supplies, irrigation schemes and energy initiatives finance will come from a mix of government spending, private sector and international funding schemes. Government revenue will be mobilised through an increase in government spending, loans, grants and green bonds. These loans will be paid through government revenue from users' fees and PES schemes. Furthermore, grants will be accessed from multilateral and bilateral development partners and climate funds. The estimated financing gap for this thematic area is approximately US$14.29 billion. As a strategic economic sector, most of the financing for the adaptation is expected from the government public spending.

Table 10 below shows the proposed funding source and the strategic activities to raise the revenue for financing the proposed water adaptation activities.

Table 10: strategic financing activities for the water, irrigation, and energy

| Source | strategic objective | Target for closing the financing gap (US$ billion) | Strategic activities to mobilise resources | Responsible agent |
|---|---|---|---|---|
| Government spending | Enhance mobilisation of finance from government spending on water irrigation and energy sector | 1.42 | Mainstream proposed adaptation activities to ministerial budget | MoWIE |
| | | | Develop the capacity of the sector to mainstream climate change adaptation into planning and budgetary processes | MoF |
| | | | Review and adjust national water use tariffs to ensure cost recovery[4] | Ethiopian River Basin Development High Council |
| | | | Improve revenue collection capacity of the relevant authorities | Ethiopian River Basin Development High Council |
| | | | Undertake willingness to pay and affordability assessment | Water and Sewerage Authority |
| | | | Establish setup water tariffs at the rural area for cost recovery | Water and Sewerage Authority |
| | | | Reduce unaccounted for water (leakages) as a cost cutting measure for the water utility | Water and Sewerage Authority |

[4] Addis Ababa April 11//2019 Ethiopian River Basin Development High Council has approved a draft national water use tariff draft regulation today. The tariff will be paid from 2 to 3 percent of the total profit of the sectors which will be used for pollution protection ways.

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| | | | | |
| | | | Establish PES scheme fund for irrigation scheme to incentive watershed management initiatives | Ethiopian River Basin Development High Council |
| | | | Develop the irrigation schemes and lease them to the private sector at cost recovery lease fee | MoA |
| | | | Introduce carbon tax to fund renewable energy for irrigation | MoMP |
| Domestic private sector | To enhance private investment in watershed initiatives and irrigation scheme | 1.42 | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | De-risk the cost of investing in agricultural irrigation schemes through government guarantee loans | MoF<br>MoA |
| | | | Establish and operationalise a national agriculture bank | MoF |
| | | | Introduce agricultural loan scheme with favourable credit conditions such as grace period and low interest rates | MoF |
| | | | Improve the lending capacity of the financial institutions | National Bank |
| | | | Develop and operationalise a PPP strategy to facilitate joint venture projects for shared cost investment schemes | MoA<br>Agricultural associations |
| | | | Improve capacity to access loan facilities from the lending institutions | MoF |
| International funding sources | Enhance mobilisation of finance from the international funders | 11.43 | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | EFCCC |
| | | | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | MoFA |
| | | | Establish and operationalise a NDC partnership strategy | EFCCC |
| Innovative funding options | To mobilise resource through innovative and sustainable ways to finance the water, irrigation and energy schemes | Linked to government spending | Introduce green bonds and issue to the private sector both nationally and regional to raise revenue for the irrigation and water projects | MoFA |

### 10.4.4. Health sector

The health sector adaptation measure includes reducing incidents of tropical diseases such as malaria, cholera, improving household sanitation and safe water supply and improving health facilities through improved health waste management and installation of electricity at health facilities. The financing options for these activities are aligned to the health care financing strategy of 1998 (USAID, 2012) and the ETH NAP resource mobilisation strategy.

The total estimated financing gap for the sector in approximately US$ 0.13 billion. The financing options to close the estimated financing gap include mobilising government spending through loans and grants, revenue raising through adjusting the health care user fees, revenue retainment by the health care centres for improving health waste services and installation of electricity. In addition, international funding mainly from the MDB and official development assistance will also be accessed. The strategic activities to raise the financing of the health sector are as depicted in Table 11 below.

Table 11: Strategic financing activities for the health sector adaptation

| source | strategic objective | Target for closing the financing gap (US$ billion) | Strategic activities to mobilise funding | Responsible agent |
|---|---|---|---|---|
| Government public spending | Enhance mobilisation of additional finance from government budget to the health sector | 0.026 | Mainstream the ETH NDC adaptation activities into the health sector budget | MoH |
| | | | Develop the capacity of the sector to mainstream climate change adaptation into planning and budgetary processes | MoF |
| | | | Implement the health care financing strategy activities across the country | MoH |
| | | | Constantly review the user fee setting to ensure cost recovery | MoH |
| | | | Establishment of a private wing in public hospitals | MoH |
| | | | Initiate and operationalise health insurance (community-based health insurance) and social health insurance schemes[5] | MoH |
| | | | Health section to retain 6% of the revenue generated to invest in offgrid renewable energy and waste management[6] | MoH |
| Domestic private sector | To enhance the private sector and communities to investment in health sector and improved sanitation | 0.01 | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | Operationalise the community-based health and social health insurance | MoH<br>CBOs |
| | | | Mobilise the private sector through CSR to invest in rural Health activities | MoH |
| | | | provide soft loans schemes for the households to construct improved toilet facilities | MoH |
| | | | build a strong relationship between the civic communities to raise revenue for construction of public toilets | |
| | | | Establish and operationalise an environmental fund to be funded through PES scheme to contribute to construction of sanitation facilities (toilets) for communities in sensitive ecological zones | EFCCC<br>MoWIE<br>MoH |

[5] Community Based Health Insurance Schemes (CBHISs) are promising alternatives for a cost sharing health care system which hopefully also leads to better utilization of health care services, reduce illness related income shocks and eventually lead to a sustainable and fully functioning universal health care system (Shimeles, 2010).

[6] Some health facility in the country have installed renewable electricity and improved health water facility by retaining revenue generated as per the health financing strategy recommendation

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|---|---|---|---|---|
| | | | Promote the CSR for the private sector to invest in malaria and sanitation programmes through distribution of mosquito nets | |
| International funding sources | To enhance financial mobilisation from the international communities | 0.13 | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international climate | MoH EFCCC |
| | | | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | MoFA |
| | | | Establish and operationalise a NDC partnership strategy | EFCCC |

## 10.5. Financing options to mobilise resources for the ETH NDC mitigation measures

The financing gap for the NDC mitigation sector is estimated at approximately US$174.19 billion, which is about US$17.4 billion annually. Closing the enormous financial gap will require resource mobilisation both domestically and international sources. Consistent with the updated ETH NDC, domestic spending will constitute 20% and the international financing is expected to contribute 80%.

The major player in the mitigation sector is the private sector. For instance, the private sector dominates agricultural industries and livestock, which are the largest emitter of GHG. Similarly, the transport mitigation will involve an increase in the share of hybrid and electric cars. Therefore, the private sector is expected to play a significant role in the mobilisation of the resource to finance the NDC mitigation. Consequently, a financing strategy aim at creating an enabling environment to enhance private investment in the mitigation is proposed. Financing strategic activities for the NDC sector are discussed below.

### 10.5.1. Agriculture sector financing strategies

The agricultural sector's mitigation measures aim to improve the value chain, mechanisation of the agricultural sector from ox-draught power, diversification of livestock mix, pasture management, and irrigation schemes. Essentially, the proposed mitigation measures are aimed at extensive commercialisation of agriculture sector and improved efficiency. This will thus automatically create an incentive for the private sector to invest and also be able to access lending facilities from the commercials banks. The total financing gap is estimated at US$60.63 billion.

