# Development of Private Sector Engagement Strategy for NDC Investment (Draft)

March 2023

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## ACRONYMS

| | |
|---|---|
| 10 YPDP | 10 Years Perspective Development Plan |
| AF | Adaptation Fund |
| AfDB | African Development Bank |
| BAU | Business-as -usual |
| CDM | Clean Development Mechanism |
| CIF | Climate Investment Funds |
| COP | Countries of Parties |
| CRGE | Climate Resilience Green Economy |
| DFID | Department for International Development |
| EFCCC | Environment, Forest and Climate Change Commission |
| EFD | Ethiopian Forest Development |
| EPA | Environmental Protection Authority |
| EPACC | Ethiopia's Program of Adaptation to Climate Change |
| FAO | Food and Agriculture Organization |
| FDRE | Federal Democratic Republic of Ethiopia |
| GCF | Global Climate Fund |
| GDP | Gross Domestic Product |
| GEF | Global Environmental Facility |
| GGGI | Global Green Growth Initiatives |
| GHG | Green House Gas |
| GTP | Growth and Transformation Plan |
| IDS | Industrial Development Strategy |
| IFC | International Financial Corporation |
| IPCC | Intergovernmental Panel on Climate Change |
| LDCF | Least Developed Country's Fund |
| LUCF | Land Use Cover and Forest |
| M & E | Monitoring and Evaluation |
| MDB | Multilateral Development Banks |
| MoA | Ministry of Agriculture |
| MoF | Ministry of Finance |

| | |
|---|---|
| MoFED | Ministry of Finance and Economic Development |
| MoH | Ministry of Health |
| MoI | Ministry of Industry |
| MoPD | Ministry of Planning and Development |
| MoTL | Ministry of Transport and Logistic |
| MoUI | Ministry of Urban and Infrastructure |
| MoWE | Ministry of Water and Energy |
| MRV | Measuring Reporting and Verification |
| $MtCO_2$ | Metric tons of Carbon dioxide |
| NAMAs | Nationally Appropriate Mitigation Actions |
| NAPA | Ethiopia's National Adaptation Program of Action |
| NAPs | Ethiopia's National Adaptation Plans |
| NDCs | Nationally Determined Contributions |
| PASDEP | Plan for Accelerated and Sustained Development to End Poverty |
| PPP | Public Private Partnership |
| PSE | Private Sector Engagement |
| REDD | Reduce Emission from Deforestation and Degradation |
| SCCF | Special Climate Change Fund |
| SDPRP | Sustainable Development and Poverty Reduction Program |
| UNDP | United Nation Development Program |
| UNFCCC | United Nations Framework Convention on Climate Change |
| USAID | United States Agency for International Development |
| WB/G | World Bank / World Bank Group |
| WRI | World Resource Institute |

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March 2023

# 1 INTRODUCTION

This report epitomizes the output of the consultancy on development of private sector engagement strategy to mobilize resources for NDC priority sector projects implementation. It focuses on strategies to be adopted for private sector investment to set out how the country can fast-track its transition to a low-carbon and climate-resilient economy and effectively implement its Updated Nationally Determined Contribution (NDC). In this line two concept note as pilot projects as show case to mobilize resources are included.

Ethiopia submitted its updated national climate change commitment – or Updated NDC to be implemented up to 2030 on 21 July 2021 – to the United Nations Framework Convention on Climate Change (UNFCCC). The Updated NDC clearly summaries financial support as core to the successful implementation of the NDC. Ethiopia is at an important juncture in its development and needs to engage, attract, and redirect a whole range of financial resources to transform its economy. The country faces key challenges related to scarce public funding, economic and social vulnerability.

The 10 Year Development Plan (TYDP) for 2021-2030 of Ethiopia aims to reach a middle-income country status by 2025. However, the events of the recent Ukraine-Russia war, earlier COVID-19 pandemic, and the conflict in north Ethiopia are creating substantial negative impacts on human life, livelihood, and infrastructure in the country. Though Ethiopia's contribution of GHG emissions is low in the world (0.04% in 2019)[1], the Country is highly vulnerable to the impacts of climate change. Droughts and desertification are the most destructive climate-related natural hazards with increasing intensity, frequency, and impacts. Its climate change vulnerabilities include droughts, flooding, desertification, water scarcity, and increased incidence of pests, affecting the agriculture, energy, and health sectors.

The 2011 Climate Resilient Green Economy (CRGE) Strategy provides a framework for lowering GHG emissions. In the update NDC for 2020–30, Ethiopia set emission targets under three scenarios— business-as-usual, unconditional, and conditional. The last projects emissions to decline by 68.8% to 125.8 MtCO2eq from the projected BAU estimation of 403.5 $MtCO_2eq$ in

[1] FDRE-Updated Nationally Determined Contribution, Page 3, July 2021

2030 by implementing the updated NDC climate actions. Ethiopia's NDC financing needs for 2020– 30 amounts to $316 billion ($275.5 billion for mitigation, $40.5 billion for adaptation); $63.2 billion will come from domestic, and the rest from international climate finance, sources[2]. Private sector investment is one among other sources planned to engage in the updated NDC to fulfill the estimated budget needs for the climate action

Climate models suggest that the country will experience 1.5 – $3^0$c warming by 2050 (World Bank, 2021). In 2022, the country witnessed its worst drought in the last forty years severely affecting 7 million people in southern and eastern Ethiopia. With more than 75% of the workforce engaged in subsistence agriculture and dependent on rain, it is estimated that drought-induced impacts on agricultural productivity will reduce Ethiopia's GDP by up to 10% by 2045 (USAID, 2016).

Ethiopia has a huge potential to build a low-carbon development pathway. It also needs to make efficient use of international resources. This report on strategies for engaging the private sector is aimed at mobilizing and enhancing greater engagement of the private finance, both domestic and international, for the Updated NDC implementation.

Private-sector finance has been widely seen as a step to scale up access to resources for ambitious climate action, given the limited availability of public resources our country has. However, there is a knowledge gap about the risks, barriers, and opportunities associated with greater private investment[3]. Thus, this strategy paper, in addition to designing two concept pilot projects, development of private sector strategies by way of elucidating the strength, weakness, opportunity and threat thereby identification of engagement strategy and interventions for implementation is important step to stimulate private investment. It is also important that the assignment inclusion of the pilot projects to show case workable Public Private financial mobilization to ensure the models to be proposed are implementable.

Private sector engagement is crucial to achieve the NDC targets. In order to systematically drive the private sector engagement, strategies are needed to ensure they create the necessary enabling condition. Thus, critical assessment thereby developing the right strategies will have paramount importance to influence towards luring the private investment. The foregoing part of this report

[2] https://www.afdb.org/en/countries/east-africa/ethiopia/ethiopia-economic-outlook
[3] Diagnostic Study to incentivize Private Sector Engagement for NDC, 2022

covers the necessary background analysis and then the strategies that are recommended to be adopted in order to create enabling environment for the private sector and attract investment in the climate action. The report is prepared in nine parts. The first part introduces the report and provides background information including justification of private sector engagement. The second part covers the approach and methodology of the report preparation. The third part covers contextual review on the NDC. The fourth part highlights private sector reflections on the engagement of climate action. The fifth part highlights climate finance landscape. The six part shows the SWOT analysis, the seventh part portrays the experience of other countries on selected successful endeavor in attracting private sector investment for NDC and the eighth part provides the selected strategies for implementation. The last part shows the pilot two concept notes of the projects.

## 1.1 Background

NDCs are at the center of the Paris Agreement and the achievement of its long-term goals. They embrace efforts by each country to reduce national emissions and adapt to the impacts of climate change. They detail national climate plans highlighting climate actions, including climate-related targets policies and measures that governments seek to implement in response to climate change, to contribute to global climate action and to fulfil the shared responsibility of the Paris Agreement. Each country is required to indicate the national efforts and plans to take as of 2020 to fulfil the Paris Agreement's most ambitious objectives. The Paris agreement is to keep the increase in global temperature to well below 2°C with respect to the pre-industrial era, with the further aim of limiting it to 1.5°C; strengthening the capacity to adapt to the adverse effects of climate change; and increasing resilience. For developing countries like Ethiopia, being able to deliver their climate commitments under the Paris Agreement hinges on their ability to access climate finance. However, identifying and accessing the right sources of finance is not always straightforward and meeting the financial requirements face several challenges including unlocking funding.

Ethiopia has frequently experienced extreme events like droughts and floods, in addition to rainfall variability and increasing temperature which contribute to adverse impacts to livelihoods. Primary environmental problems are soil erosion, deforestation, recurrent droughts, desertification, land

degradation, and loss of biodiversity and wildlife[4]. The situation is exacerbated by the country's dependence on climate-sensitive natural resources. Despite the country's negligible contribution to global greenhouse gas (GHG) emissions, Ethiopia has put in place ambitious policies and measures to pursue a low-carbon climate-resilient development pathway to realize Vision 2030 and the Updated NDC.

Ethiopia's Updated NDC includes both mitigation and adaptation actions. In terms of mitigation, it seeks to transform into a low-carbon society and reduce its GHG emissions far beyond 68.8 per cent by 2030 relative to the projected BAU scenario of 403.5 $MtCO_2$ eq outlined in the NDC. Achieving this transformation will require substantial international and domestic support and investment in finance, technology development and capacity-building from the public and private sectors. In terms of adaptation, Ethiopia aims to ensure enhanced resilience to climate change towards attaining Vision 2030 by mainstreaming climate change into its medium-term plans and implementing adaptation actions. The priority climate actions fall in the six mitigation sectors set out in the UNFCCC: agriculture, energy, forestry, industry, transport and waste. These actions are expected to support low-carbon sustainable development and lower GHG emissions and help Ethiopia meet its NDC goal.

In terms of adaptation, the updated NDC has identified 40 interventions with clear demarcations between conditional and unconditional form selected sectors that include Agriculture, Water, Transport, Urban, Health, Land Use and Natural Resource Management, Climate Services and Disaster Reduction Sectors.

The latest NDC includes updated greenhouse gas (GHG) emissions projections using the most recent national and sectoral emissions inventory data. The latest NDC also integrates the country's national climate and development objectives by aligning the GHG emissions pathways with national development priorities and sectoral targets from Ethiopia's new 10-year development plan. The NDC lays out Ethiopia's intentions to align its monitoring and reporting system with the Paris Agreement and provides the required information that will serve as a basis for future

[4] Ministry of Environment and Forest (2015). Ethiopia's Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC). The Federal Democratic Republic of Ethiopia. URL: https://unfccc.int/resource/docs/natc/ethnc2.pdf

reporting, thereby helping to facilitate clarity, transparency and understanding of the NDC and its implementation.

Tracking the progress of climate change efforts will also align with the framework for tracking sectoral indicators to measure progress under Ethiopia's 10-year Home grown economic development plan. This tracking approach enables more integrated monitoring of progress toward climate and development objectives, rather than treating climate change tracking as an additional activity, which would require greater financial and capacity resources.

The updated NDC includes a clear demarcation between the effort (both mitigation and adaptation) that Ethiopia will pursue unconditionally using domestic finance and what the country will pursue conditionally, based on international support. This includes a specific commitment to a meaningful financial contribution from domestic resources, along with a commitment to explore further ambition increases during the NDC period. Of the total cost of NDC implementation ($316 billion estimated between 2020 and 2030), 20% of the total cost will be domestically financed and the remaining 80% will require international support. The split assumes that Ethiopia will implement the least-cost mitigation and adaptation actions to achieve its unconditional targets during the NDC period.

Ethiopia has put in place a number of strategies, programs, and guidelines to further mainstream climate change issues into national development plans to mitigate the adverse effects of climate change on the country's development. These include, CRGE mainstreaming guidelines, gender analysis for the updated Nationally Determined Contributions (NDC) and for the National Action Plan (NAP), identification of capacity gaps and development of institutional capacity building plans for the implementation of the NDC, finance strategy for the updated NDC, resource mobilization strategy for the NAP, NAP Implementation Roadmap, identification of NGOs role on NDC, Web-based M and E Systems, and the CRGE-NDC knowledge management portal.

The country with the support of UNDP and in collaboration with NDC PP Support unit has already been finalized designing NDC Implementation Plan. One of the activities that must be accomplished for the NDC Implementation Plan is engaging the private sector for the implementation of NDC. To engage the private sectors in the NDC Implementation, the

challenges, barriers faced by the private sector to invest in climate change mitigation & adaptation projects need to be specifically identified thereby articulate better engagement strategy mechanism to enable achieve the resource mobilization and investment from the private sector. Diagnostic study to identify the barriers has already been completed which details among others, the barriers, enabling factors and recommendations for private sector investment in climate action. This report here builds on the results of the diagnostic study and completes with development of the private sector engagement strategy. To attract much-needed private sector investment to enable fulfill the domestic share of the financial need, it is important to identify the private sector stakeholders engaged in markets and industries and understand which enabling factors and services are available to technology providers and users and providers of capital. This information will guide the development of solutions that can improve private sector participation in climate finance and ultimately fill the current investment gap for NDC Implementation.

## 1.2 Justification of engaging the private sector

The private sector is a critical stakeholder in fighting climate change. It can play a leading role in climate change mitigation by reducing the GHG emissions of its operations by adopting existing low- or zero-GHG-emitting processes and technologies. It can play an important role in innovating and developing new low- or zero-GHG-emitting products, services, and technologies for the private and public sectors. Likewise, the private sector can play a role in climate change adaptation by building climate resilience into its business plans and investments. Both large and small companies have a vital role to play in climate change adaptation. Regulations that require banks to assess their exposures to climate-related risks may lead the corporate sector to invest in resilient infrastructure. In addition, requirements for resilience embedded in contracts enabled by public-private partnership frameworks may help channel private sector resources into resilient public infrastructure in several sectors. Finally, the private sector can innovate and develop new climate adaptation infrastructure, processes, goods, and services and provide them to private and public actors. The private sector can also provide the finance to support investments in mitigation and adaptation; for example, through loans from the banking sector or through capital markets, including the issuance of green or climate bonds (World Bank Group 2021a)

Climate change is a reality; the best available science confirms the climate is changing and that more severe impacts will occur now and in the future. The impacts of climate change are already

being felt in Ethiopia, across all economic sectors and by all segments of society, including business. Ethiopian companies report a number of impacts from climate change including overall production decline and degradation of productive land , changing rainfall patterns leading to early harvest, damaged infrastructure, and disrupted delivery of goods due to extreme weather. Businesses know that to be successful, they must adapt to constantly changing market conditions, and that changes can stem from economic, social or environmental factors. The impacts of climate change are already being experienced by businesses, and many see a clear commercial rationale in terms of managing risks and harnessing opportunities. The process of transformation to a resilient economy brings new opportunities for businesses, including new products and services, new and expanded markets, cost savings, building more resilient supply chains and creating reputational benefits, all of which provide returns on investment and a positive impact on the bottom line. New sources of finance are available to support investment in these new markets, products and services, including the Green Climate Fund (GCF), which has a specific focus on the private sector

Climate change drives organizations to manage the risks posed to their current business models and identify and capitalize on the opportunities that result from more indirect impacts, particularly in the market. Figure 1 shows the primary types of business opportunities presented by climate change. These opportunities apply to both activities that reduce greenhouse gas (GHG) emissions (in climate change parlance: mitigation) or providing products/services that help manage climate risks and opportunities (adaptation). Thus, engagement of private sector in climate action provides opportunities as much as climate change creates risks.

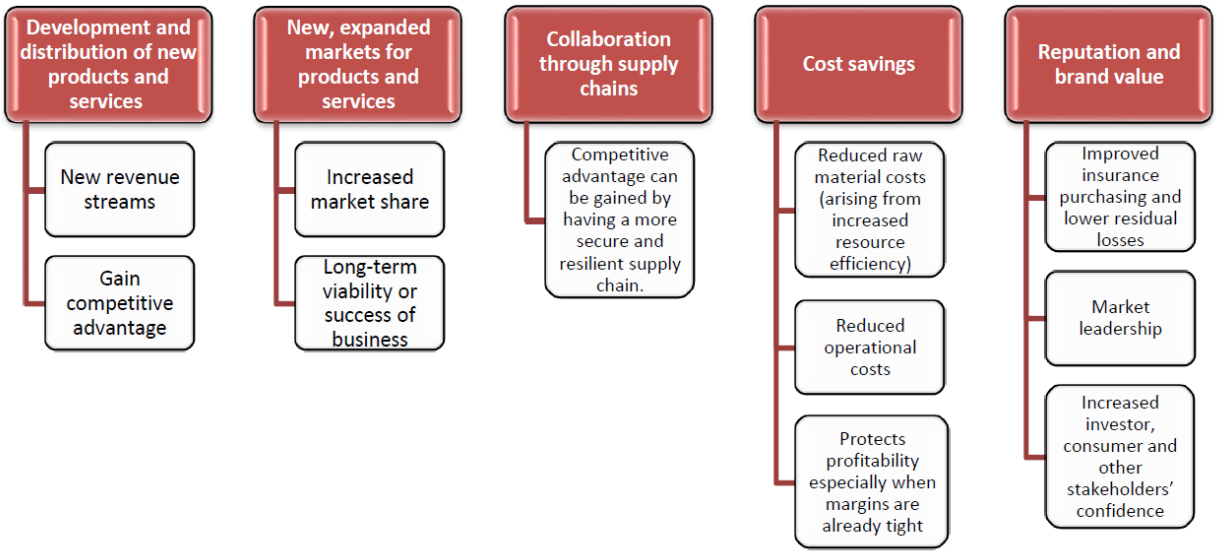



*Figure 1: Business opportunity*[5]

It is generally known that the private sector holds the ace to business models and innovations that drive the society to success and awaken the latent needs. For Ethiopia, the private sector is expected to provide the formidable space for a more secure, productive, and just communities that are climate resilient. The private sector is in position to mobilize resources, knowledge, and innovation for addressing climate change and promoting green growth. In fact, the private sector also has the capacity to drive innovation and promote it with a market creation that has the potential to support low emission development with reduced GHG emissions and resilient growth. In other words, there is a need to strategically include the private sector in climate change adaptation and mitigation planning and actions because of their critical roles in the economy. Private sector can be engaged in climate action: -

- Mobilize financial resources and technical capabilities.
- Develop and adopt low carbon operations, technologies, and services and expand and access new markets.
- Benefit from cost savings, protect supply chains and build reputational benefits.

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/305412/stimulating-private-sector-engagement-climate-disaster-resilience.pdf

- Harness opportunities by building partnerships with other businesses and stakeholders to take advantage of the resources, networks and expertise provided to implement climate projects.
- Provide much-needed finance for various adaptation and mitigation projects.
- Facilitate technology development and transfer and enable infrastructure development that contributes positively to climate action.
- Mobilize resources by trading emission/carbon to the implementation of projects in various sectors.
- Create new green jobs and ensure economic savings with improved wellbeing for people with even greater investment, innovation, and growth potential ahead.

## 1.3 Who are private sectors and what is private sector engagement

### 1.3.1 Private sector (Definition)[6]

According to UNDP description, the private sector is a basic organizing principle of economic activity in a market-based economy where private ownership is an important factor, where markets and competition drive production, and private initiative and risk-taking set activities in motion. The private sector includes a wide range of market actors that may operate either in the informal or formal economy. The following actors will be considered as part of the private sector or as important market actors and their representatives

- Multinational companies with global reach and operations (e.g. from the North and the South, and with wide presence in multiple countries,
- Large domestic companies.
- Micro, small and medium enterprises (MSMEs).
- Business intermediaries and interlocutors such as Chambers of Commerce and Industry, business associations, innovative alliances, business roundtables, stock exchanges and a new generation of cooperatives
- Social enterprises and other innovative constellations formed to address a specific development issue or cause.

[6] https://www.undp.org/sites/g/files/zskgke326/files/publications/UNDP_Private_Sector_Strategy_2018-2022_Annexes_I-VI.pdf

- Mutual organizations (such as Visa, MasterCard, asset management companies, cooperative banks, mutual saving banks, credit unions, mutual insurance/assurance, and health care companies); and
- State Owned Enterprises (SOE), i.e. either wholly or partially owned by a government and that engage in commercial activities as part of an open market system

### 1.3.2 Private sector engagement

Private sector engagement (PSE) is about bringing the private sector into the NDC implementation agenda. It is about helping the private sector change the way they do business so that their activities address climate actions and benefit their business. It is about giving the private sector a seat at the table in an active way during the NDC program design process and retaining that level of engagement throughout the program implementation lifecycle and beyond. It includes relationships with NDC implementation with companies of all sizes ranging from micro, small and medium enterprises (MSMEs) to regional, national and multi-national corporations (MNCs). A private sector engagement is not:

- A donor relationship where donors directly support building small businesses and the private sector as program participants/beneficiary.
- A limited corporate social responsibility (CSR) program in which the private sector actor is providing one time financial or material support only to contribute to NDC goals.
- An engagement limited to buying or selling materials or services with program participants as a business transaction.
- A material aid relationship with the private sector donating goods either to NDC sectors or to NDC program participants.

## 1.4 Justification of mapping climate finance for private sector

It is unquestionable on the need to mobilize finance both from domestic and international source at scale for Ethiopia to meet its climate targets and build resilience to climate change . The finance required to support the government's low-carbon and climate-resilient transition is outlined in the updated NDC. Climate finance is an essential enabling aspect of global efforts to address climate change. The Parties to the UNFCCC set the goal to mobilize US$100 billion per year by 2020 to

support mitigation and adaptation activities in developing countries. Significant financial resources from the public and private sectors are expected to go towards climate action. If Ethiopia is to take advantage of these opportunities, while the existing institutional and financial mechanisms be strengthened , engagement of private sector should also enhance so that resources are directed efficiently towards national climate and development priorities. This is the context in which this assignment of private sector engagement strategy has been developed.

# 2 OBJECTIVE, SCOPE, APPROACHES AND METHODOLOGY

## 2.1 Objective and scope

As per the TOR, the overall objective is to enhance private sector engagement in financing, supporting and implementing technically sound and financially viable risk-informed mitigation and adaptation actions and therefore contributing to the implementation of Ethiopia's NDC. The specific objectives outlined are:

- Identify a clear rationale for enhancing private sector engagement in NDC action.
- Encourage the private sector to invest in mitigation and adaptation actions and to contribute to the achievement of NDC targets.
- Outline the enabling factors that facilitate private sector engagement in NDC actions.
- Present the key investment and implementation challenges for the private sector.
- Inform the private sector about green investment business opportunities.
- Offer guidance to the Government of Ethiopia and development partners on how to enhance the engagement of the private sector in NDC actions

## 2.2 Scope:

The scope of the assignment as per the TOR are the following: -

- Develop public–private financing structures and develop two pilot concept projects to showcase viable business models and attract further climate investment.
- Review the approaches used by peer countries for public–private financing and consider whether they could be applicable.
- Establish private sector platform on NDC Implementation
- Design the private sector engagement strategy for the mobilization of resource for effective implementation of Ethiopia's NDC

## 2.3 Approach and methodology

To cover the scope of work and enable to achieve the deliverables, the following methods and approaches have been used. First framework was developed to guide the execution of the assignment, which is depicted below in fig.2. Following the framework, data gathering/consultation has been conducted to make analysis and arrive at designing the private

sector engagement strategy. The main data sources utilized are various official sources such as from government offices (sectoral CRGE units and Directorates), key resourceful personnel leading the CRGE in the sectoral institutions, private sector sectoral associations ( Ethiopian Chamber and Addis Ababa Chamber of Commerce and Sectoral Association), key private enterprises, through document review ( relevant studies conducted by UNDP previously, studies conducted at the CRGE facility, Online documents etc.…), consultative workshop, questionnaire survey and interview. The approaches used are described as follows:

### 2.3.1 Framework followed

The following framework was developed and followed by the consultant for completing the private sector engagement strategy and two pilot concepts notes development assignment. The methodology and framework is further elaborated below.

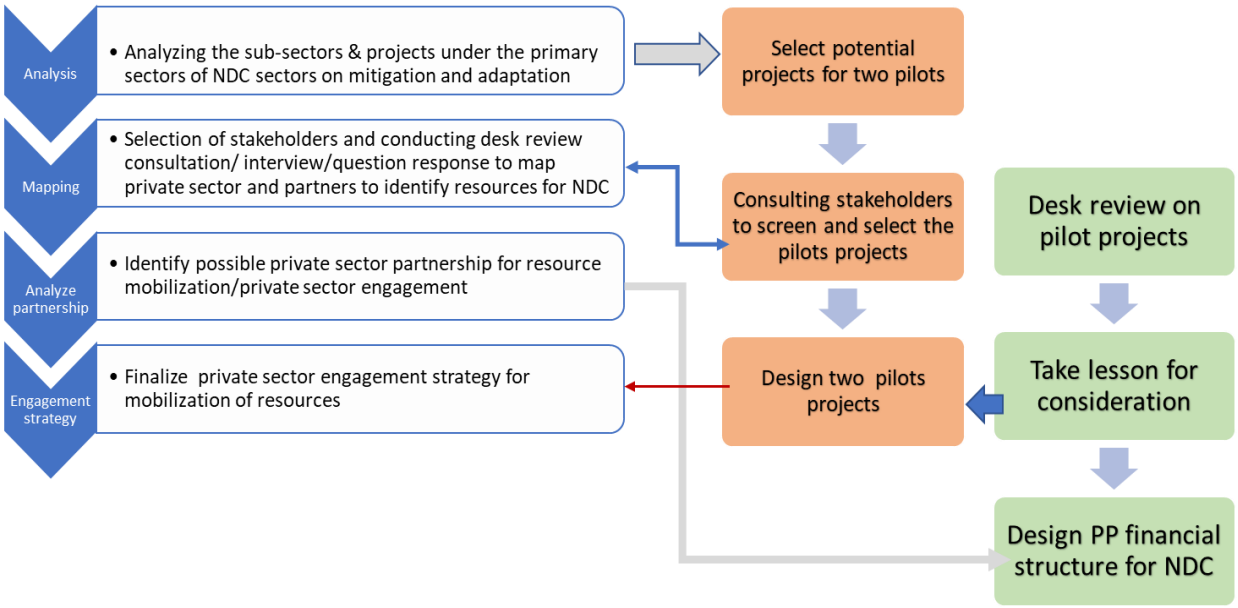



*Figure 2:**Framework to be followed to design the private sector engagement strategy***

Applying this methodology involves a sequence of steps (see fig 3 below and the framework in fig 2)

The first step in the undertaking of the assignment will be to analyze the sectors, subsectors and projects under the priority NDC sectors to identify stakeholders that are relevant towards designing the private sector engagement and implementing potential NDC projects for selecting pilots.

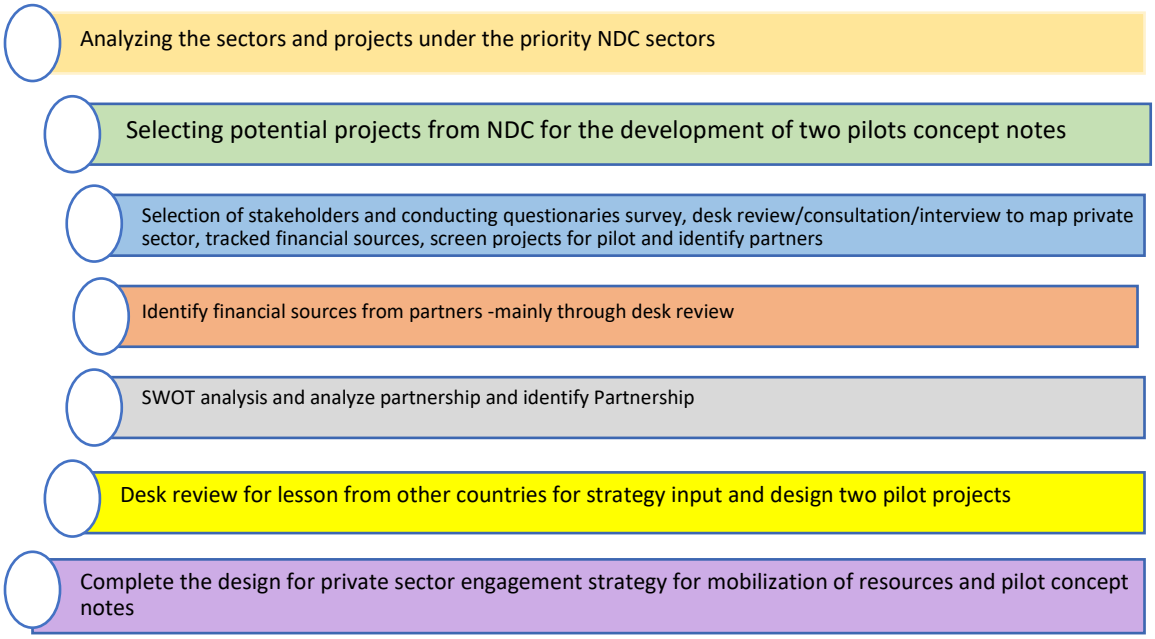



Figure 3: *Key steps of the assignment*

#### *2.3.1.1 Analysis: Analyzing sectors of the NDC focusing on the priority sectors*

**Purpose of the analysis:** In order to understand deep the projects planned to call private sectors and the existence/role of public policy and incentives for private climate finance in the priority sectors, it is first necessary follow sector-wise review to understand how existing conditions (policy and incentives) shape investment decisions by private actors across the relevant and key sectors. This is because signals at market or sector level may often be stronger than those that have climate specific objectives. This review stage has been undertaken using a sector and sub-sector lens, as this is the approach investors and government departments use most frequently in categorizing their activities and investment and in tracking expenditure. Given this sector focus, the aim has ideally been completed by identifying the NDC projects requiring the private sector engagement and relevant stakeholders and the enabling conditions for private sector engagement. It aimed also to identify and shortlist potential sectors for the two pilot projects that will be further evaluated to select the ones (two pilots) to be developed in the subsequent work.

Main activities at this stage: At this stage, the following information has been collected and reviewed.

- Identification of NDC projects in the priority sectors that require Private sector investment

- Analysis of the budget need and gaps
- Identification of Stakeholders involved in the realization of the identified projects
- Conducting consultation with the stakeholders through various means including interview and questionnaires survey ( please refer the questionaries developed under annex 2)
- Shortlisting the NDC projects and selecting two pilot projects using criteria. Among the criteria, the following have been utilized to shortlist and finally select the two pilots. Government priority from among the priority sectoral NDC projects, cost effectiveness, availability of private and other fund, ease of implementation, better mitigation/adaptation impact, practicability, innovativeness.

**Key output from this stage:** The output of this stage includes the identification of Sectoral NDC projects for private sector engagement including budget needs and gaps, which is reflected in the background contextual analysis part, identification of stakeholders and the identification of short lists for potential pilot projects for the concept note.

**Key sources of information**: the sources of information for this stage was secondary published documents, CRGE lead government institutions, interview, questionnaires response and consultation, and internet sources.

#### *2.3.1.2 Design of private sector Engagement strategy*

The private sector engagement strategy development to mobilize resources is summarized in the figure below. The work in designing the strategy addresses the part painted in green. The study on barriers and enabling conditions to stimulate the private sector engagement have been already completed by the diagnostic study and all the required inputs in relation to barriers, enabling factors and the like have been taken into account from the study. In addition, the engagement strategy part shown in the figure (fig 4) is clustered from the diagnostic study.

Brief explanations on the figure and the subsequent work have been given below.

**Initiate and Inform**

In order to build a strong engagement with the private sector, understanding the relationship of the private sector to NDC goals is necessary. With that, we can begin to develop a map of the private sector to identify the key private sector actors operating in a specific business sector, determine how they build initial relationships with those actors. Mapping the private sector is an on-going

process and it typically starts small with a few key interviews focused on specific sectors, and then expands over time. Good mapping will help build the contextual perspective that supports strong engagement with the private sector. Thus at this stage mapping and identifying private sectors have been conducted from questionaries response from few private enterprises, desk review ( previous studies) and in consultation with sectoral institutions.

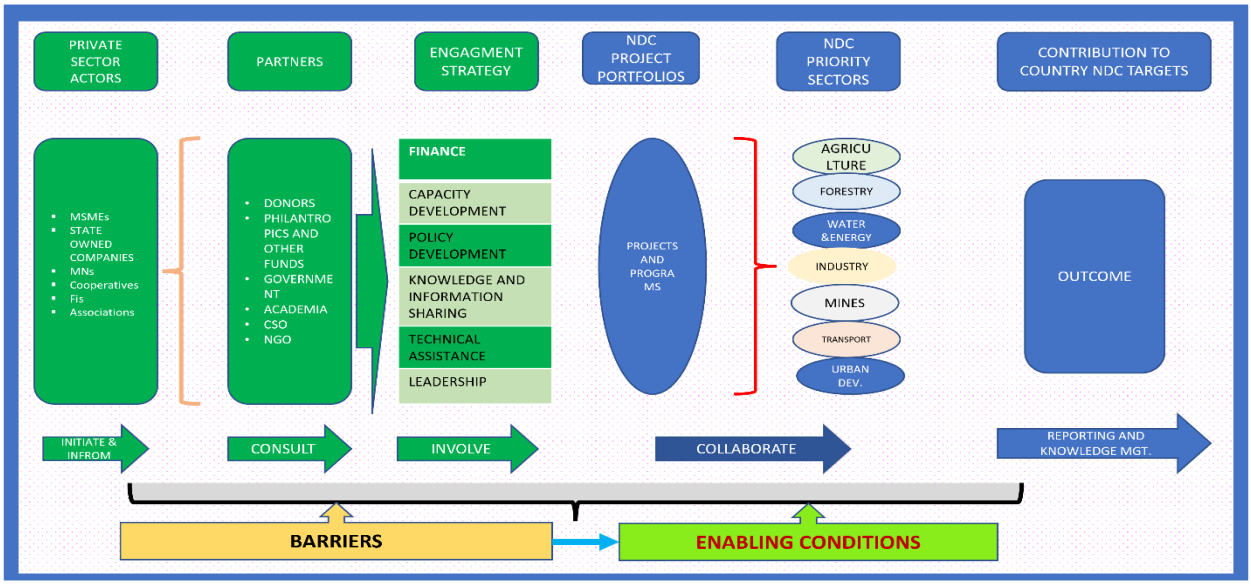



**Figure 4: Private sector Engagement strategy development framework**

## Consult/finding partnership

In this part, the following points have been addressed, mainly through desk review.

- Identifying potential funders or partners with the private sector locally and or international financiers
- How to approach the donors for financial and technical support( eligibility criteria has been posted in the respective sources through the footnote links);
- How to link the private sector with the domestic or international financers

## Involve/Engagement strategy

This part addresses the engagement strategy from the perspective of finance ( public-private, public-private- philanthropic etc..), capacity development (Improvement on private sector capacity to contribute to stronger climate ambition), knowledge and information sharing ( public-private- partner ), technical assistance, and leadership ( coordination and engagement platform).

The strategies developed have considered the alleviation of challenges for private sector engagement and will be focusing on strategic Impact areas to engage Private Sector Activities in support of the NDC targets achievement. The strategies will be supportive of motivating private sector involvement towards the following: -

- Apply innovative financial de-risking activities to attract private sector investment in mitigation actions
- Promote green financial sector regulation
- Encourage investors to choose a lower-carbon footprint through the market system with price on carbon emissions
- Create incentives that encourage innovations and demonstrate new investment schemes to accelerate adaptation and mitigation to scale
- Create new market opportunities through low carbon technologies and train on the latest tools and methodologies needed to seize opportunities

#### *2.3.1.3 Designing the pilot projects*

The design of the two pilot projects have been determined in consultation with the stakeholders. First four potential projects have been identified in the areas of off grid solar energy, solar pump irrigation, pilot adaptation, and Electric Vehicle promotion. Using the criteria and current private sector interest, the two projects have been selected and concept note developed.

### 2.3.2 Information gathering instrument

#### *2.3.2.1 Consultative workshop*

Consultative workshop for half-day was conducted on December 21, 2022, to get preliminary feedback from the diverse stakeholders presented during the validation workshop for the diagnostic study. During the workshop, brief highlight was provided to the stakeholders on the scope of the assignment and questionaries were distributed to get their initial response. The consultative meeting was aimed at getting specific inputs on private sector platform, selecting the pilot projects , partners funding opportunity, and engagement strategies towards private sector involvement.

#### *2.3.2.2 Questionnaire response*

Questionnaires are also developed directing to get key information on current or planned NDC projects , the experience of private engagement, challenged faced engaging private sector, available enabling factors to private engagement to climate action, lacking incentives and motivational factors, experience on PP implementation, etc.… The questionnaires developed are shown under Annex II. The questionnaires were shared for participants presented during the workshop on 21 December 2022 to provide comments if they believe miss some elements

In addition, questions have been distributed to private enterprises to get the feedback on various elements on NDC space. The questions prepared are essentially on barriers from the diagnostic study, but the private enterprises were requested to provide the severity of the barriers and their choice of strategies for engagement. The questionnaires are attached in Annex 2.3.

#### *2.3.2.3 Desk review*

Desk review has been conducted at various stage of the assignment. An extensive desk review has been conducted to analyze existing policies, strategies, programs, plans and proclamations and regulations specific to private sector investment in climate actions. In addition, desk review has been conducted to get benchmarks or experience of other countries on how they have successfully engaged private sector to implement their NDC plans, to identify source of finance for private sector, private sector mapping, analyzing the tracked financial sources .

#### *2.3.2.4 Interview:*

Interview has also been conducted to get primary data. The interviewees has been be selected through recommendation of the project office commissioned this assignment, and by contacting first Sectoral institutions responsible for implementing or facilitating the NDC projects implementation. Interview has been conducted using the developed questionnaires as a guide and supplementing questions, if necessary, and by adjusting the semi-structured open-ended questions. This method allowed to have a good interpersonal interaction, supplementary questions to be added in instances where the consultant needed more information. The list of interviewed personnel are attached in annex III (3.3) .

# 3 CONTEXTUAL ANALYSIS

Context is everything. It's the who, what, where, when, and why of a situation or event. And it's important because it helps us make sense of things. Contextual analysis is the process of breaking down a complex issue or problem to better understand it.

By looking at the different elements that make up a situation, we can start to see how they all fit together. This can be helpful when trying to find the right strategies to attract private sector because it allows us to identify potential areas of concern.

## 3.1 NDC as response to Paris Agreement

The Paris Agreement, global GHG emissions targets of limiting the rise in temperature to well below 2 °C by 2050, often referred to as the Paris Accords or the Paris Climate Accords, is an international treaty on climate change. Adopted in 2015, the agreement covers climate change mitigation, adaptation, and finance. The ambitious long-term target of this Paris Agreement (PA) can only be achieved if private sector action on climate change is scaled up and finance flows are reoriented towards low-carbon development and climate resilience. It is in line with the Paris agreement the Ethiopian updated NDC has been prepared, submitted to UNFCCC and now under implementation. In order to achieve the target of the NDC, mobilization of resources has been key, both from domestic and international, public and private. Public climate finance alone will be insufficient to incentivize the structural shift needed, and thus Ethiopia needs to trigger climate-compatible investments through targeted national policy instruments. International market mechanisms introduced by the PA in Article 6[7] are expected to play a critical role locally and globally in creating possible incentives for mitigation activities financed and managed by the private sector. In line to the PA, the context Ethiopia's plans and ambitions are highlighted below.

[7] Article 6, paragraph 4, of the Paris Agreement allows a company in one country can reduce emissions in that country and have those reductions credited so that it can sell them to another company in another country. That second company may use them for complying with its own emission reduction obligations or to help it meet net-zero.