Table 12 depicts the proposed financing strategies to close the financing gap from the viable funding source: the public spending/national budget, private sector, and international financing sources. Public spending will be financed through increase in charges, taxes, and PES schemes

Table 12: strategic financing activities for the agriculture mitigation

| source | objective | Target for closing the financing gap (US$ billion) | Strategic activities to mobilise funding | responsible agent |
|---|---|---|---|---|
| Government public spending | Mobilise additional government spending to the agriculture sector | 6.06 | Systematically mainstreaming of the agricultural mitigation activities to the agricultural budget | MoA |
| | | | Develop the capacity of the sector to mainstream climate change mitigation into planning and budgetary processes | MoF |
| | | | Setup and operationalise PES systems to incentivise ecosystem-based farming systems | EFCCC |
| | | | Identify and develop land earmarked in the CRGE and issue long terms lease agreement with farmers | MoA |
| | | | Reduce tax on agricultural profits | MoF |
| | | | Review and adjust abattoir charges for cost recovery | MoA |
| Private sector investments | To enhance mobilisation of financial resources from the private sector | 6.06 | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | Setup and operationalise a national agricultural bank with soft loans facilities to the farmers | MoF |
| | | | De-risk the agricultural investment risk by providing collateral (underwriting the loans and provision of guarantor) | MoF |
| | | | Develop and operationalise a PPP strategy to facilitate joint venture on major investments schemes | MoA<br>Farmers associations |
| | | | Give farmers incentives based on ecosystem-based management approached implemented | MoA<br>EFCCC |
| | | | Improve infrastructure such as roads and energy to the commercial farms to ensure easy transportation of products | MoIT<br>Ethiopia Roads Authority |
| | | | Improve financial literacy of the farmers to enable them to access bank facilities | MoA<br>NGOs |
| | | | Increase farmers awareness on existing financial schemes | |
| | | | Introduce innovative leasing, structured with options of finance lease, operational lease or daily usage rental payments, agricultural machinery services and agricultural products | MoA |
| | | | Develop a legal framework that will allow farmers to lease land and become shareholders in large commercial farms | MoA |
| | | | Develop a legal framework for agriculture specific financial services mainly micro-lending, crop insurance and forward contracts | MoF |
| | | | Development of the agro-processing plants to enhance value chain and viability of the sectors | MoA |
| | | | Increase investment promotion by lobbying potential private investors through the public private partnerships | MoA |
| International funding sources | To enhance mobilisation of financial resources from the international community | 48.5 | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc.) | MoFA |
| | | | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | EFCCC |
| Innovative financing strategies | To mobilise financial resources through | | Establish an operational payment for ecosystem services (PES) fund to raise revenue and pay | EFCCC |

| | | | | |
|---|---|---|---|---|
| | innovative financing strategy | | farmers for climate smart agricultural practices. PES to the targets water sector, tourism etc | |

### 10.5.2. Forestry sector mitigation financing

GHG emissions from forestry are a result of deforestation and degradation. Thus, the proposed financing strategies aim to reduce deforestation, enhance afforestation and sustainable forest management. The estimated financing gap for the forestry is US$ 0.48 billion. Mobilising resources to finance the forest NDC mitigation implementation will constitute all four funding sources: domestic, private sector, international, and innovative funding solutions.

Forest ecosystems have the potential to generate sufficient revenue through improved sales of users' permits, carbon trading and other forms of PES. The REDD+ scheme has a great potential to contribute to closing the financing gap. There is also a need to tap into the World Banks BioCarbon Fund Initiative for Sustainable Forest Landscape (ISFL). The fund is currently supporting private farmers in Oromia Region since 2015 through the Oromia Forested Landscape Programme.

The revenue to be raised from the forestry sector is aimed at funding activities such as efficient stoves to reduce the demand for fuelwoods, afforestation programmes, and sustainable forest management practices. Table 13 depicts the financing strategy activities for the forest sector.

Table 13: Strategic financing activities for the forestry sector

| source | objective | Target for closing the financing gap (US$ billion) | Strategic activities to mobilise funding | responsible agent |
|---|---|---|---|---|
| Government public budget | To mobilise additional government budget to the forestry sector | 0.076 | Operationalise and increase budget allocation to the Forest Fund for forest management | EFCCC |
| | | | Mainstream forestry mitigation activities into the forestry budget | EFCCC |
| | | | Establish and operational PES and fund to the deposited into the Forest Fund[7] | EFCCC |
| | | | Review and introduce user/harvest fees for various forest products (timber, gums and resins, honey) | EFCCC |
| | | | Increase monitoring on harvest of forest products to reduced revenue leaks from uncontrolled harvesting | EFCCC |
| | | | Strengthen the MRV systems to ensure carbon trading schemes | EFCCC |
| | | | Develop the capacity of the sector to mainstream climate change mitigation projects into planning and budgetary processes | |

[7] The Forest Fund was established by law in 2017 and the Fund sources were identified as Financial aids, loans and support from domestic and foreign development partners and climate finance as well as from Government allocated budget. In addition, the Fund will raise revenue through International carbon trade, Forest carbon sequestration service tax on carbon emission and users fees.

| | | | | |
|---|---|---|---|---|
| Private sectors | encourage participation of the private sector (farmers) to invest in sustainable forest management schemes and afforestation | 0.019 | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | Develop a comprehensive payment structure agreed collectively with farmers to incentivise them to participate in afforestation and Ecosystem based approaches. Payment to be funded through PES | EFCCC |
| | | | Educate and increase farmers awareness on forest conservation incentives such as REDD+, carbon trading | EFCCC NGOs |
| | | | Develop a PPP strategy that will operationalise joint venture with farmers to co-manage adjacent forests through REDD+ schemes | EFCCC |
| | | | Mobilise the private sector through CSR to undertake afforestation activities | EFCCC |
| International funding | To mobilise financing from the international funding sources | 0.38 | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | EFCCC |
| | | | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | EFCCC |
| Innovative financial instruments | To encourage participation of the public and private sector to invest in sustainable forest schemes | Linked to domestic spending | Establish green bonds and climate bonds[8] to support investment in forest programmes such as afforestation and restoration | MoF |

### 10.5.3. Mines sector

The financing gaps for the mines sector are estimated at approximately US$ 0.03 billion. The mitigation activities are to produce biodiesel and ethanol to increase their proportion in the fuel mix. Furthermore, it will involve the plantation of sugarcane and LPG production and promotion. Since the private sector dominates this sector, it is expected that domestically, the majority of the funding will come from the private sector. However, other funding such as public government spending, international funding and climate funds will also augment the private sector investment to close the financing gap. Table 14 depicts the strategic financing activities to raise the required revenue for the mines' mitigation measures.

Table 14: Strategic activities to mobilise resources for the Mines mitigation measures

| Source | Objective | Target for closing the financing gap (US$ billion) | Strategic activities to mobilise funding | Responsible agent |
|---|---|---|---|---|

[8] The green or climate bonds are fixed-income financial instruments (bonds) that have positive environmental and/or climate benefits. A green bond is a debt security that is issued to raise capital specifically to support climate-related or environmental projects. Bonds are issues to raise finance which the issuer can invest in climate projects such as renewable energy and afforestation projects

| | | | | |
|---|---|---|---|---|
| Government public spending | To create an conductive environment for the private sector to invest in the mines mitigation measures | 0.003 | Develop and operationalise the fuel standards and fuel mix standards | MoMP |
| | | | Introduce carbon tax on fuel carbon content to incentivise the companies to adhere to fuel requirement | MoMP |
| | | | Set up climate fund for the management of the carbon tax revenue | MoMP EFCCC |
| | | | Develop and operationalise a PPP strategy to facilitate joint venture investment in the fuel mix and LPG production | MoMP |
| Private sector | To mobilise financing from the private sector to invest in fuel and LPG sector | 0.003 | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | Subsidise the production of biodiesel and ethanol from the carbon tax | MoMP |
| | | | Introduce subsidies on LPG to be financed from the carbon tax | MoMP |
| | | | Create awareness amongst the fuel producers on CDM initiatives | EFCCC MoMP |
| | | | Strengthen the MRV systems for carbon trading | MoMP EFCCC |
| | | | Establish and operational carbon sales to the international markets | EFCCC |
| International funds | To mobilise financing from the international funding sources | 0.024 | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | MOMP EFCCC |
| | | | Establish a focal point task with resource mobilisation | MoM |
| | | | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | MoMP EFCCC |

### 10.5.4. Water & energy sector mitigation financing strategies

Water & energy mitigation measures will include renewable energy, climate-resilient water land management, energy-saving and irrigation, amongst others. The total estimated financing gap for the sector is US$50.81 billion. Thus, this sector constitutes one of the most significant financing gaps in the NDC sectoral activities.