## 3.2 Vulnerability to climate change

The Climate actions Ethiopia upholds are also essential from the perspective of mitigation and adaptation from the vulnerability of climate change. Even though it has one of the lowest shares of GHG emissions in the world (0.04% in 2019), Ethiopia is highly vulnerable to the impacts of climate change. Droughts and desertification are the most destructive climate-related natural hazards in Ethiopia with increasing intensity, frequency, and impacts. Climate models suggest that the country will experience 1.5 - 30 warming by 2050 (World Bank, 2021)). In 2022, the country witnessed its worst drought in the last forty years severely affecting 7 million people in southern and eastern Ethiopia. With more than 75% of the workforce dependent on rainfed agriculture, it is estimated that drought-induced impacts on agricultural productivity will reduce Ethiopia's GDP by up to 10% by 2045 (WB, 2022)

Ethiopia is highly vulnerable to climate change, particularly in regard to the country's water, agriculture, infrastructure, forestry and public health sectors. Water scarcity and drought conditions are expected to increase, risks of food insecurity exacerbate conflict situations over scarce resources and population movements. Heavy rains, flooding, and soil erosion puts both urban and rural infrastructure at risk, particularly for poor and vulnerable groups. Increased occurrences of drought conditions and reduced rainfall across much of the country will further impact agriculture, livestock, food security, and human health. Environmental degradation impacted water resources, and loss of biodiversity and ecosystem services constitute serious obstacles to the country's continued development and poverty reduction efforts, increasing vulnerability to risks and hazards, increasing the importance for sustainable adaptation and resilience measures. Thus, the climate action planned in the NDC will strengthen the resilience to the vulnerability and contributes to the global effort of mitigating GHGs.

On the other hand, Ethiopia has also a huge potential to build a low-carbon development pathway considering its vast forestry resources and immense potential for renewable energy generation through solar, hydro, wind, and geothermal energy (IRENA, 2022)

## 3.3 Vision of Ethiopia

Ethiopia has set ***a vision*** to build a climate-resilient and carbon-neutral middle-income economy by 2025. The Climate Resilient Green Economy (CRGE) strategy was developed and launched in

2011. The CRGE strategy aims for an economy-wide GHG emission reduction of 255 Mt of $CO_2e$ per year in 2030. The realization of the CRGE vision identified the needed factors that include strong political commitment, policy measures, institutional setup, implementation capacity, finance and technology transfer. Most importantly, building a green economy has identified an estimated total expenditure of around USD 150 billion from 2011-2030. Building a climate-resilient middle-income economy has been one of the key strategic pillars of Ethiopia's Ten Years Perspective Plan for the period 2021- 2030. The relevant CRGE sectors have mainstreamed climate change mitigation and adaptation actions into sectoral ten years of the development plan and key performance indicators level. The country has responded to mobilize resources by establishing a national fund, the Climate Resilient Green Economy Facility (CRGE Facility), as a mechanism to mobilize finance from various sources, including domestic and international, and drive investments to build resilience and support green growth.

The Government of Ethiopia is set to require approximately US$ 316 billion over the next 10 years (2021-2030) to implement its updated NDC conditional and unconditional adaptation and mitigation activities (NDC,2021). 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 $CO_2e$.

## 3.4 Policy and legal framework

In order to support the implementation of the CRGE on the ground and bring the private sector on board, efforts have been made to put in place various polices and legal framework. Over the last three decades, the Ethiopian government has put in place a number of policies, strategies and laws that are designed to support sustainable development. The country has developed and implemented a wide range of legal, policy and institutional frameworks on environment, water, forests, climate change, and biodiversity. Under the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), implemented from 2005/06 to 2009/10, Ethiopia achieved rapid economic growth and laid a foundation for future growth by investments in infrastructure and human capital. Ethiopia's five-year plan, the Growth and Transformation Plan (GTP) for 2010/11– 2014/15, sets even higher growth and investment targets, including achievement of all Millennium Development Goals. The Environmental Policy of Ethiopia was approved in 1997 and is the first key document that captured environmentally sustainable development principles. Ethiopia's Program of Adaptation to Climate Change (EPACC) is a program of action to build a climate resilient

economy through adaptation at sectoral, regional and local community levels. The EPACC updates and replaces Ethiopia's National Adaptation Program of Action (NAPA) which was formulated and submitted it to the UNFCCC Secretariat in 2007.

In recent past, Ethiopia has achieved fastest growing economies in the world with an average growth of 9.5% per annum (World Bank, 2022). This consistent high economic growth had positive effect on poverty reduction and infrastructure development. The share of the population living below the poverty line decreased from 30% in 2011 to 24% in 2016 with an improvement in human development indicators (World Bank, 2020). Through a Growth and Transformation Plan (GTP) II for 2015-2020 and the 10 Year Development Plan (YDP) for 2021-2030, Ethiopia aims to reach a middle-income country status by 2025. However, the recent Ukraine-Russia war, COVID-19 pandemic, and the civil war in north Ethiopia are creating substantial negative impacts on human life, livelihood, and infrastructure in the country (WB, 2022).

The 10 YDP is one of the critical documents that will support the updated NDC investment strategy as it has clear entry points for creating an enabling environment for financing the NDC activities. First, the 10 YDP recognizes 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).

One of the objectives of the 10 YDP, is to follow market-based economic system and enhance the role and participation of the private sectors to build prosperous country (Federal Democratic Republic of Ethiopia, 2021). This strategic direction can be an entry point for private sector to engage in the updated ETH NDC.

The resource mobilization strategy of ETH-NAP (developed in 2020) is another important strategic document as it has identified the private sector as main actor. This strategic document recognizes of the role and potential of the private sector in mobilizing the resources for adaptation. To mobilize resources from the private sector, the strategy emphasized on development and operationalization 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.

Ethiopia's National Adaptation Plan (NAP-ETH) is another document that will strongly create an enabling environment for the operationalization of the updated ETH NDC and engagement of private sector.

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. NAP has also recognized the roles of the private sector as one of the potential funding sources. To mobilize 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.

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)

In addition, there are other policy and legal frameworks that support this ETH NDC private sector engagement support strategy. REDD+ policy is a legislation that has a significant potential to engage private sector and generate the much-needed resource 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 engagement of the private sector. Government developed the national Agriculture Sector Policy and Investment Framework (PIF), a 10-year plan for agricultural development prioritizing agricultural investment areas. To enhance agricultural sector investment, the PIF identifies and prioritizes increasing agricultural productivity and production, rural commercialization, improving natural resources management, and disaster risk management and food security.

Another supporting proclamation is the PPP act established under proclamation number No. 1076/2018. This Proclamation introduces a Public Private Partnership (PPP) Scheme, which shall have the following objectives: 1/ to create a favorable framework for promoting and facilitating the implementation of privately financed projects to support Ethiopian economic growth; 2/ to enhance transparency, fairness, Value for Money, efficiency and long-term sustainability; 3/ to improve quality of Public Service Activity; and 4/ to maintain macroeconomic stability by reducing growth in public debt. This Proclamation shall apply to Public Private Partnership projects of Public Bodies and Public Enterprises. The Act establishes a Public Private Partnership Board and a PPP Directorate General.

## 3.5 Institutional set-up

As per the updated NDC document, it can be noted that Ethiopia has progressively put in place an institutional architecture which follows a sectoral approach to implement CRGE/NDC interventions. The former Environment, Forest and Climate Change Commission (EFCCC) currently changed into Ethiopian Environmental Authority (EPA) under the Ministry of Plan and Development, which becomes the lead agency for the coordination of Ethiopia's response to climate change and is the national focal point to the UNFCCC; it formulates environmental laws and standards; and develops, coordinates and guarantees the implementation of sectoral programs and plans.

Currently the CRGE facility is undergoing changes that can address the emerging issues. However, the new governance structure has not been made public and this report could not make use of the current amendment. Till the amendment becomes public, the existing CRGE Facility is governed by a Management Committee, which is co-chaired by MoF and EPA[8]. All sector ministries

[8] https://www.mofed.gov.et/programmes-projects/crge-facility/

involved in the CRGE strategy are represented both at state minister level and by senior level technical expert from their CRGE unit. An Advisory Board, which is comprised of representatives from the development partners, private sector, multi-lateral development partners, CSOs, and academia functions to enable stakeholders to share and review information relevant to the performance of the CRGE facility and to influence, as appropriate, the resources available to the facility and the ways in which these are utilized.

A secretariat comprised of finance and technical team performs the day-to-day work, enabling the Management Committee to perform their duties. The secretariat reviews and appraises projects and programs and prepares funding decision note for the management committee.

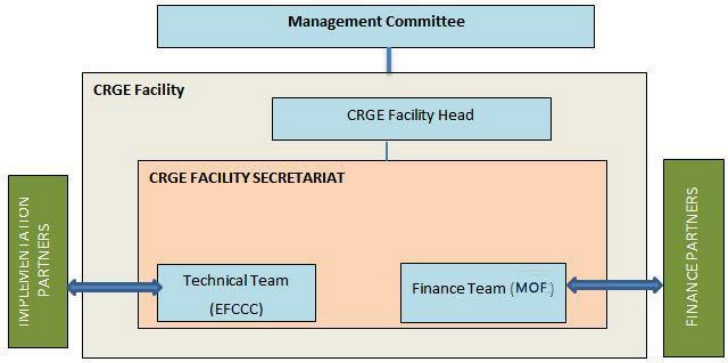



*Figure 5:Basic structure of the CRGE facility*[9]

The scope of work of the Facility include: resource mobilization and allocation; financial management; result based payment and emission trading; monitoring and evaluation; MRV of climate change projects and programs; ensuring compliance to environmental and social safeguard standards; technical assistance and capacity building; project and program design, preparation and appraisal; generation, management and dissemination of knowledge and data; private sector engagement; sub-national engagement; coordinating international development partners on climate finance support; and establishing and managing climate finance tracking system.

[9] Ibid.

# 4 PRIVATE SECTOR MAPPING

The diagnostic study [10] has detailed analysis of the private sector and the barriers and enabling conditions for NDC implementation. Building on the study, this part strengthens the relevant descriptions regarding the private sector baseline and the environment aiding the private sector engagement for the NDC implementation. This part highlights policies directly supporting the private sector over the recent past economic reforms, the resource aims of the NDC through private sector engagement, the feedbacks of the private enterprises on the various issues contributing/hindering their involvement and other similar points.

## 4.1 Policies for Private sector economic-wide engagement

Over the last three decades, the government of Ethiopia has been implementing various policies and strategies. It started with the Industrial Development Strategy (IDS), which has been in practice to date. Subsequently, a five-year Sustainable Development and Poverty Reduction Program (SDPRP) was implemented from 2002/2003-2004/2005. Then, a Plan for Accelerated and Sustained Development to End Poverty (PASDEP) was implemented from 2005/2006 to 2009/2010, which was sequentially followed by the Growth and Transformation Plan-I (GTP-I) (2010/2011 to 2014/2015) and the Growth and Transformation Plan-II (GTP-II) (2015/2016 to 2019/2020). Following GTP I and GTP II progress evaluation results and the Home-Grown Economic Reforms (HGER) policy direction, the government designed and implemented the Ten-Year Development Plan (TYDP) in 2020/2021 to be implemented until 2029/2030.

In 2002, the government of Ethiopia implemented the first five-year development plan called the Sustainable Development and Poverty Reduction Program (SDPRP) (2002/2003- 2004/2005). During the year, the government designed and implemented a comprehensive separate strategy known as the Industrial Development Strategy (IDS). The strategy recognized the private sector as an engine for fostering industrialization and augmenting the structural transformation process of the economy. The strategy stated that the government tasks for promoting private sector development include: (i) creating a conducive business environment at all levels for all; and ii) providing direct support to strategically selected subsectors of private sector investment, such as: textiles and apparel, meat, agro-processing industries, construction, and Micro and Small Enterprises (MSEs). In addition, IDS provides a range of support programs (such as economic incentives and capacity building) for cluster development in the above priority areas of private

[10] Diagnostic Study on how to incentivize private sector involvement in NDC implementation, 2022

investment in Ethiopia (FDRE, 2002). The PASDEP (2005/2006 to 2009/2010) builds on policy support initiatives in the SDPRP and IDS aiming for the development of the private sector for the structural transformation and industrial development of the country. The plan envisaged creating a conducive business environment for private sector investment by providing multifaceted support, undertaking various reforms (such as institutional, regulatory, and financial sectors), and strengthening the complementary role of the government with greater domestic and foreign private participation. The plan considers private sector development as a key for realizing the development of the industrial and export sectors of the economy. The plan identified key sectors for private sector investment participation that include: (i) agricultural and rural sector; (ii) infrastructure, construction, power generation, and downstream telecommunication services; and (iii) social sectors such as private primary and secondary schools in urban areas; technical and vocational training, and higher education; as well as opportunities in the private provision of health care services. As outlined in the plan, the role of the government is to support and fill the gaps that could not be adequately covered by the private sector and maintain macroeconomic stability, a stable exchange rate, and a lower inflation rate, which are integral parts of private sector development in Ethiopia (MoFED, 2006).

In GTP-I (2010/2011 to 2014/2015), the government aimed to ensure macroeconomic stability to create a conducive investment environment for the private sector's development, such as: enabling the manufacturing industry to play an active role in the economy, revising the investment code to encourage further private sector investment, undertaking privatization of government owned industries to the private sector, maintaining international competitiveness, and providing support and creating an enabling environment for private sector engagement in productive subsectors, particularly manufacturing subsectors. It also aimed to provide direct support for capacity building programs such as twinning programs, benchmarking kaizen, industrial input supply, and skill development programs for the private manufacturing industry sector. Moreover, the plan showed government investment in the development of industrial parks with the aim of transferring it to private investors with the utmost transparency and accountability (MoFED, 2010).

Under GTP-II (2015/2016-2016), the plan builds on the GTP-I and recognizes private sector development as a key for creating employment, jobs, and enhancing income on a sustainable basis. The plan also clearly explains the vision to becoming a leader in the light manufacturing

(sub)sector in Africa. The plan gives special attention to utilizing opportunities available for sustainable development and transformation of domestic investors. To this end, the plan envisages redirecting domestic private investors from service and construction subsectors toward manufacturing and providing institutional support for the transition of small manufacturing enterprises to medium and large scales. The development of aggressive industrial parks and agro-processing zones in different parts of the country contributed to addressing the bottlenecks related to production and logistic constraints and, thereby, enhancing the productivity, quality, and competitiveness of both domestic and foreign investors. In addition, the plan aims to create a conducive environment for foreign direct investment (FDI) and attract investment in the key sectors of the economy (manufacturing). To this end, the revision of investment regulations was endorsed and approved by parliament and the Council of Ministers in 2012 (PDC, 2016). In contrast to PASDEP, GTP-I and II placed less emphasis on balanced private sector investment in the productive sector of the economy (both agriculture and industry).

The ongoing TYDP (2020/2021 to 2029/2030) adopted private sector led economic growth as one of the strategic pillars. It aims to create a conducive investment atmosphere and incentivize domestic investors, aiming to strengthen their participation in the key productive sectors of the economy; build strong and market-led public-private partnerships to ensure the establishment of an inclusive and pragmatic market economy; enhance the provision of quality infrastructure to attract quality FDI inflow to the county; identify and optimize new sources of growth; empower and stimulate private sector investment in strategic key areas that provide inclusive growth; and emphasize public-private partnerships on problem-solving innovations and research activities for inclusive growth and sustainable development. Moreover, the plan also aims to strengthen the role of FDI in industrial parks to make Ethiopia's growth momentum more sustainable in the years to come (PDC, 2020).

With all reforms and improvements over the periods in policy, institution, infrastructure, logistic and others, the country still needs to go a long way to create conducive business environment for private sector to play its expected role. This is witnessed on the country's ease of doing business

ranking. On the 2020 World Bank Ease of Doing Business Index Ethiopia ranks 159 out of 190 countries, which is the exact same ranking it held in both 2018 and 2019[11].

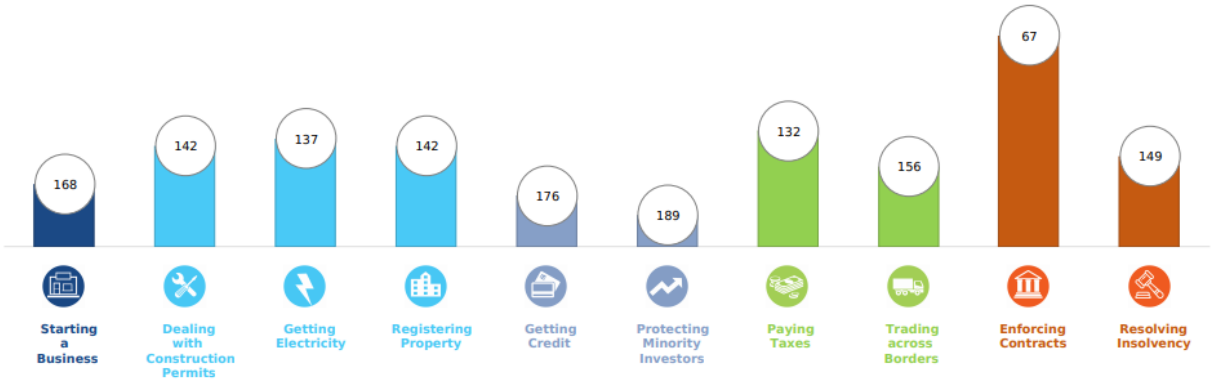



*Figure 6: Ease of doing business (Source: World Bank, 2020)*

The recognition of the private sector has been central under the various economic policies mentioned above. Likewise, the updated NDC has provided emphasis on the private sector to play its role in the implementation. The engagement of the private sector may take various forms where the sector has contribution.

## 4.2 What are aimed from private sector engagement for NDC implementation

There is no doubt that meaningful engagement of the private sector will be crucial to the overall success of the NDC and it should be considered at the early stages of the process when possible. Private sector actors are diverse and multi-faceted, and, as such, they have a variety of motivations for engaging in climate change mitigation and adaptation. For some, climate action may be motivated by the search for profit and new markets or by the desire to reduce business risks; for others, it may be in response to policies, regulations, or signals from investors. Different actors will have different risk and capacity profiles that affect their willingness and ability to invest their own funds in developing new markets or tools that support climate adaptation (United Nations Environment Program Finance Initiative [UNEP FI] et al., 2016).Thus, one has to be clear on what is aiming through private sector engagement to mobilize resources for the NDC implementation.

[11] https://www.state.gov/reports/2021-investment-climate-statements/ethiopia/

The ‘private sector’ seems to be the core component in this phrase which is a very diverse group of actors, as it can include a multinational corporation as well as sole social entrepreneur and many types of private sector actors in between. Even when focusing on ‘for-profit’ private sector, is still covers a variety of actors that differ in the size of their organizations, the scale of their activities, the geographical scope of their operations, their country of origin/establishment (e.g., partner or donor country), their business model and corporate philosophy (e.g., looking for maximal profit or maximal social/societal value) and their place in the formal or the informal sector. It is important to recognize that in an attempt to mobilize private resources, government can target a wide variety of private sector actors.

A similar description can be done for ‘resources’. Different Policy documents as well academic publications stress the diversity of resources that private sector actors have at their disposal - resources that they may or may not commit in a way that maximizes the positive development impact. Although some analyses specify that these include ‘financial and in-kind’ or ‘material and non-material’ resources, the different types of resources are often not identified and named explicitly. Investigating different instruments and their specific goals does however give a good idea of the main types of resources targeted (see table below). Again, it seems important to recognize the diversity of resources in play, especially when assuming that instruments should ideally be tailored to the specific type of resources NDC implementation aim to mobilize.

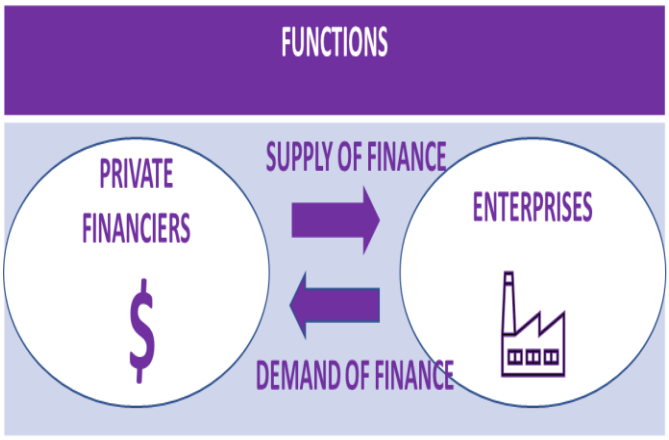
The following table portrays what are aimed at mobilizing resources from private sector for NDC implementation.

*Table 1: What are aimed from private sector for NDC implementation*

| PRIVATE SECTOR<br>Aiming at which private sector actors? | MOBILIZATION<br>Aimed at tackling what obstacle | RESOURCES<br>What type of resources can be activated | FOR NDC IMPLEMENTATION<br>To realize the updated NDC plan |
|---|---|---|---|
| ▪ MNCs<br>▪ Large Corporations<br>▪ MSMEs<br>▪ Social enterprises<br>▪ Cooperatives<br>▪ Financial institutions | - Risks<br>- Lack of information<br>- Lack of expertise<br>- Lack of capacity<br>- lack of policy support | - Finance<br>- Investment<br>- Capital goods<br>- Expertise<br>- Data<br>- Shared values<br>- Standard setting | - addressing environmental challenges : mitigation and adaptation<br>- enabling environment for businesses<br>- more green jobs |

| | | | |
|---|---|---|---|
| ▪ NGOs<br>▪ Etc… | - obstructive environment<br>- Lack of standard<br>- Lack of finance | | - increased public revenues |

Private sector actors differ in size (micro, small, medium, and large) and sectors. They can include large, publicly owned companies; micro, small, and medium-sized enterprises (MSMEs); private financiers and investors; insurance companies; and private foundations. The private sector can be into two general groups on the basis of roles they play in the NDC implementation: private enterprises and private financiers (Crawford & Church, 2019). Private enterprises are non-state, commercial companies that will provide the products and services to build climate resilience to support NDC priorities and that invest in enhancing the mitigation or resilience of their operations and supply chains.




Private financiers provide direct financing to private enterprises for their climate actions and can support government interventions through public–private partnerships (Crawford & Church, 2019). This financing can include private equity funds, sovereign debt funds, hedge funds, angel investors, and social enterprise investors.

*Figure 7: Relationship between private financiers and enterprises in climate action finance*

## 4.3 Private Sector Investment in mitigation and adaptation

Private sector investment in mitigation and adaptation will be critical if the current NDC plan is to be realized. There is limited information available on private sector investment in mitigation and adaptation, in part because of the difficulties of differentiating investment in climate action from standard business activities. There is also none to limited incentive for the private sector to track and report spending on mitigation and adaptation, and many activities which could be considered as climate action are viewed through the lens of business risk management, rather than

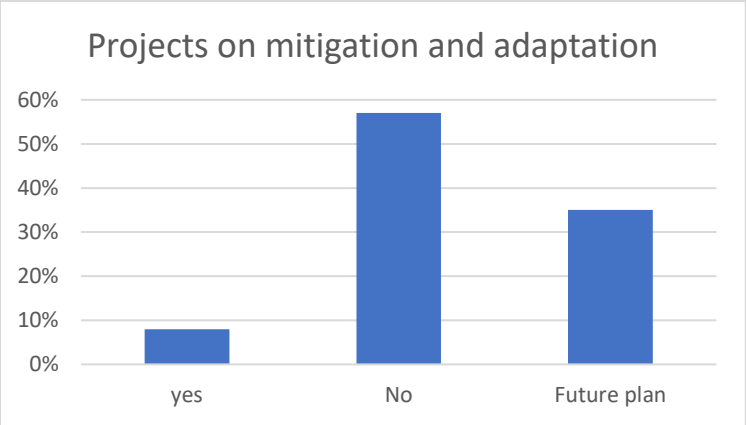
climate change mitigation or adaptation. As such, it is clear from the various interview conducted that there is private sector investment in mitigation and adaptation which is ongoing but most of them are not currently integrated into reporting on climate finance.

Although there is no comprehensive reported figures available for private sector engagement in mitigation and adaption, it is clear that the level of private sector investment is far lower than what is necessary. This under-investment is consistently highlighted both in international research on climate finance, and specific policy documents such as the updated NDC and sectoral plans. In a context in which post-Covid and post conflict response may well slow the increase in public sector investment in mitigation and adaptation, there is an even greater need to use public finance to stimulate private mitigation and adaptation investments.

In order to pinpoint the actual milieu from the private entrepreneurs for the engagement, questionaries have been prepared and collected feedback on the main issues identified in the diagnostic study. The aim was to concretize the actual feedback from the private sector operators and identify further the scale of the barriers hindering the engagement. In addition, approaches for stimulating the private sector have been gathered. The participation of the private sector to provide the feedback on the questionaries was voluntarily. The questionaries developed and sent the private entrepreneurs are attached in annex 4. The response and feedback are highlighted below. The private enterprises voluntarily provided feedback were 31 in number, from manufacturing, agriculture, transport and energy.

### 4.3.1 How is the private sector investment/engagement in climate actions

One of the feedback obtained from the private sector is on projects on mitigation or adaptation organizations are implementing beyond what is required by regulation/standard as climate change agent..




As the figure depicted (fig 8), only 8% of the response indicate that they have projects and the participation is extremely low indicating that more effort is required to bring the participation

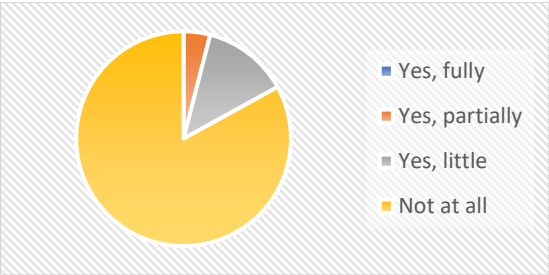
*Figure 8: projects on mitigation or adaptation*

### 4.3.2 Why is the engagement of the private sector low

Different factors may have contributed to the low participation of private sector in climate action. Informal discussion with some of the private operators indicated range of factors have been mentioned including the challenge to operate in stable business condition, under capacity utilization due to raw materials shortage, security issue, foreign exchange, perception that climate action has costly, lack of business orientation towards environment etc.… The view of the Ethiopian Chamber of Commerce (interview) indicates also that participation or dialogue on climate action between government and the association has never happened and thus there is no or limited awareness on the necessity of private sector participation on climate action.

On the other hand, the response from the private enterprises indicated that some key elements including awareness and knowledge have contributed to the low participation.

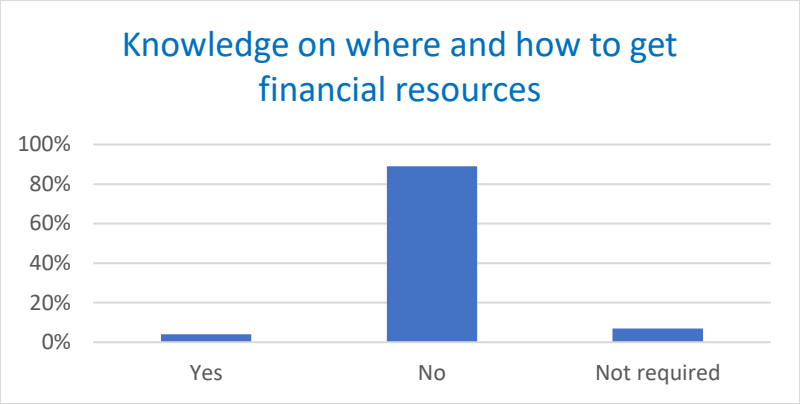
### 4.3.3 Knowledge of Ethiopian CRGE strategy and NDC priority sector plans




In addition to the indicated factors, knowledge of the climate strategy by the private enterprises is very low. Figure 4 indicates that the knowledge and awareness on the CRGE and NDC priority sector plans are extremely low.

*Figure 9: Knowledge of the CRGE strategy and NDC*

### 4.3.4 Knowledge on financial resources




Knowledge of the financial availability for climate action, as shown in the figure here is also low.

*Figure 10: knowledge on availability of financial resource*

Among many private enterprises, an understanding of the specific risks and opportunities of climate change is underdeveloped. Despite growing climate impacts, there remains an under appreciation of the disruption that climate change is likely to have on business operations. Many private sector actors are aware of climate change actions in a general sense, however, have limited capacity or initiative to integrate physical climate risks into their decision-making, and invest in developing mitigation and adaptation and risk management measures as part of standard business practice. Equally, from an investor perspective, in contrast to mitigation, there is limited understanding of how adaptation might represent an investment opportunity, and how to structure and develop such projects. For businesses this can result in undervaluing potential risks, and not adequately investing in adaptation, while for investors misperceptions and uncertainties related to physical climate risks can de-prioritize the need for adaptation in investment selection and portfolio management. The ability to invest in suitable mitigation and adaptation is hampered by the limited availability of decision-relevant data. The lack of data limits the integration of short, medium, and long-term mitigation and adaptation considerations into tangible business solutions. Government has key role to play in open data collection and management by enhancing access to data on climate risk and vulnerability. This can provide a basis for embedding climate mitigation and adaptation risks in all capital investment planning. It is also the case that climate data, with its many caveats and uncertainties, and issues of spatial scale and resolution, has traditionally not been well communicated to, or understood by, the private sector. Uncertainty and data limitations do not necessarily mean that the information needed to demonstrate the business case for mitigation and adaptation, or to inform the design of climate actions measures, is not available,

however, it can frequently be perceived this way. The development of data, tools, and frameworks specifically tailored to private sector needs, which can easily be used and understood within existing business processes, can enable physical climate risk management to be more easily embedded within private sector companies, and highlights the case for business investment in adaptation.

### 4.3.5 Challenges to design and implement climate change action

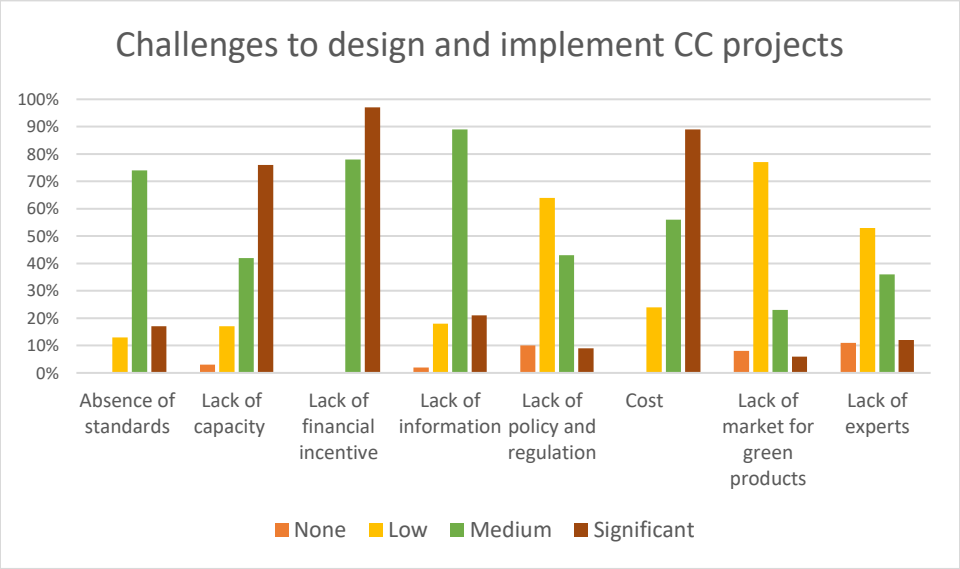



*Figure 11: challenge for climate action*

Figure 11 above shows the feedback from the private operators the range of challenges hindering climate action. Private sector investors currently have limited technical and analytical capacity to integrate physical climate risks into project assessments or return on investment calculations, which hinders their ability to set up a pipeline of investable projects.

Government stakeholders indicated also that capacity of government CRGE offices to leverage investment in mitigation and adaptation, resulting from a lack of institutional and technical capacity was mentioned with lower levels of awareness, and skills (both technical and management) which can act as a major challenge. Technical assistance (advisory services to support the efficient identification, preparation, and implementation of climate related projects) is an important facilitator of private sector mitigation and adaptation finance and is needed to successfully identify, prepare, deliver, measure and monitor projects, catalyze capacity, and build an ecosystem of suppliers to leverage private sector investment. Currently this is a challenge as

technical support for climate investment is relatively limited, therefore effective institutional arrangements which offer technical assistance support need to be set up to scale up private sector investment. Even in regions that are highly vulnerable to climate change and where the need to invest in adaptation projects has been identified, there is a lack of capacity to assess the environmental, social and economic benefits of the projects. For example, a town that withstands flooding longer, a modified crop that needs less water for yields, an improved irrigation system to protect against water scarcity; are all examples of adaptation but their economic returns cannot be easily quantified using traditional methods, making it a barrier for investment. Private investors frequently highlight that a major barrier towards investing in climate projects is not always the lack of capital but rather a lack of investment-ready, risk adjusted projects with a commercial rate of return. Advisory services or technical assistance are fundamental to overcoming knowledge and capacity barriers to translate a country's aspirational climate strategies into investment plans that are attractive to private sector investment. This includes aggregating smaller projects into larger scale programs of investment. The provision of advisory services can also provide the opportunity:

- For greater operational collaboration.
- To shape projects from an early stage, in terms of both prioritizing investment in high impact and strategically important projects and sectors.
- Promoting business models suitable for private sector need

### 4.3.6 Requirement for climate action

Private enterprises have also requested what they require to get involved in the climate action. Financial incentive takes significant share of the requirement for the participation. Information and awareness, policy and regulation, capacity building, engagement platform voluntarily standards have also the requirements the private enterprises suggested. The figure below shows the full picture.

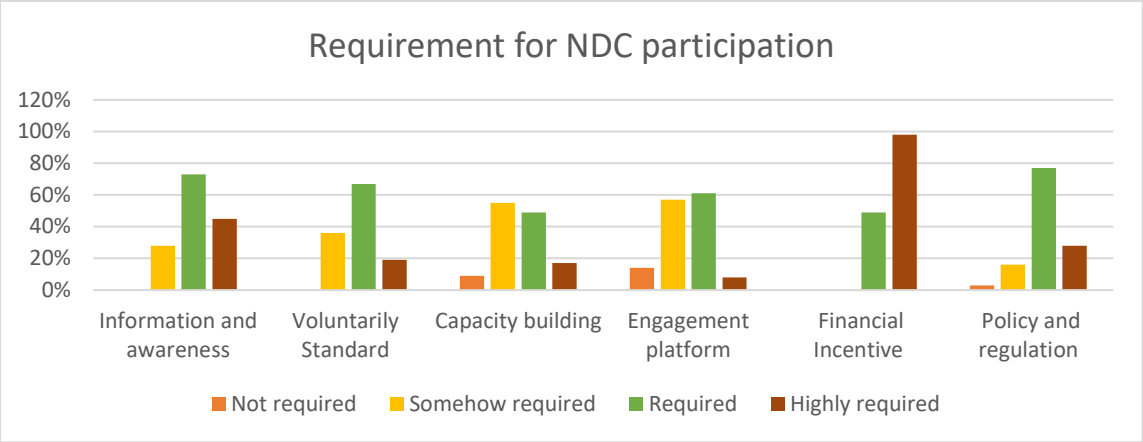



*Figure 12: Requirement for climate action*

There is a lack of financial incentives for attracting private finance to climate action and climate resilience at scale (fig.12). Investment is often perceived by the private sector as high risk with high upfront costs and low returns. Private investors need flexible, risk-adjusted investment projects that yield monetary benefits. Climate projects rarely have easily monetizable cash flows and often support public support, whose true value is not reflected in financial transactions. Even where projects do generate a cash flow, this is realized in the long term and the returns are often not enough to provide a competitive risk return profile. Compounding this issue, private enterprises (particularly SMEs) in Ethiopia also often struggle to obtain finance from the formal financial system. Well-designed climate-related activities can show positive cash flows that allow projects to pay back investments through:

- water efficiency, measures to enhance water efficiency can reduce costs, maximize profitability and increase competitiveness
- Energy efficiency in water intensive sectors

Clear policy objectives and commitments are also important to investors as shown in the figure above since they look to government strategies as important signals of intent. The absence of a specific climate policy per se is not necessarily the problem. Sometimes there exist a strategy but the strategies seem to struggle to create a suitable legal, policy, and regulatory enabling environment conducive for investment. This can be

- The priority of climate policies outside Environment Authority (which are frequently considered less important by the rest of government) is low.

- climate policies are high level and don't provide guidance and steer to the private sector on why climate change actions should be taken seriously, and the specific action or investment needed; or,
- Other policies contradict climate action or do not integrate climate actions. Unfavorable regulatory environments that can lower investor confidence include the distortive subsidies, high taxes on technological solutions, inadequate market support and contradictory market signals along with a lack of standards. This is also the case for unclear or short-term fiscal policies. Similarly, private enterprises may prioritize job protection and maximizing short-term revenues over longer term investment in climate actions.

Policy dialogue can influence policymakers who might otherwise not be fully aware of the benefits of climate actions. The aim is to establish regulatory instruments and fiscal incentives to:

- Support investment in mitigation and adaptation that can deliver transformational impact greater than the sum of the impact from individual projects.
- Dis-incentivize investment in projects that result in mal-climate or projects which are not resilient to climate change. This may include a regulatory requirement to consider physical climate risks or encouraging climate risk disclosure can support investment in climate-resilient infrastructure.

The absence of clear, investment-ready and bankable projects is well-recognized by interviewed stakeholders as a barrier to private sector investment in climate projects. Currently, climate are often not well reflected in finance ministry investment plans or budgeted. However, as climate action planning and public sector intervention continues to improve, strong national level climate change mitigation and adaptation strategies may provide the opportunity for the development of investment plans and a pipeline of specific and bankable projects.

Information and awareness, standards and capacity building programs are also issues the private sector would like to have strengthened.

### 4.3.7 Why would private sector actors invest in NDC action

As indicated above, private sector actors are diverse and multi-faceted, and, as such, have a variety of motivations for engaging in climate action. Some may be motivated by the search for profit and new markets or by the desire to reduce business risks. For others, it may be in response to policies,

regulations, or signals from investors. The response from the private sector indicated that there are tangible needs for private sector to engage in climate action.

#### *4.3.7.1 Risk mitigation*

The response from 31 private sector operators shows that climate change has definitive impact on their business. Companies then needs to manage climate risks through investments in climate-resilient infrastructure, consideration of climate impacts in procurement decisions, integrating climate change into business plans and climate-proofing supply chains. In recognition of the disruption caused by floods or drought, business may respond accordingly by investing in adaptation and mitigation solutions to counter the risks that climate change poses to business operations and supply chains. These risks can include physical risks (climate-related damage to property or assets; disruptions to trade) and transition risks. Companies may also support adaptation/mitigation activities in order to reduce potential liabilities that could emerge as a result of climate change. Managing climate risks will require investments by companies to protect their operations and avoid future losses.

Out of the response by private sector, 83% per cent private sector enterprises reported that their businesses had been impacted by climate-related events, most of which had involved extreme and erratic rainfall and drought events that had resulted in moderate physical damage; disrupted internal production, operations and the value chain; and had a negative impact on their financial performance and on their downstream market conditions. The details of the response is shown in the figure below.

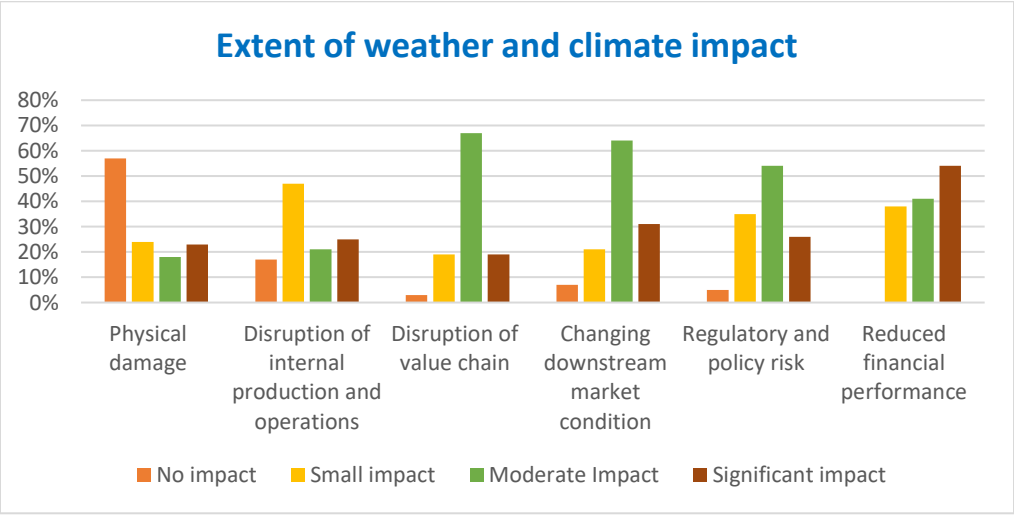



*Figure 13: Weather and Climate impact to enterprises*

#### 4.3.7.2 Complying laws and regulation

As shown in the figure below, private enterprises main drivers for considering climate action are to comply laws and regulation. This shows that policy and regulation have dominant contribution towards changing behavior on creating green jobs or making products more greener.