Mobilising the required resources will require the full participation of the government, private/households, and the international development partners funding efforts. The global funds will include the MDB, international development partners and the international private sector. Through international partnerships, the GoE has been able to improve off-grid households with alternative renewable sources. This has been achieved through projects such as Energy Sector Management Assistance Program (ESMAP); Ethiopia Electrification Project (ELEAP); Renewable Energy Guarantees Program (REGREP) etc. Thus, a continued initiative by the GoE in tapping into global resources will be critical. The financing strategy for this sector is aligned to the off-grid funding strategy which recommends on the establishment of the Endowment Fund[9]. Table 15 depicts the financing sources and strategic actions to raise revenue.

[9] An endowment fund is a investment portfolio with the initial capital derived from the donations. They have been used for many years to fund the education sector mainly universities and charitable enitities. Recently, they have been used to raise capital for environment and climate change mitigation projects.

Table 15: Strategic activities to mobilise resources for the water and energy mitigation activities implementation

| source | objective | Target for closing the financing gap (US$ billion) | Strategic activities to mobilise funding | responsible agent |
|---|---|---|---|---|
| Government | To mobilise additional government public spending on water and energy NDC initiatives | 8.1 | Mainstream the water and energy mitigation activities into the ministerial budget | MoWIE |
| | | | Constantly review and adjust electricity tariffs to raise revenue as cost recovery measures | Ethiopian electric Power |
| | | | Constantly review and adjust water tariffs are cost recovery measure | Water and Sewerage Authority |
| | | | Develop institutional capacity to develop bankable proposal to access loans | EFCCC<br>MoFD |
| | | | Operational carbon trading platform from reduced GHG emissions[10] | EFCCC |
| | | | Establish and operationalise endowment Fund | EFCCCC |
| Private sector | To mobilise resources from the private sector to invest in renewable energy | 2.03 | Develop and operationalise a PPP strategy to facilitate joint venture on irrigation and renewable projects | EEP |
| | | | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | Introduce feed in tariffs schemes to allow small investors to invest in solar, wind at the household level | EEP |
| | | | de-risk investment in renewable clean energy, through government guarantee schemes and endowment funds | MoFD |
| | | | Introduce subsidies for renewable off-grid alternatives to be financed through forest PES and REDD+ | MoWIE |
| | | | Strengthen the MRV for transparency and carbon trading requirements | EFCCC |
| | | | Mobilise the private sector through CSR to purchase and distribute solar appliances | EFCCC |
| International funding | Enhance mobilisation of funding from the international community and institutions | 40.64 | Form a strong partnership with the NGOs to facilitate NGOs to tap into international funding | EFCCC |
| | | | Build capacity of the institutions to access available funding on energy programme such as The Energy Sector Management Assistance Program (ESMAP)[11] and ELEAP | EFCCCC |
| | | | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | MFA |

[10] The World Bank's Carbon Initiative for Development has entered into an agreement with the GoE to purchase the emissions reductions resulting from the distribution of 2.8 million solar lanterns and more than 200,000 solar home systems, providing US$11.1 million in revenue from carbon finance.

[11] The Energy Sector Management Assistance Program (ESMAP) is a global knowledge and technical assistance program administered by The World Bank. It provides analytical and advisory services to low- and middle-income countries to increase their know-how and institutional capacity to achieve environmentally sustainable energy solutions for poverty reduction and economic growth. Through partnerships with the World Bank's ESMAP programme, the country has been able to offer off-grid solar products to the communities and facilitated private sector financing for untapped renewable resources.

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|---|---|---|---|---|
| Innovative funding options | To raise additional revenue through innovative financing options | Linked to domestic spending | Government to issue out green bonds to raise additional finance for the renewable energy projects | MoF |

### 10.5.5. Transport system

The proposed transport mitigation activities include improved public transit in Addis Ababa light rail transit, improved public transport infrastructure, promotion of hybrid and electric vehicles and improved emission standards. The estimated financing gap is US$ 10.12 billion. Both the government and the domestic private sector are expected to play a significant role in raising the required revenue to close the identified financial gap. Table 16 below depicts the financing strategies for the transport sector to close the projected financing gap.

Table 16: Strategic activities to mobilise resources for the Transport sector

| source | objective | Target for closing the financing gap (US$ billion) | Strategic activities to mobilise funding | responsible agent |
|---|---|---|---|---|
| Government public spending | To mobilise additional finance from government public spending | 1.01 | Mainstream the transport mitigation activities into the transport sector ministerial budget | MoT |
| | | | Lobby for retainment of a certain % of revenue raised by the transport sector for investment in NDC transport projects | MoT |
| | | | Review transport user fees (tollgates, vehicle registration) to ensure cost recovery | MoT |
| | | | Introduce Parking fees, Urban congestion pricing to raise revenue | MoT |
| | | | Introduce carbon tax for petroleum products to be deposited in the Climate Fund | EFCCC |
| | | | Establish and operational the emissions standards | MoT |
| | | | Strengthen the sector MRV | EFCCC |
| | | | Establish and operational carbon trading based on CDM | EFCCC |
| Private sector | To enhance private sector investment in NDC proposed activities | 1.01 | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | introduce subsidies and tax for hybrid/electric[12] and vehicles (ICE) respectively | MoF |
| | | | Develop and operationalise a PPP strategy to facilitate joint venture on clean transport systems to encourage a switch from freight trucks to electric rail | MoT |
| | | | Give contracts to produce biofuel to enhance private investment | MoT |
| International funding | To mobilise financial resources from | | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | MoT EFCCC |

[12] New Zealand Government recently introduced a subsidy of up to U$5,976 for purchase of electric vehicles and plug-in hybrid and tax on ICE vehicles. Therefore, the levies on ICE finance the subsidies making it a bonus-malus scheme.

| | | | | |
|---|---|---|---|---|
| | the international funding sources | 8.1 | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | MFA |
| Innovative financing solutions | To raise sustainable finance from the private sector through innovative ways | | Issue green bonds to the private sector to raise revenue for infrastructure development | MoF |

### 10.5.6. Urban development

The urban system is aimed at improving waste management, integrated infrastructure planning and energy-efficient building. This will involve the construction of landfills and sewerage ponds systems, promoting reuse and recycling and retrofitting buildings. The estimated financing gap for urban development is estimated at US$ 0.4 billion. The finance for the activities will be sourced from domestic government spending, private sector participation and international funding sources. The government spending will be supported through cost recovery measures. Table 17 depicts the financing strategies to raise urban revenue systems.

Table 17: Financing strategic activities to mobilise resources for the urban development mitigation measures

| Source | Objective | Target for closing the financing gap (US$ billion) | strategic activities | responsible agent |
|---|---|---|---|---|
| Government public spending | Enhance resource mobilisation to raise additional revenue for the waste sector | 0.072 | Mainstream the urban development mitigation activities into the urban development ministerial budget | MoH |
| | | | Improve legal and policy framework to facilitate improved waste collection | Municipal Division of Health |
| | | | Review the waste collection fees to ensure cost recovery and users affordability based on polluter pays principle | Municipal Division of Health |
| | | | Improve enforcement laws on waste management | MoWIE |
| | | | Increase waste to energy initiative for revenue generation | Municipal Division of Health |
| | | | Promote production of biogas into cooking gas and car fuel for sale to generate revenue | Municipal Division of Health |
| | | | Capacitate the institution to develop bankable proposals to access loans from the MDB for development of landfills | EFCCC<br>MoH |
| | | | Strengthen the MRV system for carbon trading purposes | EFCCC |
| | | | Establish and operationalise carbon trading at the international markets | MoH<br>EFCCC |
| Private sector | Enhance private sector participation | | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | Promote waste separation and recycling at source | Municipal Division of Health |

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|---|---|---|---|---|
| | and investment in waste sector | 0.008 | Review the recycling incentives to enhance private sector participation in recycling plants | MoH |
| | | | Privatise and outsource some of the landfills and waste collection facilities for the private sector participation | Municipal Division of Health |
| | | | Develop and operationalise a PPP strategy to facilitate joint venture investment on landfills and generation of energy from biogas | MoH |
| | | | Review electricity fees for the high consumers and adjust to incentivise companies to participate in energy efficient technology | EEA |
| | | | Form a strong partnership with the NGOs to promote household recycling and waste separation | |
| | | | Mobilise the private sector through CSR to invest in urban development | |
| International funding | Enhance mobilisation of resource from the international sources | 0.32 | capacitate the relevant stakeholders to develop proposals based on Climate Fund requirements | EFCCC |

### 10.5.7. Industries

The estimated average financing gap for the industry mitigation activities is US$ 51.72 billion. The proposed mitigations under the industries are energy efficiency and the clinker substitution in the cement sector, improved industrial waste management systems, and alternative production processes. Incidentally, the major players will be the private sector, and it is thus expected that majority of resources will be mobilised from the industry. The government will be actively involved in creating an enabling environment to stimulate private investment in the proposed mitigations. Table 18 depicts the proposed strategies to mobilise resources for closing the projected financing gap.