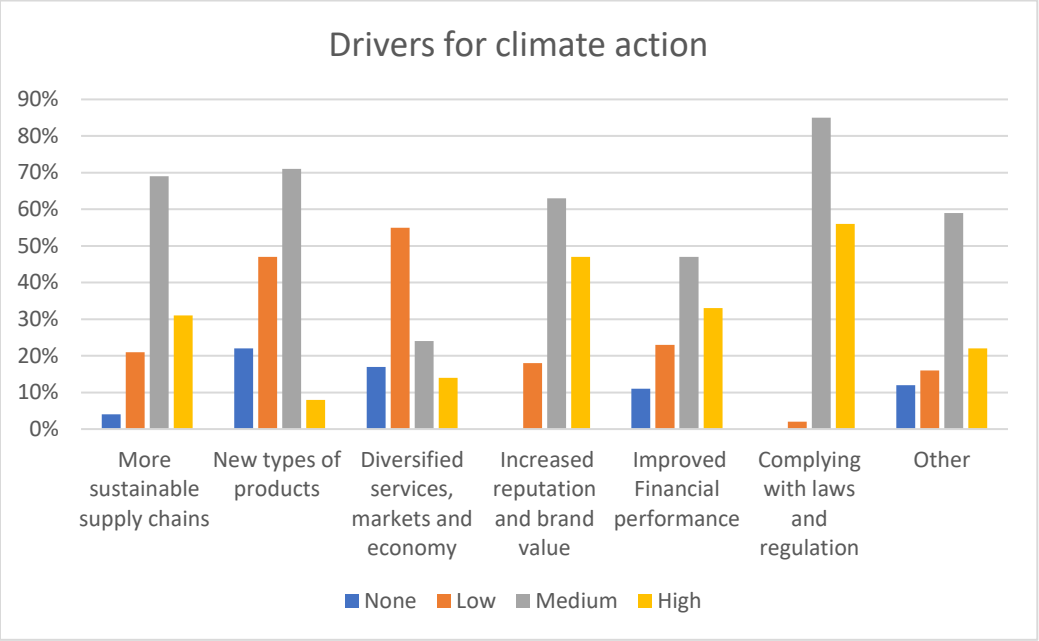



*Figure 14: Drivers for climate action*

#### 4.3.7.3 Reputation and brand value

The other driving factors that is revealed to drive private enterprises is the need to create reputation and brand value. Particularly those companies exporting their products and pressure from big buyers, the ambition to increased reputation and brand value is justified.

#### 4.3.7.4 New markets

The other driving factors the response shows is that Ethiopian private enterprises engage in climate action if they see new markets. Private sector actors may invest in green projects to take advantage of new markets or business opportunities presented by a changing climate. Companies, motivated by profit, can develop and distribute new goods and services that respond to the local threats posed by climate change and help people, communities, other businesses and government adjust to the current and future impacts. Climate-resilient goods may include climate-resilient seeds, water-efficient irrigation systems, equipment for early warning systems and telemedicine technologies to respond to the predicted increase in infectious diseases owing to climate change. New services

could include climate and weather modelling, or a seed company offering agricultural extension services to climate-affected farmers, public green product procurement etc.…. Companies can also explore investments that benefit both adaptation and mitigation – the development of local renewable power generation in communities

Private sectors operators in Ethiopia consider that climate change presents opportunities for their businesses, including opportunities to generate more sustainable supply chains, to increase reputation and brand value, and to develop new types of products and diversified services, markets and economy (figure above)

## 4.4 Potential approaches to encourage private sector engagement in climate action

The response from the private enterprises on the approach to encourage their participation show that the support on information, support on financial incentive, de-risking of investment standards capacity building, policies and standards are needed (figure 15)

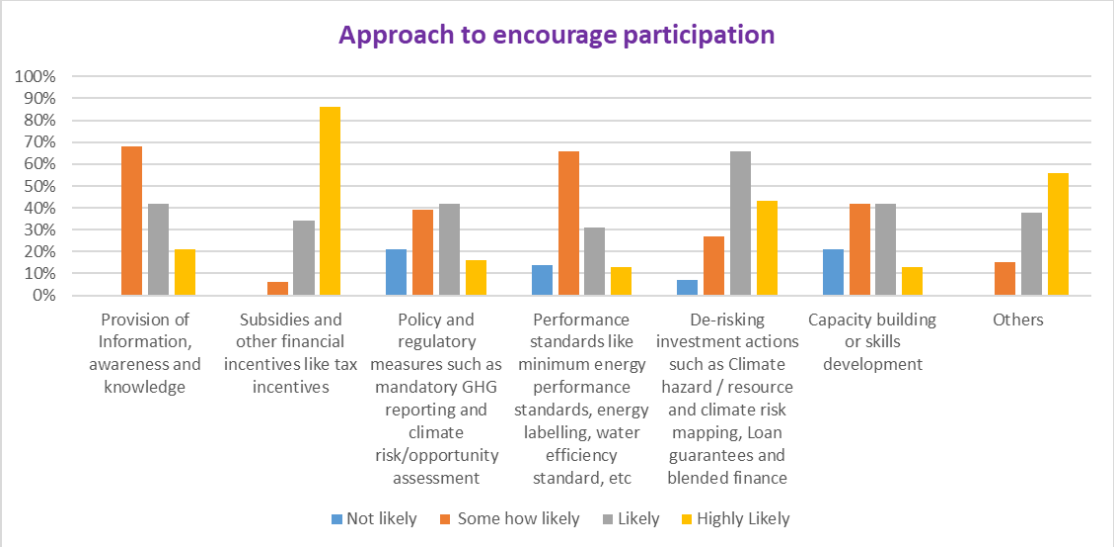



*Figure 15: Approach to private sector engagement*

There are a number of factors that the Government of Ethiopia, with the support of development partners, civil society and private actors, can put in place or strengthen to enable and incentivize the necessary level of private sector engagement in the pursuit of NDC commitments. These factors (figure 12) can help address the barriers that commonly inhibit private sector engagement. Information, both on current and future climate conditions and on corresponding adaptation and mitigation measures, may be generated and shared broadly with private sector actors. Capital

markets and the allocation of financing can be made more efficient, incentives for engagement can be adopted and the risks associated with adaptation investments can be reduced.

The institutional arrangements required to ensure active collaboration for effective NDC implementation among government, private enterprises and financiers can be established, with a strong foundation of policies and regulations that support private investment in climate action. Technical capacities can be built among those expected to design, deliver and monitor adaptation and mitigation actions. At least five enabling factors seem to be established (figure 12) to enhance private sector engagement in NDC action.: Information, awareness and knowledge portal, financial incentive, capacity building, policy and regulation and performance standards.

# 5 CLIMATE FINANCE LANDSCAPE FOR NDC IMPLEMENTATION

## 5.1 NDC financial needs and gaps

### 5.1.1 Overall Financial needs

According to the updated NDC[12], the total budget required for NDC implementation is estimated at US$316 billion.

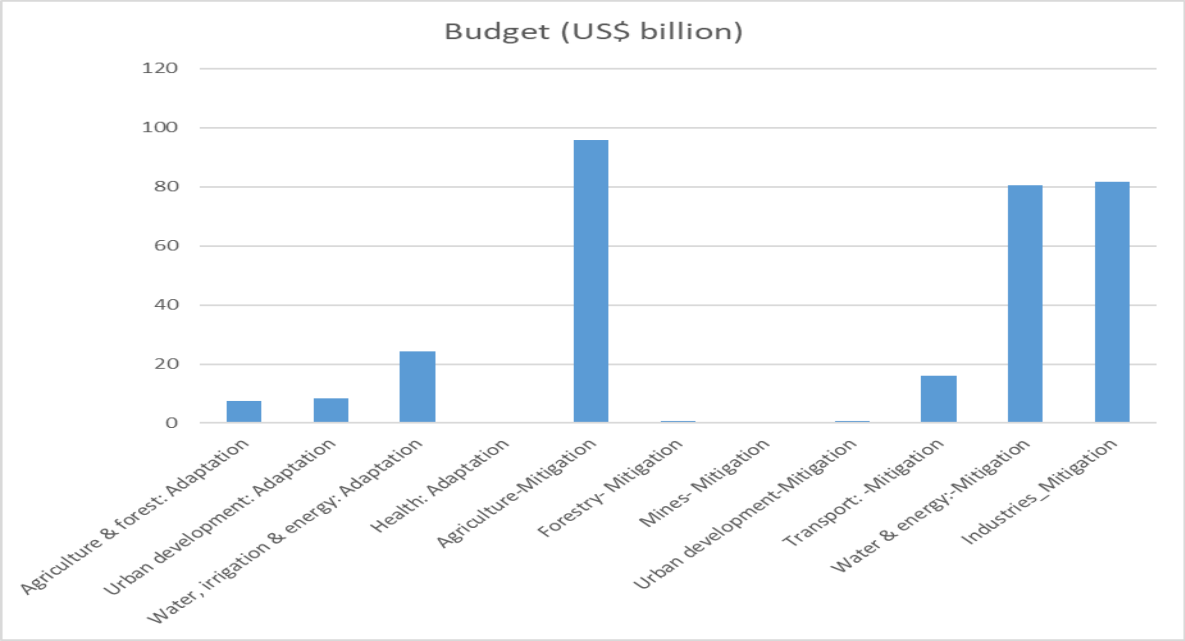



*Figure 16: NDC Financial Needs*

The total cost constitutes 20% as unconditional (US$63.2 billion)-expected to be raised domestically, whilst 80% (US$252.8 billion) will be conditional, which is expected to be raised from international sources. Figure 16 depicts the sectoral budget requirement of the NDC implementation budget for the ETH NDC.

### 5.1.2 Sectoral financial needs and gaps

For the unconditional budget (total required is US$ 63.2 billion), total budget estimate that can be raised domestically during the implementation 10 years period is approximately US$ 30 billion resulting in a financing gap of US$33.2 billion over a 10-year period[13]. Thus, the domestic

[12] Updated Nationally Determined Contribution (NDC), July 2021

[13] Financing Strategy for Updated Ethiopia's Nationally Determined Contribution & its Implementation Plan, October 2021

financing gap ranges from US$ 12.2 billion to US$ 33. 2 billion with an average of US$ 22.6 billion.

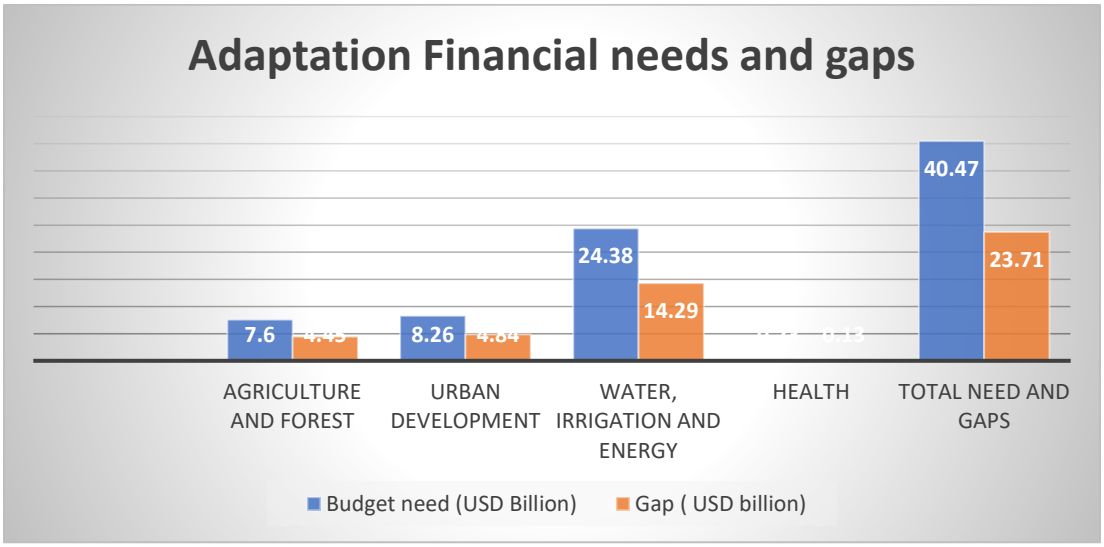



*Figure 17: Adaptation financial need and gap*

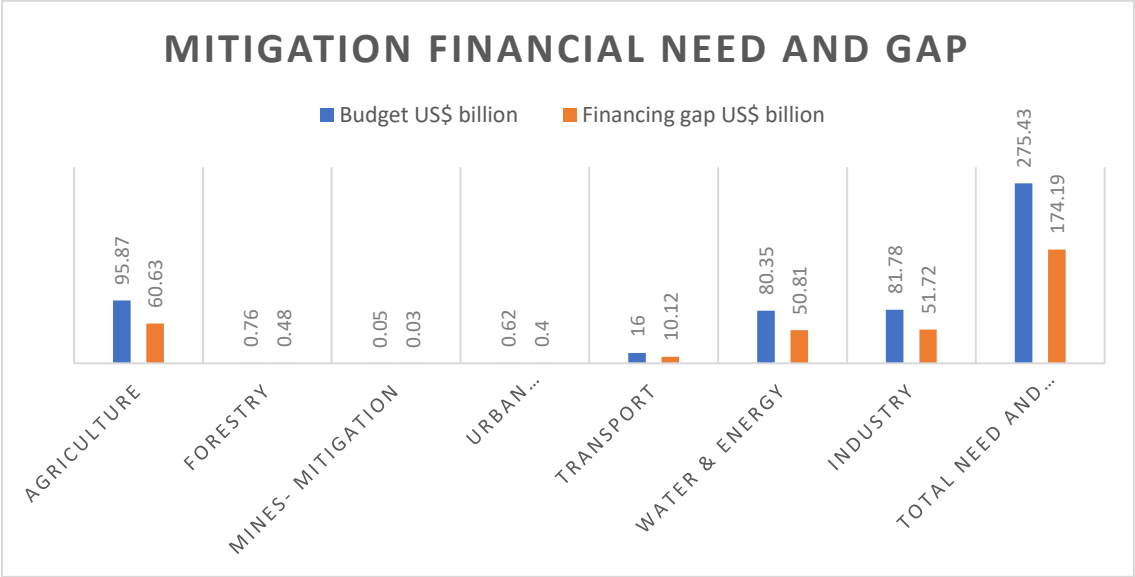



*Figure 18: Mitigation financial need and gap*

According to the updated NDC, the expected conditional financing from international sources is US$ 252.9 billion and according to estimates there is an international ETH NDC financing gap ranging from of US$ 152.82 billion to US$ 197.86 billion[14]. The average international financing gap is thus US$175.34 billion. This is a huge financing gaps which will be extremely difficulty to

[14] Ibid

close given the limited international finance available and the competition from the developing countries.

## 5.2 Overall Tracked finance for NDC

The recent data on climate finance use amount and sources were not available in a complete and compiled format. The recent study on climate finance landscape in Ethiopia available is the one published by the Climate policy Initiative (CPI), which details the figure for 2019/2020.

Ethiopia overall tracked in 2020 USD 1.7 Billion , of which USD 994 million (56%) raised for adaptation and USD 646 million (38%) for mitigation (CPI,2022)[15]. However, these amounts lag behind the required adaptation costs of USD 4-6 billion per annum and mitigation cost of USD 27.52 billion as identified by the NDC.

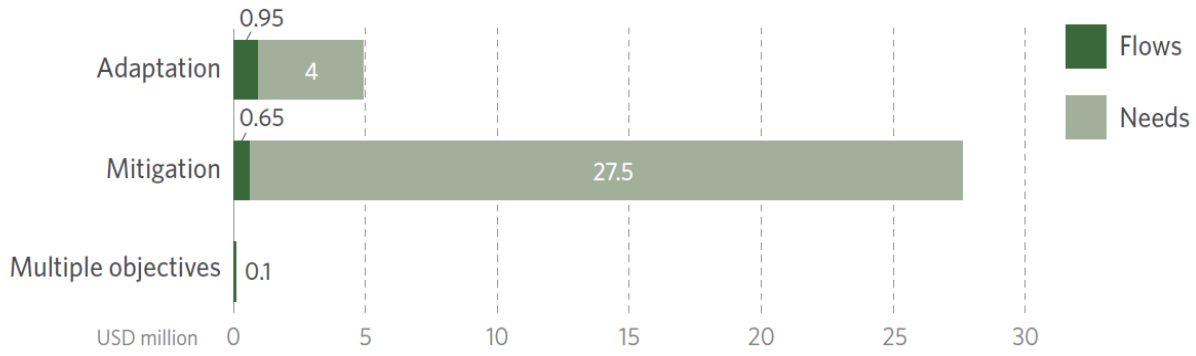



*Figure 19: Overall finance raised in 2020, Source: CPI,2022*

Multilateral DFIs and bilateral development partners together provide 70% of the tracked finance. Half of the mitigation finance was channeled via grants while the other half was equally split as concessional and non-concessional debt. Balance sheet financing and project level equity played a negligible role, together accounting for less than 3% of tracked finance (Figure 19). Most of the adaptation and dual benefits projects were funded through grants, 72% and 97% respectively. This is not in line with the overall trends observed for Africa, where loans (56%) were the preferred instruments for climate finance, followed by grants (30%) (CPI, 2022).

[15] Landscape of Climate Finance in Ethiopia: https://www.climatepolicyinitiative.org/wp-content/uploads/2022/11/Landscape-of-Climate-Finance-in-Ethiopia.pdf

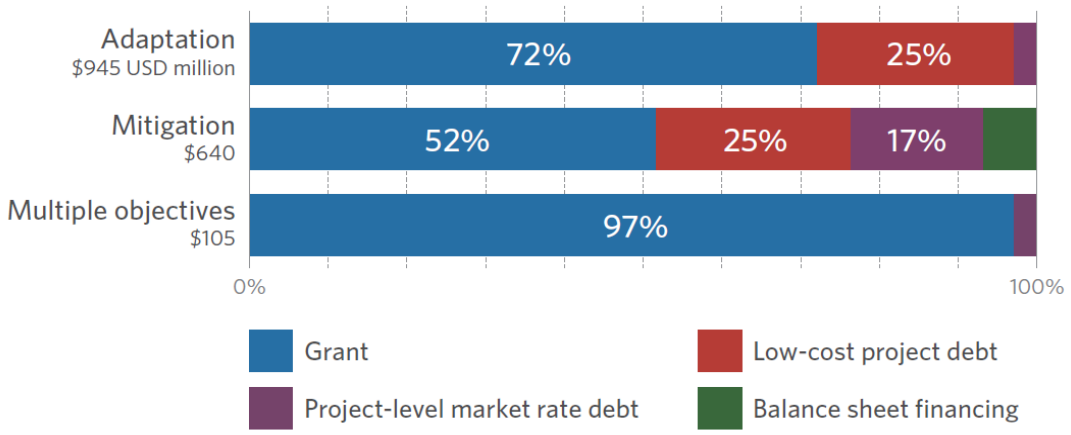



*Figure 20: climate finance use and instrument, source CPI,2022*

Public funding alone will not be sufficient, given the magnitude of investments needed, and current and future constraints on public domestic resources in Ethiopia. However, most current climate financing in Africa overall is from public actors (87%,) with limited finance from private actors (CPI 2021)

## 5.3 Tracked Sources of finance

According to the Climate Policy initiative (CPI,2022)[16], 92% of the total climate finance obtained during the period 2019/2020 was from public sources while only 8% was obtained from private. The figure did not account the domestic financial expenditure as there was no available tracked data.

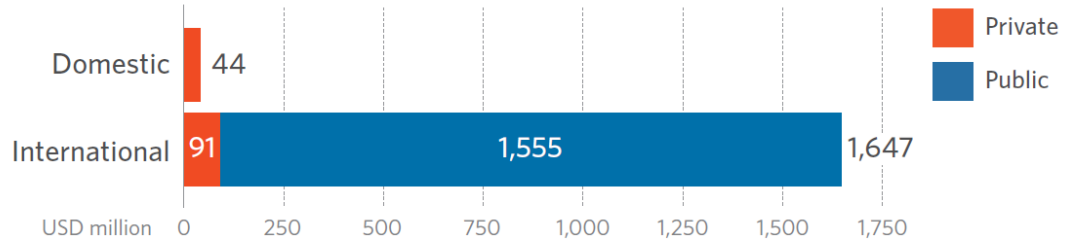



*Figure 21: Breakdown of sources of climate finance*

[16] Landscape of Climate Finance in Ethiopia: https://www.climatepolicyinitiative.org/wp-content/uploads/2022/11/Landscape-of-Climate-Finance-in-Ethiopia.pdf

### 5.3.1 Domestic climate finance

There is limited information publicly available on domestic climate budget expenditure in Ethiopia. There is also no official nor publicly available record or database which currently tracks financing from international NGOs, philanthropies, multilateral or bilateral development partners and the private sector (UNFCCC, 2020). There are more than 480 foreign and 2400 domestic registered NGOs working in the country ( from the list of CSO registered published in its website)[17], some are working on mitigation and adaptation work with private sector but there is no data on their contribution to the NDC and requirements they seek for private investors to collaborate.

### 5.3.2 Tracked International source

Recent study by CPI (CPI,2022), indicated that during the period 2019/2020 International public climate finance in Ethiopia was primarily committed by multilateral DFIs (49.5%, USD 770 million) and bilateral governments (33%, USD 511 million), the majority of which was channelized as grants (70%). Other key sources were bilateral DFIs (9%, USD 140 million), multilateral climate funds (6.7%, USD 103 million) and export credit agencies (1.8%, 32 million). Sixty percent of the international public climate finance was used for adaptation projects, 34% went towards mitigation, while the remaining 7% climate financing had dual benefits.

International public climate finance in Ethiopia was primarily channeled through grants **(70%)**, with limited use of debt at the concessional (25%) and commercial rate (5%), and no equity financing. More than 62% of mitigation projects used grants for financing in water and wastewater (25%), agriculture (25%) and energy sectors (15%). Considering the advanced level of knowledge globally on the risk-return profile of mitigation projects, more debt, balance sheet, or project-level equity financing instruments can be deployed in Ethiopia (CPI,2022).

Bilateral climate finance in Ethiopia mostly came from five countries, the UK, USA, Germany, France, and Japan**,** which all provided more than 60% of bilateral climate finance in 2019/2020. As shown in Figure 19, the majority of finance was provided as grants from the UK, USA, and Germany; France and Germany channelized their funds, mainly as concessional loans (CPI,2022).

[17] https://acso.gov.et/en#

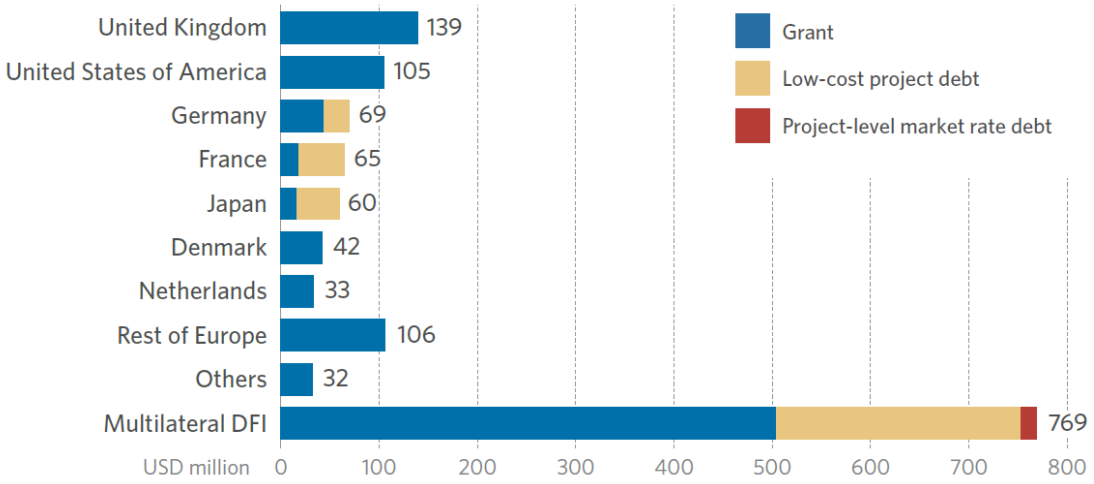



*Figure 22: Providers of international climate finance*

Multilateral Climate Funds (MCFs) such as the Green Climate Fund, Green Environment Facility, and the Least Developed Countries Fund (LDCF) financed 6% of the tracked projects (USD 103 million). Fifty-one percent of the financing from MCFs was channeled as commercial loans with the remaining 49% being provided in the form of grants. More than 90% went towards to the AFOLU sector, for both mitigation (55%) and adaptation (45%) strategies. Among all of the international public financiers providing climate finance in Ethiopia, only MCFs provided more financing for mitigation than adaptation.

### 5.3.3 Tracked Private finance

Domestic and international private investors funded only 8% of the tracked climate financing in Ethiopia in 2019/2020[18]. Commercial financial institutions provide a significant share of private climate finance (USD 97 million) in Ethiopia followed by institutional investors, mainly philanthropies (USD 26 million) and corporates (USD 13 million) as shown in Figure 20. Sixty-seven percent of the tracked private financing was from international sources. Overall, market-rate and balance sheet debt financing were the prominent instruments used by commercial banks at 48% and 23% respectively, followed by grants from international philanthropies (19%), and corporate financing through balance sheet equity (9.5%). Consistent with the global trends, private financiers majorly funded projects in energy systems (83.5%) and AFOLU (14.5%).

[18] Ibid

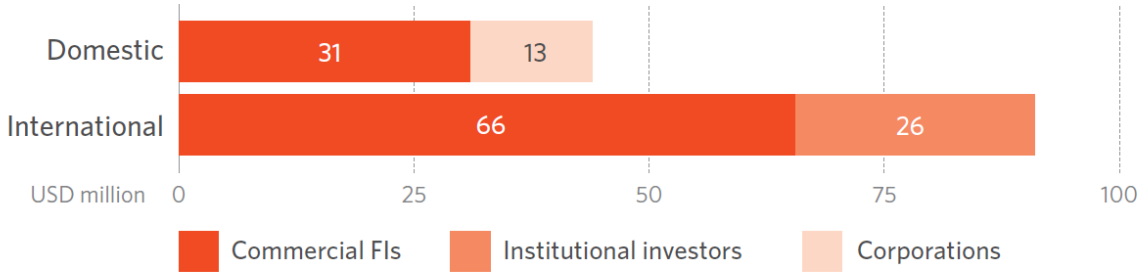



*Figure 23: Private climate finance breakdown*

As presented in the preceding part, Climate finance in Ethiopia is dominated by international public financiers (92%) as private finance contributes only low (8%). Multilateral DFIs and bilateral development partners together provide 70% of the tracked finance. Even though efforts are being made for tagging domestic budget expenditure in Ethiopia, limited information is publicly available on domestic government's expenditure on climate relevant activities at the regional and woreda (district) level. Considering the government's plans for economic reforms and expanding the economy, Ethiopia presents huge opportunity for private climate finance but currently lags far behind

## 5.4 The need to have more investment and resources to NDC implementation

Investments in mitigation and adaptation need to increase by more than 94% times by 2030 to reach US$ 31.6 billion a year and need to flow increasingly into NDC implementation. To satisfy the NDC investment needs in mitigation and adaptation, recent assessments suggest that total climate finance flows need to reach at least US$ 31.6 billion both from domestic and international source per year by 2030 and be sustained at this level through 2050.

According to the Climate Policy Initiative, total climate finance flows reached (excluding the domestic share) only US$ 1.7 billion in 2020. Therefore, climate finance would need to increase nearly manyfold to reach the yearly requirement by 2030. According to the Intergovernmental Panel on Climate Change estimate, private sector finance is critical to meeting these financial investment needs, particularly given constraints on public sector financing in the context of the global pandemic. This increase in private investments will require scaling up because contributions from the private sector have been very low to date, even globally. Policies are therefore needed to enable private sector investments.

The private sector is a critical stakeholder in fighting climate change. It can play a leading role in climate change mitigation by reducing the GHG emissions of its operations by adopting existing low- or zero-GHG-emitting processes and technologies. It can play an important role in innovating and developing new low- or zero-GHG-emitting products, services, and technologies for the private and public sectors. Likewise, the private sector can play a role in climate change adaptation by building climate resilience into its business plans and investments. Both large and small companies have a vital role to play in climate change adaptation. Regulations that require banks to assess their exposures to climate-related risks may lead the corporate sector to invest in resilient infrastructure. In addition, requirements for resilience embedded in contracts enabled by public-private partnership frameworks may help channel private sector resources into resilient public infrastructure in several sectors. Finally, the private sector can innovate and develop new climate adaptation infrastructure, processes, goods, and services and provide them to private and public actors. The private sector can also provide the finance to support investments in mitigation and adaptation; for example, through loans from the banking sector or through capital markets, including the issuance of green or climate bonds (World Bank Group 2021).

## 5.5 Financial sources private sector need to know for climate action

The key financial sources the private sector may need to know to access financial sources for climate action are highlighted below.

### 5.5.1 Partnering for Green Growth and the Global Goals 2030 (P4G)

The Ethiopian government launched a P4G national platform for innovative partnerships with businesses, national and city leaders, financiers, and community development advocates to work towards solutions in support of sustainable and inclusive development. P4G provides catalytic funding to selected start-up and scale-up partnerships that have clearly articulated their business model that has potential to scale and replicate[19]. The investment funding of P4G includes[20]:

- Start-up funding of up to $100,000 for a partnership to show its proof of concept

[19] https://p4gpartnerships.org/investing-impact/investing-impact
[20] https://p4gpartnerships.org/p4g-approach

- Scale-up funding of up to $1,000,000 for a partnership to actively build growth, establish a structure for commercialization and replication and make it a financially-viable proposition

### 5.5.2 Green Climate Fund (GCF)[21]

The Green Climate Fund (GCF) was set up in 2010 and aims to promote low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change. The Green Climate Fund (GCF) is an operating entity of the Financial Mechanism of the UNFCCC and the Paris Agreement.

### 5.5.3 Green Climate Fund (GCF) - Readiness Program[22]

The Green Climate Fund (GCF) Readiness Program provides resources for strengthening the institutional capacities of National Designated Authorities (NDAs) or focal points and Direct Access Entities to efficiently engage with the Fund. Resources may be provided in the form of grants up to USD 1 million per country per year or technical assistance.

### 5.5.4 Climate Investment Funds (CIF)- Clean Technology Fund (CTF)[23]

The Clean Technology Fund (CTF) is one of the two multi-donor trust funds within the wider Climate Investment Funds (CIFs). The CTF was established in 2008 to provide emerging economies with scaled-up financing for the demonstration, deployment, and transfer of low-carbon technologies with a significant potential for long-term greenhouse gas (GHG) emission savings. The CTF received billion in commitments, to be deployed through six partner multilateral development banks (MDBs).

### 5.5.5 Global Environment Facility (GEF) Trust Fund[24]

The Global Environment Facility (GEF) Trust Fund aims to help developing countries and economies in transition contribute to the overall objective of the Rio Conventions including the

[21] https://ndcpartnership.org/funding-and-initiatives-navigator/green-climate-fund-gcf
[22] https://ndcpartnership.org/funding-and-initiatives-navigator/green-climate-fund-gcf-readiness-programme
[23] https://ndcpartnership.org/funding-and-initiatives-navigator/climate-investment-funds-cif-clean-technology-fund-ctf
[24] https://ndcpartnership.org/funding-and-initiatives-navigator/global-environment-facility-gef-trust-fund

UNFCCC to mitigate climate change, while enabling sustainable economic development. The GEF is intended to cover the incremental costs of a measure to address environmental issues such as climate change, relative to a business-as-usual base line. Additionally, the GEF has multiple, focused initiatives:

### 5.5.6 Climate Investment Funds (CIF)- Pilot Program for Climate Resilience (PPCR)[25]

The PPCR is one of three targeted programs that make up the Strategic Climate Fund (SCF) of the Climate Investment Funds (CIFs). It supports national governments in integrating climate resilience into development planning across sectors and stakeholder groups. It also provides funding to put these plans into action and pilot innovative public and private sector solutions to pressing climate-related risks. It has four main objectives:

- Pilot and demonstrate approaches for integration of climate risk and resilience into development policies and planning;
- Strengthen capacities at the national levels to integrate climate resilience into development planning.
- Scale-up and leverage climate resilient investment, building on other on-going initiatives; and
- Enable learning-by-doing and sharing of lessons at country, regional and global levels.

### 5.5.7 Climate Investment Funds (CIF)- Scaling up Renewable Energy in Low Income Countries Program (SREP)[26]:

The SREP is one of three targeted programs that make up the Strategic Climate Fund (SCF) of the Climate Investment Funds (CIFs).

### 5.5.8 Climate Investment Funds (CIF)- Forest Investment Program (FIP)[27]

The Forest Investment Program (FIP) is one of three targeted programs that make up the Strategic Climate Fund (SCF) of the Climate Investment Funds (CIFs). The FIP addresses the drivers of

[25] https://ndcpartnership.org/funding-and-initiatives-navigator/climate-investment-funds-cif-pilot-program-climate-resilience-ppcr
[26] https://ndcpartnership.org/funding-and-initiatives-navigator/climate-investment-funds-cif-scaling-renewable-energy-low-income
[27] https://ndcpartnership.org/funding-and-initiatives-navigator/climate-investment-funds-cif-forest-investment-program-fip

deforestation and forest degradation by supporting developing countries' efforts to reduce deforestation and forest degradation (REDD), while promoting sustainable forest management. FIP provides financing to developing countries for developing institutional capacity, and for public and private investments that are identified through REDD readiness strategies.

### 5.5.9 Global Climate Partnership Fund (GCPF)[28]

The Global Climate Partnership Fund (GCPF) is an innovative financing instrument that facilitates broad-based investments in climate-relevant projects in selected countries. To this end, it provides local financial institutions with credit lines, which these institutions then use to offer loans for investments in renewable energies, energy efficiency and the reduction of greenhouse gases. The fund aims to achieve significant leverage of public funds by mobilizing additional financial resources from public and private investors.

### 5.5.10 The Nordic Development Fund (NDF)[29]

The Nordic Development Fund (NDF) is the joint development finance institution of the five Nordic countries. The objective of NDF's operations is to facilitate climate change investments in low-income and lower-middle-income countries for mitigation and adaptation activities. NDF finances in cooperation with bilateral and multilateral development institutions through co-financing. The operations mirror the Nordic countries' priorities in the areas of climate change and development.

### 5.5.11 Biocarbon Fund Initiative for Sustainable Forest Landscapes (ISFL)[30]

The Biocarbon Fund Initiative for Sustainable Forest Landscapes collaborates with forest countries around the world to reduce emissions from the land sector through smarter land use planning, policies, and practices. The ISFL is pioneering work that enables countries and private sector actors to adopt changes in the way farmers work on the ground to the way policies are made at the international level. This work supports sustainable landscapes, climate-smart land use, and green supply chains. ISFL provides countries with both upfront finance and results-based finance.

[28] https://ndcpartnership.org/funding-and-initiatives-navigator/global-climate-partnership-fund-gcpf
[29] https://ndcpartnership.org/funding-and-initiatives-navigator/nordic-development-fund-ndf
[30] https://ndcpartnership.org/funding-and-initiatives-navigator/biocarbon-fund-initiative-sustainable-forest-landscapes-isfl

### 5.5.12 Special Climate Change Fund (SCCF)[31]

Parties to the UNFCCC established the Special Climate Change Fund (SCCF) in 2001 to support adaptation and technology transfer projects and programs that: are country-driven, cost-effective and integrated into national sustainable development and poverty-reduction strategies.

### 5.5.13 InfraCo Africa – Sub Sahara Infrastructure Fund[32]

InfraCo Africa seeks to alleviate poverty by mobilizing private sector expertise and finance to develop infrastructure projects in sub-Saharan Africa's poorer countries. InfraCo Africa's support reduces the risks and costs associated with early-stage project development and ensures projects are developed to the highest standards, from concept to financeable investment opportunity.

### 5.5.14 Pilot Auction Facility for Methane and Climate Change Mitigation (PAF)[33]

The Pilot Auction Facility for Methane and Climate Change Mitigation (PAF) is an innovative, pay-for-performance mechanism developed by the World Bank Group to stimulate investment in projects that reduce greenhouse gas emissions while maximizing the impact of public funds and leveraging private sector financing.

### 5.5.15 Sustainable Energy Fund for Africa[34]

The development objective of the Sustainable Energy Fund for Africa (SEFA) is to support sustainable private sector led economic growth in African countries through the efficient utilization of presently untapped clean energy resources. SEFA has been designed to operate under three financing windows: project preparation, equity investments and enabling environment support.

### 5.5.16 Access to Energy Fund[35]

The fund supports energy generation, transmission and distribution projects in Sub-Saharan Africa. The fund focuses on sustainable energy solutions. The projects should have the potential to boost

[31] https://ndcpartnership.org/funding-and-initiatives-navigator/special-climate-change-fund-sccf
[32] https://ndcpartnership.org/funding-and-initiatives-navigator/infraco-africa-–-sub-sahara-infrastructure-fund
[33] https://ndcpartnership.org/funding-and-initiatives-navigator/pilot-auction-facility-methane-and-climate-change-mitigation-paf
[34] https://ndcpartnership.org/funding-and-initiatives-navigator/sustainable-energy-fund-africa
[35] https://ndcpartnership.org/funding-and-initiatives-navigator/access-energy-fund

economic development and ultimately alleviate poverty. They should also be able to demonstrate an impact on creating new or improved energy access.

### 5.5.17 Energy and Environment Partnership in Southern and East Africa (EEP S&EA)[36]

EEP Africa provides early-stage grant and catalytic debt financing for innovative clean energy projects, technologies and business models in Southern and East Africa. The immediate objective is to enhance clean energy access, development and investment, with a particular focus on benefitting vulnerable and underserved groups. EEP Africa focuses on three core activities:

### 5.5.18 Climate Services for Resilient Development Partnership[37]

The public-private partnership, Climate Services for Resilient Development, assists developing nations in building resilience against the impacts of climate change. Climate Services for Resilient Development will provide needed climate services – including actionable science, data, information, tools, and training – to developing countries that are working to strengthen their national resilience to the impacts of climate change.

### 5.5.19 International Finance Corporation (IFC) - Blended Concessional Finance for Climate[38]

Climate change is a major risk to good development outcomes, and the World Bank Group is committed to playing an important role in helping countries integrate climate action into their core development agendas. IFC began using blended concessional finance in 2005 to help investors manage the higher risks or uncertainties associated with new, unproven technologies or first-of-their kind projects. To make progress on the climate agenda, at a scale that is needed in a narrowing window of opportunity, private sector participation is essential.

### 5.5.20 Energy 4 Impact[39]

Energy 4 Impact supports businesses that provide energy access to off-grid communities. They are a non-profit organization that works with local micro, small and medium-sized energy businesses

[36] https://ndcpartnership.org/funding-and-initiatives-navigator/energy-and-environment-partnership-southern-and-east-africa-eep
[37] https://ndcpartnership.org/funding-and-initiatives-navigator/climate-services-resilient-development-partnership
[38] https://ndcpartnership.org/funding-and-initiatives-navigator/international-finance-corporation-ifc-blended-concessional-finance
[39] https://ndcpartnership.org/funding-and-initiatives-navigator/energy-4-impact

to access capital, technology, operational advice, expertise and networks, which enable businesses to become profitable and to sustainably deliver access to clean energy.

### 5.5.21 International Climate Initiative (IKI)[40]

The IKI is a key element of Germany's climate financing and the funding commitments in the framework of the Convention on Biological Diversity. The Initiative places clear emphasis on climate change mitigation, adaption to the impacts of climate change and the protection of biological diversity.