Table 18: Strategic activities for mobilising resources for the NDC industries mitigation measures

| Source | Objective | Target for closing the financing gap (US$ billion) | strategic activities | responsible agent |
|---|---|---|---|---|
| Government Public spending | To create an enabling environment for investment in industry mitigation | | Enact all relevant policies (energy policy) to promote energy efficiency | MoWIE MoIT |
| | | | Develop standards on production processes | MoWIE MoIT |
| | | | Build capacity to monitor and enforce industrial standards and acts | MoWIE MoIT |
| | | | Build capacity of the industries to develop proposals to access CDM funding and other schemes | EFCCC MoWIE MoIT |
| | | | Promote the benefits of mitigation at the industries through cost-effectiveness studies | EFCCC |

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|---|---|---|---|---|
| | | | Establish a country carbon trading platform to facilitate international carbon trading | EFCCC |
| Private sector | Enhance resource mobilisation from the private sector to invest in mitigation projects | 10.3 | Develop and operationalise the stakeholder engagement strategy | EFCCC |
| | | | Strengthen MRV to participate in the carbon trading | ECSAs |
| | | | Reduce the cost of mitigation by providing loan with low interest to the industries for the mitigation through government financing institutions | MoF |
| | | | Review electricity fees for the high consumers and adjust to incentivise companies to participate in energy-efficient technology | EEA |
| International funding solutions | To enhance the private sector to access international fund (CDM and climate Funds etc) | 41.37 | capacitate the relevant stakeholders do develop proposals based on Climate Fund requirements | EFCCC |
| | | | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | MFA |

# 11. Implementation of the NDC financing strategy

A comprehensive implementation plan must be developed for implementation to raise the revenue and close or reduce the existing financing gap. This implementation plan is thus developed based on the implementation schedule of the ETH NDC, which is 2021-2030. It highlights the activities to be implemented, the proposed start date and targets dates for completing the activities. Given the heterogeneity of the activities between the NDC sectors, the implementation plan is developed covering all sectors to ensure that all proposed strategic activities are included.

| target source | Strategic activity | duration | start | target | responsibility |
|---|---|---|---|---|---|
| **Agriculture and forest sector adaptation** | | | | | |
| Government spending | Adoption and internalisation of the ETH NDC financing strategy by the stakeholders | short time | Sep 2021 | Oct 2021 | MoA & EFCCC |
| | Development and operationalise the NDC partnership strategy | Short time | Aug 2021 | Oct 2021 | EFCCC |
| | ministerial budgets to include NDC adaptation activities to lobby for budget increase | long time | Oct 2021 | 2030 | CDD, LAUD |
| | develop and operationalise PES to raise revenue for climate smart agriculture practises | short time | Oct 2021 | Feb 2022 | MOA &EFCCC |
| | Implement the National Forest Sector Development program which has a budget for activities similar to NDC | Long time | Oct 2021 | 2030 | EFCCC |
| | Operationalise the national REDD+ programme | Long term | Oct 2021 | 2030 | EFCCC |
| | Training and strengthen the sector to mainstream climate change adaptation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| domestic private | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | June 2022 | EFCCC |
| | develop legal framework to allow small farmers to own and lease land and become shareholders in large commercial farmers | short time | Oct 2021 | Jun 2022 | MoA |
| | develop a legal framework for agriculture specific financial services such as micro lending and insurance | short time | Oct 2021 | Jun 2022 | MoA |
| | development of agro-processing plants to enhance value chain and viability of the products | short time | Oct 2021 | Jun 2022 | MoA |
| | Develop and operationalise a PPP strategy to facilitate joint venture on irrigation schemes | short time | Oct 2021 | Jun 2022 | MoA |
| | increase awareness on viable investment area in the agriculture sector | medium | Oct 2021 | June 2025 | MoA |
| | establish an agricultural bank and enhance its lending capacity | medium | Oct 2021 | June 2025 | MoA |
| | De-risk the investment in the agricultural sector through insurances schemes and government loan guarantee | long time | Oct 2021 | June 2022 | MOA |
| international fund | Capacitate the EFCCC, Ministry of agriculture to develop bankable proposal as per the institutions' requirements | short time | Oct 2021 | June 2022 | MoA |
| | Establish focal personnel within the ministry of agriculture and EFCCC tasked with development of proposal for accessing international funding | short time | Oct 2021 | June 2022 | CDD, LAUD |

| | | | | | |
|---|---|---|---|---|---|
| innovative financing | Establish and operational payment for ecosystem services (PES) fund to raise revenue and pay farmers for climate smart agricultural practises. PES to targets water sector, tourism | short time | Oct 2021 | June 2022 | MoA |
| Target source | Strategic activity | Duration | Start | Target | Responsible agent |
| **Urban Development** | | | | | |
| Government public spending | adoption and internalisation of the financing strategy by the stakeholders | short term | Sep 2021 | Oct 2021 | MUDHCo |
| | Training and strengthen the sector to mainstream climate change adaptation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| | Mainstream climate change adaptation into sectoral budget and planning process to lobby for government budget increase on Federal urban and land use planning | Long term | Sep 2021 | 2030 | MUDHCo |
| | lobby for increase government budget on Federal disaster response and recover Fund to an agreed % of the national budget as per Sendai Framework | long term | Sep 2021 | 2030 | DRMCO |
| | Establish a national urban development and infrastructure Fund | short term | Sep 2021 | June 2022 | MUDHCo |
| | Review and adjust council property rates and infrastructure users fee for cost recovery and portion of the revenue to generate revenue | short term | Sep 2021 | 2030 | MUDHCo |
| | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | June 2022 | EFCCC |
| international fund | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international climate and DRM financing sources | short term | Oct 2021 | June 2022 | EFCCC |
| | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | short term | Oct 2021 | 2030 | MoFA |
| innovative financing | Introduce Green Bonds to raise revenue from the private sector | long term | Oct-21 | 2030 | MoF |
| **Water, irrigation, and energy sector** | | | | | |
| government spending | adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | MoWIE |
| | Training and strengthen the sector to mainstream climate change adaptation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | |
| | Increase budget for the water, irrigation and energy sector through mainstreaming adaptation measures into budgetary and planning processes | Long term | Sep 2021 | 2030 | MoWIE |
| | Review and adjust national water use tariffs to ensure cost recovery | Long term | Sep 2021 | 2030 | Ethiopian River Basin Development High Council<br>Water & Sewerage Authority |