### 5.5.22 Seed Capital Assistance Facility (SCAF)[41]

The Seed Capital Assistance Facility (SCAF) is a multi-donor trust fund managed by UNEP and backed by the German Federal Environment Ministry together with the British Department for International Development (DFID). It makes finance available during the development phase of projects being carried out in developing countries and emerging economies that are aimed at promoting the use of climate-friendly technologies (e.g. renewable energies, energy efficiency). The objective of these activities is to stimulate private investment.

### 5.5.23 Le Fonds Français pour l'Environnement Mondial[42]

The French Facility for Global Environment (FFEM) has been working to promote protection of the global environment in developing countries since it was established by the French government in 1994. FFEM's fundings have historically been divided into areas of intervention: climate, biodiversity, international waters, land degradation, pollutants and the Ozone.

### 5.5.24 The Global Innovation Lab for Climate Finance[43]

The Global Innovation Lab for Climate Finance (the Lab) is a public-private initiative that aims to drive billions of dollars of private investment into climate change mitigation and adaptation in developing countries by fast-tracking the development of promising ideas to implementation-ready projects through identifying, developing, and piloting transformative climate finance instruments.

[40] https://ndcpartnership.org/funding-and-initiatives-navigator/international-climate-initiative-iki
[41] https://ndcpartnership.org/funding-and-initiatives-navigator/seed-capital-assistance-facility-scaf
[42] https://ndcpartnership.org/funding-and-initiatives-navigator/le-fonds-français-pour-lenvironnement-mondial
[43] https://ndcpartnership.org/funding-and-initiatives-navigator/global-innovation-lab-climate-finance

## 5.6 Public private financial structure

Public private Partnership is one means of finding financial resource to the NDC implementation. Public-private partnerships (PPPs) take a wide range of forms varying in the extent of involvement of and risk taken by the private party. The terms of a PPP are typically set out in a contract or agreement to outline the responsibilities of each party and clearly allocate risk. The graph below depicts an example of finance flow in PP project.

The private party - a specific project company formed for the project purpose—often called a **Special Purpose Vehicle (SPV)**. This project company raises finance through a combination of equity—provided by the project company's shareholders—and debt provided by banks, or through bonds or other financial instruments. The finance structure is the combination of equity and debt, and contractual relationships between the equity holders and lenders[44].

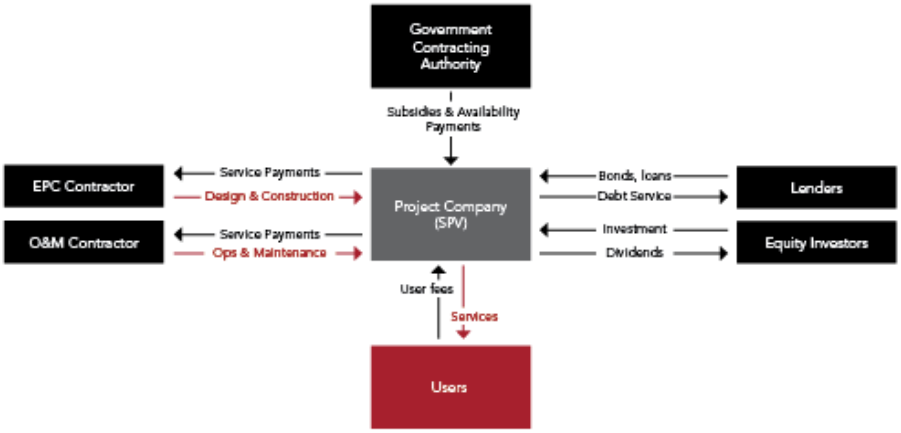



*Figure 24: Finance flow -PPP structure*[45]

The initial equity investors are typically called **project shareholders**. Typical **equity investors** may be project developers, engineering or construction companies, infrastructure management companies, and private equity funds. **Lenders** to PPP projects may include commercial banks, multilateral and bilateral development banks and finance institutions, and institutional investors such as pension funds and insurance companies.

[44] https://ppp.worldbank.org/public-private-partnership/finance-structures-ppp
[45] https://ppp.worldbank.org/public-private-partnership/finance-structures-ppp

PPP financing is actually quite diversified. In some countries with less developed financial institutions, where project finance is not common, but where contracting authorities wish to design good PPP arrangements, investors are required to create a PPP company (the SPV), which then obtains loans with guarantees from the PPP company shareholders. The following pictures show another financing structure.

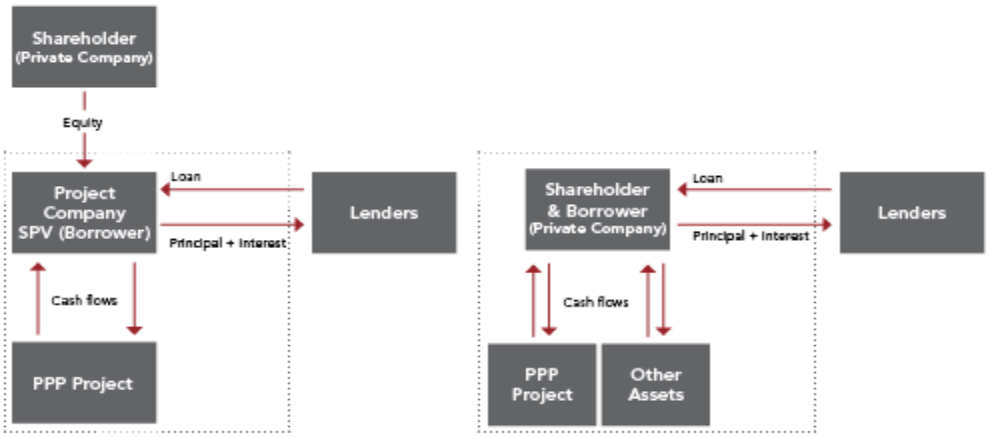



Figure 25: PPP financing structure[46]

[46] Ibid

# 6 SWOT ANALYSIS OF PRIVATE SECTOR RESOURCE MOBILIZATION

This part analyses SWOT as a pre-requisite for developing the engagement strategies. The elements gathered under the SWOT are from the diagnostic study, interview conducted, questionaries feedback and various published as well as online secondary materials.

A SWOT (strength, weakness, opportunity and threat) analysis will help to seize opportunities and prepare effective strategies. Getting a clear and realistic view of the internal environment will help identify ways to better attract private sectors, achieve better mobilization of resources from private sector and strengthen weaker areas that have an impact on hindering the participation of the private sector for NDC implementation.

SWOT analysis will identify areas of strength and weakness that can then be considered for the development of the overall strategy and can save wasted effort in pursuing areas where the system is deficient in stimulating private sector involvement.

The SWOT analysis detailed below is identified through secondary sources (previous study documents including the diagnostic study, financial strategy, progress report on NDC implementation, and other international online documents), interview of stakeholders and collection of questionaries response from private enterprises and stakeholders. In order to systematize the issues, the SWOT analysis is categorized into 5 main strategic areas: Information, awareness and knowledge, Policy and regulatory, Financial, Institutional and capacity building. There are also issues considered as crosscutting.

## 6.1 Strength:

### 6.1.1 Information, awareness, and knowledge

The list of strength identified here may not be exhaustive but picked those that are key for the engagement of the private sector on NDC implementation.

Current mainstreaming efforts build on a growing awareness of the importance of mitigating and adapting to climate change, improved methodologies for analysis, and increased participation of stakeholders in planning. Additional strengths worth mentioned include:

- Many emerging digital and business ecosystem hubs exist and promote green entrepreneurship

- Increasing awareness of climate change issues in development work
- Growing Climate Change awareness and training in related disciplines in many of the local NGOs and higher institutions

### 6.1.2 Policy, regulatory and institutional

Ethiopia policy framework for climate change mitigation and adaptation has progressively evolved. Keys are the CRGE strategy, NDC plan and the institutional architecture of the CRGE facility

#### *6.1.2.1 Formulating CRGE strategy*

Ethiopia endorsed the Climate Resilient Green Economy strategy (CRGE) in 2011, the first national climate policy document. Under the strategy, Ethiopia aimed to achieve middle income status by 2025 while building a green economy. The CRGE strategy is incorporated in Ethiopia's TYDP for 2021-2030 and is based on four strategic pillars:

- Improving crop and livestock production practices for higher food security and farmer income while reducing emissions.
- Protecting and re-establishing forests for their economic and ecosystem services, including as carbon stocks.
- Expanding electricity generation from renewable sources of energy for domestic and regional markets to achieve universal energy access.
- Using modern and energy-efficient technologies in transport, industrial sectors, and buildings.

#### *6.1.2.2 CRGE Facility accreditation for fund mobilization*

The CRGE Facility, Ethiopia's national climate change fund, is key to mobilizing climate finance for implementing the CRGE strategy and the NDC. The goal of CRGE Facility is to mobilize, access, and combine finances required for implementing the CRGE from international, public, and private sources and channel them to sectoral ministries for implementation. It is jointly managed by the Ministry of Finance and the Environment Forest and Climate Change Commission (EFCCC) responsible for budgeting and technical aspects respectively (FDRE, 2013).

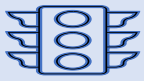
#### *6.1.2.3 Recognizing the private sector*

Ethiopia recognized the important role of the private sector in finding low-emission paths to development and the need to mobilize additional sources of private finance for low-emission

solutions and investments to build resilience to climate shocks. Subsequently, several sector strategies mainstreamed climate change issues.

*Table 2: SWOT Analysis*

| | **Strength, Weakness, Opportunity, Threat (SWOT)** |
|---|---|
| S |  **Information, awareness, and knowledge**<br>▪ Recent advances in digital technology offer innovative approaches to overcoming some of the physical and geographic barriers to inclusion for under-served populations bolstering resilience<br>▪ Many emerging digital and business ecosystem hubs exist and promote green entrepreneurship<br>▪ Increasing awareness of climate change issues in development work<br>▪ Growing Climate Change awareness and training in related disciplines in many of the local NGOs and higher institutions<br>  **Capacity building**<br>▪ Some private sector actors (large companies and SMEs) are already implementing green projects<br>▪ Bargaining power with donors and development partners due to the clarity of CRGE strategy (and NDC) needing financial support<br>  **Policy, regulation and Institutional**<br>▪ The private sector is represented by Chamber of Commerce and sectoral associations to conduct various dialogue with government which can easily be adopted to climate dialogue<br>▪ Establishment of CRGE to pool resources and strong commitment articulated in CRGE Strategy<br>▪ Establishment of CRGE Facility and directorates in major sectors<br>▪ Operationalization of CRGE institutional architecture |

| | |
|---|---|
| | ▪ Availability of institutions dealing with climate change matters<br>▪ Alignment with climate change and policy mainstreaming in sectors<br>▪ Ethiopia NDC alignment with green funding targeted project areas and governmental commitment<br>▪ Key law for private sector participation (for example the new Energy law)<br><br>€ **Financial incentive**<br><br>▪ Existence of financial industry and capital raising ecosystem that can boast impact investors, Private Equity, Pension Funds, Insurance Companies<br>▪ Sectoral associations and chambers of commerce have a track record in accessing funds for private investment<br>▪ Mobilization of CRGE and climate change resources from public funds<br>▪ Clear quantification of scale of financial resources needed for CRGE /NDC implementation<br>▪ Development of Financial strategy for NDC implementation<br>▪ Climate funding thus far obtained from development partners<br>▪ Development of the climate finance tracking tool at MoF<br>▪ Existence of various financing instruments and support. |
| W |  **In formation, awareness, and knowledge**<br><br>▪ Limited and mismatched labor force and skills in relation to the needs of the private sector for developing and implementing climate action<br>▪ Absence or limited private sector communication on green investment success stories<br>▪ Insufficient training in developing climate change bankable ‘green’ projects in the private sector |

| | |
|---|---|
| | ▪ Insufficient understanding of adaptation measures as the business case is often not obvious<br>▪ Limited knowledge of private sector on climate finance opportunities and access mechanisms<br>▪ Limited private sector knowledge on NDCs and green investment opportunities<br>▪ Lack of information and data management systems and archives<br>▪ Poor dissemination of climate change related funding opportunities.<br>▪ Unavailability of organized data bank on climate change matters.<br>▪ Low level of Climate Change issues and best practices dissemination among entrepreneurs<br>▪ Limited education and knowledge on climate change issues and solutions in the Ethiopian Society.<br>▪ Lack of private sector knowledge in developing green bankable projects<br>  **Capacity building**<br>▪ Limited tracking of private sector investments in climate change actions<br>▪ SMEs have very limited capacity and qualification to access green finance for investment<br>▪ Lack of Technical capacity including preparation of NDC project profiles and bankable proposals on various aspects of climate change and CRGE/NDC implementation<br>▪ Low technical capacity of the national private sector to develop projects on climate action<br>  **Financial**<br>▪ Insufficient financial resources to invest in NDCs<br>▪ Business interest profit making overriding environmental focus of NDCs' implementation |

| | |
|---|---|
| | ▪ Inability to de-risk agriculture dominated by small farm lots/holdings starves agriculture of credit and sustainable finance led investment<br>▪ Private investors are finding obstacles particularly in areas related to access to credit, enforcing contracts and trading across borders<br>▪ Constant inflation, growing exchange rates, high rates for loans, and lack of hard currency<br>▪ Lack of financial data and budget tracking and management systems for CRGE, leading to difficulty in estimating what has been spent<br>▪ Inadequate resources mobilized thus far<br>▪ Lack of clear legal framework to provide incentives for green investments (tax exemption, subsidies, etc.).<br>  **Policy, regulation and institutional**<br>▪ Insufficient role of and support from the private sector<br>▪ Lack of standards and clarity on existing laws and policies<br>▪ Private sector engagement with some governments on green projects presents bureaucratic bottlenecks<br>▪ Inadequate and ineffective coordination between CRGE Facility and sector CRGE institutions<br>▪ Lack of coordination between EPA and MoF<br>▪ Institutional structures not operating as designed and as effective as they should be in mobilizing resources from private sector<br>▪ Lack of technical financial capacity to seek and secure climate finance<br>▪ Donor coordination has been poor |
| O | Information, awareness, knowledge<br>- Access to different information sources from internet including best practices and emerging innovative methods for NDC implementation<br>- access to acquire information from world bank, UNFCC and other international climate related information<br>- Possibility of support from bilateral and international sources |

| | |
|---|---|
| | Capacity Building<br>▪ Government has already experiences in NDC and UNFCCC processes, which can facilitate collaboration with the private sector<br>▪ Many initiatives are in place to improve the provision of human capital and address skills' shortages for green investments<br>Policy , regulation and institutional<br>▪ Strong political will and increasing interest of the governments to develop climate resilient and low carbon economic development<br>▪ The private sector is identified as a key player for NDC implementation<br>▪ Improving legal and institutional frameworks to encourage green investments particularly in the clean energy sector<br>▪ Increasing favorable, climate-related laws and regulations<br>▪ Availability of a decree regulating public private partnership<br>▪ Accreditation of the CRGE Facility to stir fund mobilization<br>▪ Established international and bilateral relations to explore more climate finance and engagement of private sector<br>Finance<br>▪ Increasing green investments using financial green bonds<br>▪ Many dedicated climate change funds can be used to partly fund the private sector NDC projects (with concessional finance)<br>▪ Increasing number of accredited entities to GCF across the continent to enable private sector direct access to the funds<br>▪ Energy and infrastructure projects undertaken by governments are attracting private sector investment towards NDC implementation (often through PPPs)<br>▪ Government and international financing are supporting to green projects and post-COVID recovery<br>**Cross cutting**<br>▪ Ethiopia trade agreements within the continent and outside can create green products market and to pool additional resources for the NDC |

| | |
|---|---|
| | • Positive image of Ethiopia in front of the international community, as a leader on climate change<br>• Great market possibilities for climate smart projects.<br>• Country's high vulnerability to Climate Change impacts and few Mitigation/Adaptation projects implemented.<br>• Wide range of investment opportunities, grants, and incentives for developing green projects.<br>• Low access to electricity and willingness to pay for getting access.<br>• Many emerging digital and business ecosystem hubs exist and promote green entrepreneurship |
| T | Information, awareness, knowledge<br>▪ Insufficient information to promote green private sector projects<br>▪ Lack of understanding of climate investment opportunities resulting in low rate of investment by private sector<br><br>Capacity building<br>▪ International uncertainty as Ethiopia is somewhat rely on imported green technologies<br>Policy and regulation<br>▪ Insufficient policy and regulatory framework to promote green private sector projects<br>▪ Institutional and policy frameworks mostly target the big firms to the detriment of MSMEs, including the development of PPPs relevant for NDC implementation<br><br>Financial<br>▪ The initial investment in green technology is high<br>▪ Currency volatility arising from foreign exchange scarcity leading to rationing and capital controls<br>▪ Banks' perception of high investment risk when analyzing Climate Change / not BAU project concepts for credit |

| | |
|---|---|
| | Cross cutting<br>▪ Political and security risks remain key issues<br>▪ Bureaucratic red tape in the country<br>▪ Perception in Ethiopia that climate change actions are expensive for business interests.<br>▪ Unclear private sector roles in NDC implementation<br>▪ Lack of adaptation investment roadmaps and targets from the government •<br>▪ Resource deployment for post war and post COVID-19 recovery compete public resources for NDC implementation |

## 6.2 Barriers

### 6.2.1 Information, awareness, and knowledge

#### *6.2.1.1 Absence of database*

At present, the Government of Ethiopia does not have a readily consolidated database which is accessible, where detailed MRV data is tracked or recorded. In addition, In the absence of a governmental budget tracking or coding system that identifies spending linked to CRGE, or to climate change mitigation and climate change adaptation, there is currently no mechanism available to unpack activities funded under the current ten years plan to determine climate-change linked expenditure.

#### *6.2.1.2 Knowledge gap and limited skills on climate change:*

Ethiopian private sector stakeholders do not have in-depth knowledge of NDC processes as well as on associated de-risking smart investment and financial instruments to support the country's resilience and transition to a low carbon economy.

#### *6.2.1.3 Lack of internal knowledge and capacity within private companies*

Many companies lack capacity and internal knowledge to evaluate climate science and often require short- to medium-term projections of local impacts of climate change commensurate with the scale of their business activity. The private sector actors lack awareness of both the risks and opportunities that climate change poses to their businesses. While there have been advances in the use of climate models for climate projections, private sector actors possess inadequate capacity to access data on predicted climate change and to interpret the information in a manner that informs

their strategies and plans. As a consequence, it is challenging for actors in the private sector to make decisions that favor investment in climate actions or climate change projects

### 6.2.2 Policy and regulatory

#### *6.2.2.1 Lack of national climate change policy*

According to the UNFCCC, each state's parties shall develop and implement national climate change legal frameworks to achieve the objective of the Convention. In Ethiopia, except for sectoral climate change policies and strategies, there is no national climate change policy. The sectoral policies and strategies are even not comprehensive in the sense that they fail to include the climate change mitigation and adaptation options. For instance, given the fact that agriculture contributes to 80% of the country's greenhouse gas emission rate, the Ethiopia's agriculture and rural development policy and strategies are silent about mitigating and adapting to the adverse effects of climate change in the country.

In addition, gaps are witnessed in climate change-related policies, strategies, programmes and plans to include the principle of the precautionary principle, the principle of intergenerational, the issue of climate change-related information exchange, sustainable protection of natural climate system as well as measures to be taken against the adverse effects of response to climate change are missed elements under the policy and strategy frameworks

#### *6.2.2.2 Governance*

This need for devising a refined institutional architecture is particularly pressing given that the role of the CRGE Facility has shifted from channeling funds to discrete climate change projects (and providing oversight for implementation) to supporting government departments in enhancing their capacity to mainstream climate change into their activities and programs

#### *6.2.2.3 Disconnection of sectoral policies with NDC*

Sectors such as agriculture and livestock have developed major policies since 2011 that could have had a bearing on climate change mitigation and adaptation but were disconnected from any elements of the CRGE strategy's targets and priority areas for the sectors, and therefore not effective in supporting CRGE implementation.