| | | | | | |
|---|---|---|---|---|---|
| | increase water meters proportion for both domestic and commercial water consumers | Long term | Sep 2021 | 2030 | Water & Sewerage Authority |
| | Improve revenue collection capacity of the relevant authorities | Long term | Sep 2021 | 2030 | Ethiopian River Basin Development High Council<br>Water & Sewerage Authority |
| | Undertake willingness to pay and affordability assessment | Short term | Sep 2021 | June 2022 | Water and Sewerage Authority |
| | Establish setup water tariffs at the rural area for cost recovery | Short term | Sep 2021 | June 2022 | Water and Sewerage Authority |
| | Reduce unaccounted for water (leakages) as a cost cutting measure for the water utility | Long term | Sep 2021 | 2030 | Water and Sewerage Authority |
| | Establish PES scheme fund for irrigation scheme to incentive watershed management initiative | Short term | Sep 2021 | June 2022 | MoA |
| | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | June 2022 | EFCCC |
| | De-risk the cost of investing in agricultural irrigation schemes through insurance and government loan guarantee schemes | Short term | Oct 2021 | June 2022 | MoA<br>MoF |
| | Develop and operationalise a PPP strategy to facilitate joint venture on irrigation schemes and renewable energy | Short term | Oct 2021 | June 2022 | MoA<br>Farmers associations |
| Domestic private | Improve capacity to access loan facilities from the lending institutions | Short term | Oct 2021 | June 2022 | MoA |
| | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | Short term | Oct 2021 | June 2022 | MoA |
| international fund | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | Long term | Oct 2021 | 2030 | MoFA |
| | Establish PES scheme to internalise the cost incurred by land managers on sustainable watershed management | Short term | Oct 2021 | June 2022 | MoA<br>EFCCC |
| innovative financing | Introduce polluters pay scheme for users unsustainably using the water basins | Short term | Oct 2021 | June 2022 | MoA |
| **Health Sector** | | | | | |
| | adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | MoH |
| Target source | Strategic activity | duration | Start | Target | Responsible agent |

| | | | | | |
|---|---|---|---|---|---|
| Government public spending | Training and strengthen the sector to mainstream climate change adaptation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | |
| | Mainstream climate change adaptation projects into sector budgetary and planning purposes to lobby for increase government budget on Health NDC activities | Long term | Sep 2021 | 2030 | MoH |
| | Implement the health care financing strategy activities across the country | Long term | Sep 2021 | 2030 | MoH |
| | Constantly review the user fee setting to ensure cost recovery | Long term | Sep 2021 | 2030 | MoH |
| | Establishment of a private wing in public hospitals | Short term | Sep 2021 | June 2022 | MoH |
| | health sector to retain 6% of the revenue generated to invest in electricity installation and waste management | Medium term | Sep 2021 | June 2025 | MoH |
| private sector | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | Dec 2021 | EFCCC |
| | Establish and operationalise the community-based health insurance and social health insurance | Medium term | Sep 2021 | June 2025 | MoH |
| | provide financial schemes (soft loans schemes) for the household to construct improved toilet facilities | Medium term | Sep 2021 | June 2025 | MoH |
| | build a strong relationship between the civic communities to raise revenue for construction of public toilet | Long term | Sep 2021 | 2030 | MoH |
| | Establish and operationalise an environmental fund to be funded through PES scheme to contribute to construction of sanitation facilities (toilets) for communities in sensitive ecological zones | Short term | Sep 2021 | June 2022 | EFCCC |
| international fund | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international climate | Short term | Sep 2021 | June 2022 | MoFA |
| | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc | Long term | Sep 2021 | 2030 | MoFA |

| Mitigation section of the NDCS | | | | | |
|---|---|---|---|---|---|
| **Agriculture** | | | | | |
| government spending | Adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | MoA |
| | Training and strengthen the sector to mainstream climate change adaptation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| | Mainstream mitigation project into sectoral planning and budgetary purposed to advocate for increase in agricultural budget as a strategic economic sector to drive the economy and improve livelihoods | Long term | Sep 2021 | 2030 | MoA |

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|---|---|---|---|---|---|
| | Develop the identified land earmarked in the CRGE strategy for irrigation scheme | Medium term | Sep 2021 | June 2025 | EFCCC |
| | Issue long terms lease agreement at cost recovery terms | Long term | Sep 2021 | 2030 | EFCCC |
| | Review and adjust abattoirs charges for cost recover | Long term | Sep 2021 | 2030 | MoA |
| | Reduce tax on agricultural profits | Short term | Sep 2021 | June 2022 | MoF |
| domestic private | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | June 2022 | EFCCC |
| | Setup and operationalise a national agricultural bank with soft loans facilities to the farmers | Medium term | Sep 2021 | June 2025 | MoF |
| | De-risk the agricultural investment risk by underwriting the loans and provision of guarantor | Short term | Sep 2021 | June 2023 | MoA, MoF |
| | Develop and operationalise a PPP strategy to facilitate joint venture on major irrigation investments schemes | Medium term | Sep 2021 | June 2022 | MoA |
| | Introduce conservation agriculture incentives bases on ecosystem based management approached implemented | Medium term | Sep 2021 | June 2025 | MoA |
| | Construct agro-processing plants to increase viability and profitability of the sector | Medium term | Sep 2021 | June 2025 | MoA |
| | Improve financial literacy of the farmers to enable them to access bank facilities | Short term | Sep 2021 | June 2022 | MoA |
| | Increase farmers awareness on existing financial schemes | Short term | Sep 2021 | 2030 | MoA |
| | Introduce innovative leasing, structured with options of finance lease, operational lease or daily usage rental payments, agricultural machinery services and agricultural products | Medium term | Sep 2021 | June 2025 | Private sector MoA |
| International fund | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | Short term | Sep 2021 | June 2022 | EFCC |
| | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | Long term | Sep 2021 | 2030 | MoFA |
| **Forest sector** | | | | | |
| Government | Adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | EFCCC |
| | Training and strengthen the sector to mainstream climate change adaptation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| | Mainstream mitigation projects into sectoral planning and budgetary processes to increase budget allocation to both the Forest Fund and forest EFCCCC and based on TEV studies | Long term | Sep 2021 | 2030 | EFCCC |
| | Establish and operational PES and revenue to the deposited into the Forest Fund based on TEV studies | Short term | Sep 2021 | June 2022 | EFCCC |

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|---|---|---|---|---|---|
| | Review and introduce user/harvest fees for various forest products (timber, gums and resins, honey) | Short term | Sep 2021 | 2030 | EFCCC |
| | Increase monitoring on harvest of forest products to reduced revenue leaks from uncontrolled harvesting | Short term | Sep 2021 | 2030 | EFCCC |
| | Strengthen the MRV systems to ensure carbon trading schemes | Short term | Sep 2021 | 2030 | EFCCC |
| | Operationalise and expand the REDD+ scheme | Medium term | Sep 2021 | June 2025 | EFCCC |
| Private sector | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | June 2022 | EFCCC |
| | Develop a comprehensive payment structure agreed collectively with farmers to incentivise them to participate in afforestation and Ecosystem based approaches. Payment to be funded through PES | Medium term | Sep 2021 | June 2025 | EFCCC |
| | Educate and increase farmers awareness on forest conservation incentives such as REDD+, carbon trading and green bonds | Medium term | Sep 2021 | June 2025 | EFCCC, NGOs |
| | Develop and operationalise a PPP strategy to facilitate co-management of forests through REDD+ schemes | Medium term | Sep 2021 | June 2022 | EFCCC, NGOs |
| International funding | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | Short term | Sep 2021 | June 2022 | EFCCC |
| | Establish and maintain strong coordination and alliance with the international development partners (ODA, DIC, JICA, CARE etc) | Long term | Sep 2021 | 2030 | MoFA |
| innovative financing | Establish green bonds and climate bonds | Long term | Sep 2021 | 2030 | EFCCC |
| **Water and Energy sector** | | | | | |
| government spending | Adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | MoWIE |
| | Training and strengthen the sector to mainstream climate change mitigation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| | Mainstream mitigation project (irrigation and renewable energy project) to advocate for increase national budget on renewable energy sector | Long term | Sep 2021 | 2030 | MoWIE |
| | Constantly review and update electricity tariffs to raise revenue as cost recovery measures and encourage the private sector investment | Long term | Sep 2021 | 2030 | EEP |
| | Government to issue out green bonds to raise additional finance for the renewable energy projects | Long term | Sep 2021 | 2030 | MoF |
| | Develop institutional technical capacity to develop bankable proposal to access loans | Medium term | Sep 2021 | June 2025 | MoWIE |
| | Operational Carbon trading from reduced GHG emissions through CDM | Short term | Sep 2021 | June 2022 | EEP |

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|---|---|---|---|---|---|
| | Strengthen the MRV systems to ensure carbon trading schemes | Short term | Sep 2021 | June 2022 | EFCCC |
| | Establish and operationalise the Endowment fund | Medium term | Sep 2021 | June 2023 | MoF |
| Domestic private | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | Dec 2021 | EFCCC |
| | Develop and operationalise a PPP strategy to facilitate joint venture on the development of renewable projects | Medium term | Sep 2021 | June 2025 | EEP |
| | Introduce feed in tariffs schemes to allow small investors to invest in solar, wind at the household level | Short term | Sep 2021 | June 2022 | EEP |
| | de-risk investment in renewable clean energy, through government guarantee schemes and funds | Medium term | Sep 2021 | June 2025 | MoWIE |
| | Introduce subsidies for renewable off-grid alternatives to be financed through forest PES, REDD+ and carbon tax | Short term | Sep 2021 | 2030 | MoWIE |
| International funding | Form a strong partnership with the NGOs to facilitate NGOs to tap into international funding | Long term | Sep 2021 | 2030 | MoWIE |
| | Build capacity of the institutions to access available funding from various energy programme such as The Energy Sector Management Assistance Program | Medium term | Sep 2021 | June 2025 | MoWIE |
| **Transport sector** | | | | | |
| Government spending | Adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | MoT |
| | Training and strengthen the sector to mainstream climate change mitigation projects into planning and ministerial budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| | Mainstream mitigation projects into sectoral planning and budgetary process to lobby for increase budget allocation for the transport sector | Long term | Sep 2021 | 2030 | MoT |
| | Lobby for retainment of a certain % of revenue raised by the transport sector for investment in NDC project | Short term | Sep 2021 | June 2022 | MoT |
| | Review and adjust transport user fees to ensure cost recovery (tollgates, vehicle registration etc) | Long term | Sep 2021 | 2030 | MoT |
| | increase enforcement on vehicle registration and collection fees | Long term | Sep 2021 | 2030 | MoT |
| | Introduce Park fees, urban congestion pricing to raise revenue | Short term | Sep 2021 | June 2022 | MoT |
| | Introduce carbon tax for petroleum products to be deposited in the Climate Fund | Short term | Sep 2021 | June 2022 | MoWIE MoMP |
| domestic private | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | Dec 2021 | EFCCC |
| | introduce subsidies and tax for hybrid/electric and internal Combustion Engine vehicles (ICE) respectively | Short term | Sep 2021 | June 2022 | MoT |

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|---|---|---|---|---|---|
| | Develop and operationalise a PPP strategy to facilitate joint venture on clean transport systems to encourage a switch from freight trucks to electric rail | Short term | Sep 2021 | June 2022 | MoT |
| | Give contracts for the production of biofuel to enhance private investment | Short term | Sep 2021 | Jun 2022 | MoWIE |
| International funding | Capacitate the relevant stakeholders on proposal development and requirements for accessing regional and international funding | Short term | Sep 2021 | June 2022 | EFCCC |
| Innovative financing | Issue green bonds to the private sector to raise revenue for infrastructure development | | Sep 2021 | June 2022 | MoF |
| **Urban development** | | | | | |
| government spending | Adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | MoH |
| | Training and strengthen the sector to mainstream climate change adaptation projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| | Mainstream mitigation project into sectoral planning and budgetary process to lobby for additional increase in waste management budget for construction and operations of the land fills | Long term | Sep 2021 | 2030 | MoH |
| | Improve legal and policy framework for illegal waste dumping waste collection | Short term | Sep 2021 | June 2022 | MoH |
| | Review the waste collection fees to ensure cost recovery and users affordability and based on polluter pays principle | Long term | Sep 2021 | 2030 | MoWEO |
| | Increase waste to energy initiative for revenue generation (electricity generation, production of biogas into cooking gas and car fuel) | Medium term | Sep 2021 | June 2025 | Municipal |
| | Improve enforcement laws | Short term | Sep 2021 | June 2022 | Municipal |
| | Promote source separation and recycling | Long term | Sep 2021 | 2030 | Municipal |
| | Capacitate the institution to develop bankable proposals to access loans from the MDB for development of landfills | Medium term | Sep 2021 | June 2022 | Municipal |
| | Strengthen the MRV system for carbon trading purposes | Short term | Sep 2021 | June 2022 | EFCCC |
| Private sector | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | June 2022 | EFCCC |
| | Review the recycling incentives to enhance private sector participation in recycling plants | Short term | Sep 2021 | June 2022 | MoH |
| | Privatise and outsource some of the landfills and waste collection facilities for the private sector participation | Medium term | Sep 2021 | June 2025 | Municipal |
| | Develop and operationalise a PPP strategy to facilitate joint venture for the operations of the landfills and generation of energy from biogas | Medium term | Sep 2021 | June 2025 | MoH |
| | Form a strong partnership with the NGOs to promote household recycling and waste separation | Medium term | Sep 2021 | June 2025 | MoH |

| | | | | | |
|---|---|---|---|---|---|
| | Strengthen the MRV system for carbon trading purposes | Short term | Sep 2021 | June 2022 | EFCCC |
| | Participate in carbon trading based on captured GHG | Long term | Sep 2021 | 2030 | EFCCC |
| International funding | capacitate the relevant stakeholders to develop proposals based on Climate Fund requirements | Short term | Sep 2021 | June 2022 | EFCCC |
| **Industries** | | | | | |
| | Adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct-21 | MTI &ECSAs |
| Government | Training and strengthen the private sector to mainstream climate change projects into planning and budgetary processes | Short term | Oct 2021 | June 2022 | MoF |
| | Enact all relevant policies (energy policy) to promote energy efficiency | Short term | Sep 2021 | June 2022 | MTI |
| | Develop standards on production processes | Medium term | Sep 2021 | June 2025 | MTI |
| | Strengthen enforcement of the production processes | Medium term | Sep 2021 | June 2025 | MTI |
| | Build capacity of the industries to develop proposals to access clean development mechanism funding and other schemes | Medium Term | Sep 2021 | June 2025 | MTI |
| | Promote the benefits of mitigation at the industries through cost effectiveness studies | Short term | Sep 2021 | June 2022 | MTI |
| | Establish a country carbon trading platform to facilitate international carbon trading | Short term | Sep 2021 | June 2022 | EFCCC |
| Domestic private | Develop and operationalise the stakeholder engagement strategy | Short term | Oct 2021 | June 2022 | EFCCC |
| | Strengthen MRV to participate in the Clean Development mechanism and carbon trading | Medium term | Sep 2021 | June 2025 | EFCCC |
| | Reduce the cost of mitigation by provide loan with low interest to the industries for the mitigation through government financing institutions | Medium term | Sep 2021 | June 2025 | MoF |
| | Review electricity fees for the high consumers and adjust to incentivise companies to participate in energy efficient technology | Long term | Sep 2021 | 2030 | EEA |
| International funding | Develop the private sector capacity to develop CDM proposal to access international funding | Medim term | Sep 2021 | June 2025 | EFCCC |
| | Establish a focal point within the sector and line ministries tasked with coordinating international funding mobilisation | Short term | Sep 2021 | June 2022 | MIT |
| **Mines** | | | | | |
| Government public spending | Adoption and internalisation of the financing strategy by the stakeholders | Short term | Sep 2021 | Oct 2021 | MoMP |
| | Develop and operationalise the fuel standards and fuel mix standards | Short term | Sep 2021 | June 2022 | MoMP |

| | | | | | |
|---|---|---|---|---|---|
| | Introduce carbon tax on fuel carbon content to incentivise the companies to adhere to fuel requirement | Short term | Sep 2021 | June 2022 | MoWIE MOMP |
| Domestic private section | Develop and operationalise the stakeholder engagement strategy | Short Term | Oct 2021 | Dec 2021 | EFCCC |
| | Training and strengthen the private sector to mainstream climate change projects into planning and budgetary processes | Short term | Oct 2021 | Dec 2021 | MoF |
| | Strengthen the MRV for carbon trading | Short term | Sep 2021 | June 2022 | MoMP |
| | Develop and operationalise a PPP strategy to facilitate joint venture to produce biodiesel and Ethanol | Short term | Sep 2021 | June 2022 | MoM |
| | Establish subsidise biodiesel production and ethanol from the carbon tax | Short term | Sep 2021 | June 2022 | MoMP |
| | Create awareness amongst the fuel producers on CDM initiatives | Short term | Sep 2021 | June 2022 | MoMP |
| International funding | Capacitate the relevant stakeholders to develop proposals based on Climate Fund requirements | Medium term | Sep 2021 | June 2025 | MoMP |
| | Establish a focal point within sector and line ministries tasked with international resource mobilisation | Short term | Sep 2021 | June 2022 | MoMP |

# 12. Monitoring, evaluation, and review

Monitoring and evaluation for the financing strategy is a critical component to ensure that it is being implemented and while it is yielding the intended results. Thus, the KPI must be established, and their targets are set. The table below depicts the monitoring framework for the NDC financing strategy. It highlights NDC sectors, source of funding, goal, indicators and the KPI, amongst others.

Table 19: Monitoring and evaluation framework for financing the NDC adaptation

| source | goal | KPI | baseline | Target US$ billion | data source | frequency | responsibility |
|---|---|---|---|---|---|---|---|
| NDC adaptation components | | | | | | | |
| **Agriculture and forest sector adaptation** | | | | | | | |
| Government | To raise additional revenue from government spending | Revenue allocated | | 0.445 | MoF accounts | Annually | MoA & EFCCC |
| | | Revenue generated from PES scheme | | | EFCCC accounts | Annually | EFCCC |
| | | Revenue generated from REDD+ programme | | | EFCCC REDD+ fund | Annually | EFCCC |
| Domestic private sector | To raise revenue and create an enabling environment | Value of investment made in the forestry | | 0.445 | EFCCC annual reports | Annually | EFCCC |
| | | Value of private sector investment in agricultural sector | | | Banks Agricultural association | Annually | MoA |
| | | legal framework to allow small farmers to own and lease land | | | MoA library | Annually | MoA |
| | | legal framework for agriculture specific financial services such as micro lending and insurance | | | MoA library | Annually | MoA |
| | | Value of loans to the agricultural sector | | | Banks | Annually | MoA |
| | | Value of agricultural insurance schemes | | | Insurance companies | Annually | MoA |
| International funding | To mobilise resource from the international sources | Revenue raised | | 3.56 | MoF account | | MoF |
| | | Number of proposal submitted | | | MoA & EFCC library | Annually | MoA and EFCCC |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Urban development** | | | | | | | |
| Government public spending | To raise revenue from public spending | Revenue allocated | | | MoF accounts | Annually | MoF |
| | | Government contribution to Federal disaster response and recover Fund | | | Federal disaster response fund account | annually | DRMCO |
| | | Revenue deposited in National urban development and infrastructure Fund | | | National urban development and infrastructure fund account | Annually | MUDHCo |
| | | Revenue generated from council/property rates and infrastructure users fee adjust for cost recovery | | 0.677 | Municipals accounts | Annually | Municipals |
| Domestic | To raise revenue from the private sector | Investment made by the private sector | | 0.29 | Municipals records | Annually | Municipal |
| International funding | To raise revenue from the international sources | Revenue raised | | | MoF accounts | | MoF |
| | | Number of proposal submitted and approved | | 3.87 | MUDHCo library | Annually | MUDHCo |
| **Water, irrigation and energy** | | | | | | | |
| Government public spending | To raise revenue from government spending | Revenue generated | | | MoF account | Annually | MoWIE |
| | | Revenue generated from water sales | | | Water & Sewerage Authority accounts | Annually | MoWIE |
| | | Value of unaccounted for water | | | Water & Sewerage Authority | Annually | MoWIE |
| | | Revenue generated from the PES scheme | | 1.42 | PES fund accounts | Annually | EFCCC |
| Domestic private sector | To facilitate private investment in water, | Value of private investment in irrigation and energy projects | | 1.42 | Farmers associations | Annually | MoA |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | irrigation and energy sector | Value of PPP for joint investment scheme | | | MoA accounts | Annually | MoA |
| | | Loans given to private sector for investment on irrigation and energy schemes | | | Commercial banks | Annually | MoA |
| International funding sources | To mobilise resources from the international funding sources | Revenue raised | | 11.43 | MoF accounts | Annually | MoWIE |
| | | Number of proposals developed and submitted to funders | | | MoWIE human resources | Annually | MoWIE |
| **Health sector** | | | | | | | |
| Government public spending | To raise revenue from government spending | Budget allocated to the health sector for NDC | | 0.026 | MoF accounts | Annually | MoH |
| | | Revenue generated from users fees | | | Health Facility accounts | Annually | MoH |
| | | Total revenue retained by health post and invested in waste management and off-grid electricity | | | Health Facilities accounts | Annually | MoH |
| Domestic private sector | To facilitate the private sector to invest in health care | Number of household involved in community-based health insurance and social health insurance | | 0.01 | Community development communities | Annually | MoH |
| | | Revenue from PES scheme to support household to construct toilets in ecological sensitive area | | | EFCCC accounts | Annually | MoH |
| International funding sources | To mobilise revenue from international source | Revenue raised from the international sources | | 0.13 | MoF accounts | Annually | MoH |
| | | Number of proposal developed and submitted to int. funders | | | MoH human resources | Annually | MoH |

Table 20: Monitoring and evaluation framework for Financing the NDC mitigation

| Source | Goal | Indicator | Baseline | Target US$ billion | Data source | Frequency | Responsibility |
|---|---|---|---|---|---|---|---|
| NDC Mitigation components | | | | | | | |
| **Agriculture** | | | | | | | |
| Government public spending | To raise revenue from government public spending | Revenue generated | | 6.06 | MoF accounts | Annually | MoA |
| | | Revenue generated from leased developed irrigation farms | | | MoA account | Annually | MoA |
| | | Revenue generated from state abattoirs | | | Manucipal accounts | Annually | MoA |
| | | Revenue raised from green bonds | | | Central Bank accounts | Annually | MoA |
| Domestic private sector | To increase private investment in the agriculture | Value of investment by the private sector | | 6.06 | Farmers associations Banks | | MoA |
| | | Value of agricultural products insurance | | | Insurance companies | Annually | MoA |
| | | Number of farmers with financial literacy and information on available financial assistance | | | Farmers associations MoA library | Annually | MoA |
| | | Available leasing and or daily usage rental scheme for agricultural machinery services | | | Private companies | | MoA |
| International funding sources | To raise revenue from international funders | Revenue raised | | 48.5 | MoF account | Annually | MoA |
| | | Number of proposal developed and submitted | | | MoA library | Annually | MoA |
| **Forest sector** | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Government public spending | To raise revenue from government public spending | Revenue allocated | | | MoF accounts | Annually | EFCCC |
| | | Revenue generated from PES scheme | | 0.076 | PES fund account | Annually | EFCCC |
| | | Revenue generated from forest users fees | | | Forest fund account | Annually | EFCCC |
| | | Revenue generated from REDD+ programme | | | REDD+ account | Annually | EFCCC |
| | | Revenue generated from carbon trading | | | Carbon trading account | Annually | EFCCC |
| Private sector | To enhance private sector investment in forest afforestation and conservation | Value of investment into forest management by the private sector | | | Forest association EFCCC | Annually | EFCCC |
| | | Revenue distributed to the privates from sale of carbon from REDD+ | | | REDD+ account | Annually | EFCCC |
| | | Number of farmers with knowledge on REDD+ and PES incentives | | 0.019 | Farmers association | Annually | MoA |
| International funding | To raise revenue from international funding and capacitate institutions to raise revenue | Revenue raised | | | MoF account | Annually | EFCCC |
| | | Number of proposal developed and submitted | | 0.38 | EFCCC Human resource | Annually | EFCCC |
| **Water and Energy** | | | | | | | |
| Government spending | To raise revenue from the government public spending | Revenue allocated | | | MoF account | Annually | MoWIE |
| | | Value of green bonds issued out | | | Central Bank | Annually | MoWIE |
| | | Number of personnel trained to develop bankable proposal to access loans | | | MoWIE human resource | Annually | |
| | | Revenue generated from carbon trading platform | | | Climate Fund account | Annually | MoWIE |
| | | Developed sectoral MRV systems | | 8.1 | EFCCC portal | Annually | EFCCC |
| | | Revenue raised from the private sector | | 2.03 | EEA library | Annually | MoWIE |

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|---|---|---|---|---|---|---|---|
| Domestic private sector | To enhance investment potential of the private sector | Revenue paid to the household from sale of renewable electricity | | | EEA account | Annually | MoWIE |
| | | Value of investments by the private sector in clean energy projects | | | EEA library | Annually | MoWIE |
| International funds | To mobilise financial resources from the international sources | Revenue raised | | 40.64 | MoF account | Annually | MoWIE |
| | | Number of proposal developed and submitted | | | MoWIE portal | Annually | MoWIE |
| **Transport sector** | | | | | | | |
| Government public spending | To raise revenue from the government public spending | Revenue allocated | | | MoF account | Annually | MoT |
| | | Revenue generated from transport user fees | | | MoT account | Annually | MoT |
| | | Revenue generated from carbon tax for petroleum products | | | Climate Fund account | Annually | MoT |
| | | Value of green bonds issued out | | | Central Bank account | Annually | MoT |
| | | Transport MRV systems developed | | 1.01 | EFCCC portal | Annually | MoT |
| Private sector | Increase investment in the transport systems | Value of investment by the private sector in the transport sector | | | Transport associations | Annually | MoT |
| | | Value of subsidies given for electric vehicles | | | MoT account | Annually | MoT |
| | | Revenue generated from taxing ICE vehicles | | 1.01 | MoT account | Annually | MoT |
| Internationally funding sources | To mobilise financially resources internationally | Revenue generated | | | MoF account | Annually | MoT |
| | | Number of proposals developed and submitted | | 8.1 | MoT library | Annually | MoT |
| **Urban development** | | | | | | | |
| | | Revenue raised | | 0.072 | MoF account | Annually | MoH |

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|---|---|---|---|---|---|---|---|
| Government public spending | To raise additional revenue from the government public spending | Revenue generated from Increase waste to energy | | | Municipal account | Annually | MoH |
| | | Number of personnel capacitate to develop bankable proposals | | | MoH human resources | Annually | MoH |
| | | Sectoral MRV system | | | EFCCC portal | Annually | MoH |
| Private sector | To increase the private sector investment in the urban development | Value of investment by the private sector | | 0.008 | Municipal library | Annually | MoH |
| International funds | To mobilise financial resources from the international funding sources | Revenue raised | | 0.32 | MoF account | Annually | MoH |
| | | Number of proposal developed and submitted | | | MoH library | Annually | MoH |
| **Industries** | | | | | | | |
| Government public spending | To create a conducive environment for the industries to participate in the NDC | Developed standards on production processes | | | MTI library | Annually | MTI |
| | | An existence of carbon trading platform to facilitate international carbon trading | | | EFCCC library | Annually | MTI |
| | | A sectoral MRV system | | n/a | EFCCC portal | Annually | MTI |
| Private sector | To mobilise the private sector to invest in the NDC industries projects | Value of investment made on NDC industries projects | | | Industries associations | Annually | MTI |
| | | Revenue generated from carbon trading | | 10.3 | EFCCC account | Annually | MTI |
| International funding source | To raise revenue from international funding sources | Revenue raised by the industries from international sources | | | Industries association MoF | Annually | MTI |
| | | Number of proposal developed and submitted | | 41.37 | EFCCC Industries associations | Annually | MTI |
| **Mines** | | | | | | | |
| | | Revenue raised | | 0.003 | MoF account | Annually | MoM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Government public spending | To raise additional revenue from the government public spending | Revenue generated from carbon tax | | | MoF account | Annually | MoMP |
| | | Revenue generated from carbon sales | | | MoF account | Annually | MoMP |
| Domestic private sector | To increase private investment in the production of biodiesel and ethanol | Investment made by the private sector in biodiesel and ethanol production | | | Industries associations | Annually | MoMP |
| | | Revenue generated from the sale of biodiesel and ethanol | | 0.003 | MoMP | Annually | MoMP |
| International funding sources | To raise additional finance from the international funds and donors | Revenue received | | | MoF account | Annually | MoMP |
| | | Number of proposed developed and submitted | | 0.024 | EFCCC | Annually | MoMP |

## 13. Conclusions

The total budget for the ETH NDC is estimated at US$316 billion of which 20% of the total estimated finance is unconditional, while 80% is conditional. GoE is committed to invest USD 63.2 billion on the NDC actions from domestic sources, which will be approximately USD 6.32 billion per year. The dependent finance, which is equivalent to US$252.8 billion, is expected to be financed from international climate finance sources. Equally, this is equivalent to approximately US$ 25.28 billion per year. Currently, the global climate financing is estimated at US$ 1.07 billion. Based on international financial flow and the domestic spending, ETH NDC financing gap was estimated using BAU and worst-case scenario. The average total ETH NDC financing gap is approximately US$ 197.94 billion. Closing the financing gaps will prove to be extremely difficulty more so that 80% financing is expected to come from the international funding sources. Various factors that could impede international funding include Covid 19 impact of the world economies and the regional conflicts over the Grand Ethiopian Renaissance dam and the Tigray Conflicts. This could affect international funding as developed countries such as United States of America stop funding projects in Ethiopia.

It is therefore concluded that it is unlikely that the GoE will raise the required financing of US$25.28 billion annually from the international financing. The current target for the developed countries is to raise US$ 100 billion whilst Ethiopia alone requires US$ 25.28 billion which is a quarter to the pledges. Bearing in mind that there are 33 less developing countries requiring financing, it means the available funding will be distributed across them.

Nevertheless, closing the ETH NDC financial gap will require vigorous efforts and comprehensive cost recovery measures to support increased government public spending. Furthermore, it will require an enabling environment for the private sector to enhance their investment capacities in the economically viable ETH NDC projects. The private sector is one of the most critical sectors for the ETH NDC financing. Projects such as agricultural, production of biofuels, and the industries mitigation measures are highly viable projects which will require the full participation of the private. However, there is a need for an enabling fiscal policy to enhance the private sector investment and participation. The establishment of an agricultural bank will create an enabling environment for the private sector investment in the ETH NDC measure. In addition, it is essential that the private sector awareness is raised on the viable NDC projects, and risk transfer schemes are made available. This will increase their participation. Furthermore, it is pertinent that the private sector's capacity to mobilize climate finance from bilateral and multilateral sources for both ETH NDC adaptation and mitigation sectors is also enhanced.

An assessment of the barriers to accessing international finance revealed lack of information and knowledge on available funding opportunities, lack of institutional capacity to develop proposals that meet the funders requirement as some of the barriers. It is thus essential that the institutional capacities are enhanced. In addition, institutions have mandates and raising finance could be the least of their priorities. To make it a high priority, a focal point for international funding must be established in each line ministry that is involved in the ETH NDC.

Lastly, PES schemes (REDD+), the introduction of a carbon tax and ensuring that users fees are set at cost recovery points are some of the mechanisms that can raise additional revenue to finance the implementation of the NDC measures. Schemes such as PES (including REDD+) is critical to incentivizing the private sectors (farmers, ecosystems managers) to participate in the NDC adaptation and mitigation measures actively.

# 14. Recommendations

Based on the conclusions drawn from the financing strategy specifically that it is highly unlikely that GoE will raise US$25 billion annually (conditional finance of US$252.8 billion) from international funding, the following recommendations are drawn:

- Prioritize the unconditional finance of US$63.2 billion to the NDC adaptation and agricultural mitigation projects with significant co-benefits, particularly the climate change risk reduction initiatives, foods security and ecosystems-based approaches. Ecosystems are critical for the enhancement of the community resilience to climate change and building communities' adaptative capacity. Prioritizing the domestic funding to the NDC adaptation component would safeguard the country's resilience, build its adaptive capacity and protect its citizens from the adversity of climate change
- Create an enabling environment for the domestic private sector to invest in the economically viable projects such as large irrigation schemes, poultry and biofuels. The stakeholder engagement strategy and the PPP strategies are therefore critical
- Facilitate an establishment of the carbon tax (taxing petroleum fuels petrol and diesel) and subsidies alternative off-grid renewable energy sources with emphasis on the rural community to protect ecosystems such as forest and rangeland from degradation. This will strengthen the rural community resilience and adaptive capacity to climate change
- Develop a budget for the implementation of the financing strategy to ensure that there is a sufficient budget for the implementation.

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