#### *6.2.2.4 Coordination barriers*

The Government of Ethiopia, especially at the federal level, has shown strong commitment to mainstream the objectives of the CRGE Strategy into development planning and functioning of

various ministries, departments, and agencies. However, due to this top-down approach, the means of implementation are concentrated at the national level. There is a lack of institutionalization of the CRGE facility within the implementing agencies at the regional, woreda (districts), and kebele (wards) level. This issue becomes pronounced in the case of climate adaptation projects as adaptation is particularly context specific, cross cutting, and requires locally led initiatives. The sub-national actors play a crucial role in the design and delivery of projects and engaging with communities and beneficiaries. Increased engagement, empowerment, capacity building, and resource mobilization at sub-national level results in higher impacts of climate projects (GCA, 2019).

#### *6.2.2.5 clarity on policies and enabling regulations*

The feedback from consultation of stakeholders and the diagnostic study indicate that policies supporting the private sector engagement are not clear and known by the operators. Potential private sector investors need more clarity on the laws, regulations and policies put forward by the government, as a way of encouraging private companies to venture.

#### *6.2.2.6 Lacking sectoral private sector private sector engagement strategy*

The key overarching social, economic and development policy of Ethiopia, the emerging Ethiopian ten years plan , which recognizes the importance of the private sector for its future economic growth and development, fails to fully articulate and strategies to engage private sectors in its sectoral policies and in its climate change plans and programs.

#### *6.2.2.7 The need to Clarity on policies and enabling regulations*

Potential private sector investors need more clarity on the laws, regulations and policies put forward by the government, as a way of encouraging private companies to venture into investments. Investment opportunities should be made available through open communication with the private sector, which needs to better understand its role in NDC implementation and the green economy in general.

The private sector operates in a context influenced by the public sector through policies, regulations, and incentives, and changes in these are necessary to catalyze and increase private sector participation in climate action. The current regulatory and legal frameworks fail to address the market failure that disincentivizes climate mitigation measures: new technologies that emit

lower levels of GHGs ("low-carbon" technologies) are competing with cheaper incumbent technologies that tend to produce higher GHG emissions ("high-carbon" technologies). Regulations that correct price externalities would address the market failure and signal to private investors that adopting low-carbon solutions would yield a sufficient return This market failure can result in the perpetuated use of fossil fuels or other high-carbon technologies and prevent the emergence of low-carbon alternatives—a phenomenon referred to as "carbon lock-in" (Sato, Elliott, and Schumer 2021). In terms of adaptation, the market failure that prevents private sector investors from engaging is that investors are not rewarded for the positive social externalities of many adaptation measures in financial terms (for example, enhanced resilience against the flooding of infrastructure), even though society does benefit. This results in low perceived or actual returns on investment for many adaptation measures, which often lack a ring-fenced cash flow. In addition to a lack of incentives, barriers to private sector adaptation include (i) a lack of information about climate risks and opportunities and (ii) policies that do not encourage adaptation or that even promote actions that increase climate change vulnerability (IFC 2013).

#### *6.2.2.8 A highly regulated financial sector –*

The financial sector is strictly controlled by the financial regulator, the National Bank of Ethiopia (NBE), allowing limited to no access to foreign banks and investors. Ethiopia is ranked the lowest on the Absa Africa Financial Markets Index of 2021, an index that evaluates financial market development in 23 Africa countries. It is ranked one of the lowest in its ability to attract investors, ease of market entry, and information transparency. In fact, Ethiopia is the largest economy in Africa without a stock market (OMFIF, 2021). The NBE has exercised strict regulation on foreign exchange as Ethiopian's currency, Birr, cannot freely convert to dollars and is overvalued (BERF, 2018). However, due to high borrowing by public banks to maintain the high economic growth, the country is facing foreign exchange shortage. The lack of access to foreign currency and loans is affecting the growth of the private sector, for example solar system imports for off-grid solar uptake (CDKN, 2017). Studies suggest it is a major constraint to scale up critical energy access and fund further infrastructure development in Ethiopia (Power for All, 2021).

#### *6.2.2.9 Unfavorable collateral policy*

Banks and micro financial institutions in Ethiopia have high collateral requirements and there are limits to how much companies can borrow. This makes taking loans extremely inaccessible to

small-holder farmers and agriculture SMEs, which are the backbone of Ethiopia's economy and vulnerable to the impacts of climate change. A World Bank study found Ethiopian SMEs to be one of the most credits constrained in the world with no access to a loan, line of credit, nor overdraft facility (World Bank, 2017b). These firms are also more likely to avoid loan applications altogether due to high collateral requirements (ISF Advisors, 2022). The NBE has issued a new directive on collateral policy to ease out the requirements, but the uptake has been slow (GIZ, 2022). These constraints equally apply to private sector seeking credit from bank for climate action

### 6.2.3 Financial

#### *6.2.3.1 Limited understanding of climate risks in the financial sector to support private lenders*

There is generally limited understanding among financial experts of climate change risks to the economy and the financial system, especially related to insurance, economic and financial losses caused by climate-related events such as floods, droughts and other extreme weather events. Moreover, some financial experts do not understand how to carry out an appropriate assessment of climate exposure to financial activities, assets and the carbon footprint of their institutions. Other barriers in the financial sector are linked to the high cost of capital for low-carbon investment compared with returns; lack of understanding of climate investment opportunities; inadequate technical capacity on climate change adaptation and mitigation issues during the preparation, review and monitoring of green projects; low awareness and capacity to perform the operational steps involved in green lending investments; high upfront cost of developing business lines in green lending; inadequate risk management mechanisms and standards including credit ratings and risk transfer and pooling instruments; difficulty in accessing longer-term financing; credibility of off-takers; high transaction costs for smaller projects; and difficulty in raising financing for technologies that have not been proven locally

#### *6.2.3.2 Insufficient access to climate funds:*

While the implementation of some green projects is ongoing, a vast majority of Ethiopian private sector actors have had little success in accessing dedicated climate funds and concessional green loans. The procedures and requirements to access these funds remain a big challenge for the private sector. This in turn makes it difficult for the government to meet its NDC conditional contributions to fight climate change, considering its partial dependence on private sector involvement and financing.

#### 6.2.3.3 *Lack of bankable projects for climate finance*

There is a lack of bankable projects in the NDC priority sectors and appropriate financial products in Ethiopia due to following reasons:

- High risk-low returns: Small-scale farming, irrigation systems, and agribusinesses have high investment risks due to information assymetry, capacity constraints, and seasonality of cash flows. The returns are often low due to a lack of technical assistance and financial incentives for climate-smart practices.
- High transaction costs: small scale agriculture, irrigation, and distributed renewable energy projects are typically too small and numerous to attract large-scale investors. Aggregating and securitizing a sufficient number of bankable assets with the same level of development can be difficult (CPI, 2020).
- High interest rates: Lack of consumer financing at favorable lending terms is making finance inaccessible for farmers and SMEs in Ethiopia. The Development Bank of Ethiopia (DBE), which is a specialized bank to extend support to priority sectors and projects, also charges loan interests of 8-12% to private financial institutions, such micro finance, which make them available at an even higher rate for SMEs. (World Bank, 2022b)
- Lack of risk mitigation solutions: Agriculture insurance and credit guarantee scheme for crops and livestock are very limited in Ethiopia to cover default risk or underperforming transactions (PIK, 2020).
- High concentration risks: The Commercial Bank of Ethiopia (CBE) holds more than 67% of total commercial banks assets and deposits which leads of lack of competition and innovation in the Ethiopian banking industry (Nega, 2018).

### 6.2.4 Capacity

#### 6.2.4.1 *Lack of internal knowledge and capacity within private companies:*

Many companies lack capacity and internal knowledge to evaluate climate science and often require short- to medium-term projections of local impacts of climate change commensurate with the scale of their business activity. The private sector actors in the country lack awareness of both the risks and opportunities that climate change poses to their businesses (AfDB, 2021). While there have been advances in the use of climate models for climate projections, private sector actors possess inadequate capacity to access data on predicted climate change and to interpret the information in a manner that informs their strategies and plans. As a consequence, it is challenging

for actors in the private sector to make decisions that favour investment in climate actions or climate change projects.

#### 6.2.4.2 *Lack of institutional architecture to distribute technical and financial resources*

Currently, in Ethiopia, there is a lack of institutional architecture to distribute technical and financial resources at all levels of the government and unlock potential benefits from the existing resources. Technical capacity issues include the knowledge gaps in financial analysis, proposal development, and limited awareness on climate science and risk analysis. Limited focus on disclosure and reporting of climate financial flows by the public and private sector leads to inefficient investment decision making. A recent report suggests that Ethiopia does not have enough initiatives to provide reliable climate risk information and management tools to financial sector decision makers on both the public and private side (CDKN, 2022). Frequent restructuring and shuffling of government staff lead to lack of buy-in and development of internal capacity within the governments. Implementation of long-term climate projects needs enhanced capacities of the project officers to conduct monitoring and evaluation and maintain compliance with gender, environmental, and social safeguards which needs advanced technical assistance.

While not unique to climate adaptation projects, lack of implementation capacity for project sponsors and limited bankability of projects are major barriers in several sectors where adaptation is most needed. Many sectors—e.g., water, urban infrastructure, energy, and transport—focus significantly on infrastructure projects, which are difficult to implement, and typically offer only modest commercial returns even in the most ideal circumstances. Other adaptation projects—e.g., land use and forestry, water—involve multiple stakeholders and often cross jurisdictions, adding to implementation complexity. Increasing risk and reducing investor appetite. Absent a community of qualified private developers, implementation and coordination of these complex initiatives falls to the local communities and municipalities, which tend to be limited in technical capacity and experience. Without significant support to bring in the private sector and augment marginal returns, many projects with significant adaptation impacts will not be realized.

#### 6.2.4.3 *Insufficient access to climate funds:*

While the implementation of some green projects is ongoing, a vast majority of Ethiopian private sector actors have had little success in accessing dedicated climate funds and concessional green loans. The procedures and requirements to access these funds remain a big challenge for the private

sector. This in turn makes it difficult for the government to meet its NDC conditional contributions to fight climate change, considering its partial dependence on private sector involvement and financing.

#### *6.2.4.4 Weak business case for green investment in adaptation projects:*

Ethiopia, like other developing countries, faces challenges making a good business case for adaptation, which makes it difficult to attract private investment in adaptation projects. On the other hand, a good number of mitigation projects in Ethiopia have strong involvement of the private sector, especially in the domain of energy, transport and waste management and green cities.

#### *6.2.4.5 Unfamiliarity with new green technologies:*

To determine appropriate climate technology priorities, sectors need to undertake technology needs assessments (TNAs). A TNA supports national sustainable development, builds national capacity and facilitates the implementation of prioritized climate technologies. While Ethiopia needs to conduct a climate TNA and elaborated a climate technology action plan, even then implementation and adoption by the private sector remain very limited. This is because of the high cost of acquisition, weak intellectual property protection by national government and unfamiliarity of many private sector actors with new green technologies

## 6.3 Opportunity

### 6.3.1 Policy and regulatory

The existence of institutional/governance structure, CRGE strategy and NDC plans, political willingness of the government to implement its CRGE Strategy and trying to build the capacities of various stakeholders to implement the green initiatives. Better bilateral agreements and communication with multilateral development partners help in supporting the realization of SDGs.

# 7 EXPERIENCE OF PEER COUNTRIES

Experience of other countries will help to take lesson on designing the strategies. The lesson that is required will be inputs in areas where there are gaps. Thus, this part covers best practices implemented elsewhere that are relevant for developing the strategies.

## 7.1 Rwanda[47] - Institutional arrangement

In Rwanda, robust institutional arrangements have allowed the country to gather input and consider diverse challenges and priorities in the identification and prioritization of investment needs for the NDC. Through established institutional structures, the Ministry of Finance and Economic Planning (MINECOFIN), the Ministry of Environment (MoE) and the Rwanda Green Fund (FONERWA) provided leadership with defined roles and responsibilities for NDC investment planning. Furthermore, Rwanda recognized the importance of a monitoring framework and established a basis for it within the implementation framework.

Rwanda's experience of engaging diverse actors in the NDC process showcases the distinctive impact that country ownership can have on the planning and mobilization of investments for NDC implementation. Sector stakeholders, including ministries, boards and authorities, civil society and private sector and development partners, participated in working groups and consultations to validate the criteria and prioritize projects. This set a significant precedent, as the country moved towards implementation, specifically by providing institutional structures, tools, and understanding about the specific processes and investment opportunities to support NDC implementation. As a result, many projects are now receiving funding.

## 7.2 Viet Nam - Climate Business Index[48]

The Climate Business Index (CBI) is an innovative joint initiative of Viet Nam Ministry of Planning and Investment and UNDP Viet Nam, to support the implementation of Viet Nam's Nationally Determined Contribution (NDC). The Climate Business Index provides a platform for companies to collaborate, log their contribution to reduce greenhouse gas emissions and address climate change impacts by bridging the gap between the government's NDC stock-take process

[47] https://ndcpartnership.org/news/lessons-rwanda%E2%80%99s-ndc-investment-planning-importance-country-ownership-resource-mobilization

[48] https://www.ndcs.undp.org/content/ndc-support-programme/en/home/impact-and-learning/case-studies/viet-nam---climate-business-index.html

and corporate sustainability reporting. The platform has inspired a number of special initiatives, including on green micro-mobility and plastics.

Viet Nam has an urgent need to mobilize resources while ensuring that both public and private sectors maintain the ambition and capacity to implement accelerated climate action at scale. However, the lack of transparency and climate-related data from companies has discouraged investments not only from governments but also from private investors in climate-friendly projects. As Viet Nam faces pressure to address emissions and rising climate impacts, companies need to better understand climate change and its implications on their businesses to serve both themselves and the nation towards sustainable development goals.

- **What CBI does**
  - Companies can take a **self-test** and figure out what action needs to be taken in the future.
  - Climate Smart Operations - Check if a company's operation aspects is responsive to climate change?
  - Climate Smart Products - Check if a company's products and services contribute to climate change adaptation?
  - Companies can promote their climate smart activities or products and **attract investment**
  - Enjoy a long-term partnership with UNDP and contribute to Vietnam's climate change goals
- **CBI empowers:**
  - Companies do more voluntary climate change actions and helps establish preventive actions to reduce the impact of climate change.
  - Government identify private sector's voluntary activities and achieve the national climate change target with private sector action.
  - Investors understand the status of Vietnamese companies in response to climate change.
- **How does it work:** CBI, which is run by UNDP Vietnam, is a voluntary platform with an awards-based incentive comprising three levels of achievement (**Climate Aware Company, Climate Action Takers and Climate Leader**). Companies register

at the CBI free of charge. Their climate commitments are then evaluated based on the three-level assessment framework to determine the level of achievement.

- **Target participants:** All sectors, levels and sizes of companies doing business in Viet Nam and desire to improve their capacity of climate change mitigation and adaptation: Start-up, Small and Medium Enterprise, Big company, Multi-national company.

The CBI has piqued the interest of many stakeholders such as enterprises, investors, and government agencies. Around 220 companies operating in sectors as diverse as agriculture, wholesales, construction, and energy are participating in the initiative to date, and the CBI will continue moving forward to benchmark and log companies' contributions to address climate change, highlight good practices, speed up technology transfer, and leverage and upscale private investment.

Since its launch in June 2020, the CBI has inspired a number of new initiatives and activities.

### 7.2.1 Creating public-private partnership: Green E-Transportation Initiative

The CBI spurred a new project: the **Green E-Transportation Initiative**, a public-private project on e-mobility, was launched in September 2020. It promotes green technology and is fully funded by MBI Motors, a private e-mobility company (maximum USD 3 million for pilot testing and around USD 25,000 for the activities of UNDP). To date, this initiative has led UNDP to **attract private investment of approximately USD 700,000 in e-mobility in Vietnam**. As of December 2020, the **pilot had recorded more than 4,792 users that have taken 26,217 trips on the e-bikes, with over 81,990 kilometers of total travel distance**. The participants have been giving positive feedback about the services. In total, the pilot scheme has already saved approximately 5,115 kg of CO2.

### 7.2.2 Creating public-private partnership: Plastic and waste management

The CBI provided a **training for agro-business companies on how to convert plastic containers into eco-friendly containers and recycle them**. After the training, the CBI plans to further

develop a demonstration initiative related to the recycling of plastic containers in 2021 based on joint private funding with agro-business companies.

## 7.3 Peru- measuring and reducing organizational carbon footprint[49]

The Ministry of Environment of Peru has launched a citizen awareness campaign that seeks to recognize the efforts of public and private organizations in the correct management of their greenhouse gas (GHG) emissions, contributing to the country's climate action under the Paris Agreement.

The Carbon Footprint Bear Group reminds organizations that tackling climate change is everyone's responsibility. The Group shares the message that when organizations measure their carbon footprint, they can help address the climate emergency and contribute to the country's national climate pledge, or NDC. As part of the campaign, the public can help the Group by sharing their message. The goal is to get more organizations, public and private, to become part of the Peru Carbon Footprint platform.

Citizens are encouraged to tag their favorite organization with the hashtag ' #' or share the videos and stories of the Group on social media, mentioning those organizations that should measure their carbon footprint and, in this way, help protect the planet.

The campaign is supported by the NDC Support Program, which is implemented by the Ministry with the technical assistance of UNDP, and part of the International Climate Initiative (IKI).

The campaign is launched under Peru's Carbon Footprint initiative, a government tool that provides an official recognition award at four consecutive levels: measurement, verification, reduction and, finally, reduction over time of GHG emissions. To date, nearly 700 organizations have registered, 315 of which have measured their GHG emissions. 71 have verified this measurement, 35 have reduced their footprint, and 12 have reached the maximum recognition award.

## 7.4 Kenya - Private Sector Framework

The Government of Kenya engaged the private sector actors through a consultative and inclusive process to develop the "Private Sector Engagement and Coordination Framework".

[49] https://climatepromise.undp.org/news-and-stories/nono-and-gonzo-perus-carbon-footprint-mascots-champion-climate-action

The framework seeks to strengthen private sector engagement in climate change actions and enhance ambitious national actions on climate change in the country. The engagement framework will enhance communication, coordination and tracking of resources while promoting investments in climate change actions by private sector.

This Framework was developed by a technical team nominated by private sector and Government. The representatives from private sector organizations included Kenya Private Sector Alliance (KEPSA), Kenya Association of Manufacturers (KAM) and Kenya National Chamber of Commerce and Industry (KNCCI).

### 7.5 Uganda: Partnership for Climate Action

To stimulate private sector engagement in climate action, the UNDP NDC Support Program created a partnership with Private Sector Foundation Uganda (PSFU) and the Government of Uganda through the Ministry of Water and Environment's Climate Change Department. UNDP through the NDC Support program organized the first ever private sector dialogue on climate action in October 2018 where over 130 participants discussed the role that the private sector can play in financing and implementation of mitigation actions in sectors including renewable energy, energy efficiency, forestry, agriculture, transport, manufacturing and waste management and discussed challenges, risks and opportunities in the financing and implementation of mitigation actions. In April 2019, a survey was conducted to engage the private sector in Uganda to help build the business case for climate action in Uganda. This survey was supported by a background desk study on the enabling and regulatory framework to enable private sector investments, partnerships and initiatives at international, regional and national levels to support these initiatives, opportunities to access climate finance and access to technology and capacity development elements to enable private investments in climate action.

Further activities under this program are continuing, including support for the development of an NDC investment committee that will lobby and advocate for regulations to incentivize private sector investments and access to finance. In addition, the program is currently supporting the private sector and government institutions to establish a National Green Investment fund that will support financing and investments in both public and private sector green growth and low carbon technologies. Capacity strengthening activities are also conducted to support the companies in

business skills development and the development of bankable project ideas to access climate finance.

## 7.6 South Africa-Green Finance[50]

South Africa's NDC aims to limit its GHG emissions to between 398 and 614 MtCO2 -eq over the period 2025– 2030 including land use, land use change and forestry (LULUCF). These figures correspond to emission reductions of 34% in 2020 and 42% in 2025 below the business-as-usual (BaU) scenario.

South Africa established the South African Green Fund, which allocated USD 110 million in its budgets from 2011 to 2013 to support catalytic and demonstration green economy initiatives. Resources for the fund will have to be increased in the future to enable and support the scaling up of viable and successful initiatives, including contributions from domestic, private sector and international sources. Some further technologies identified that could help South Africa reduce emissions include: energy-efficient lighting, variable speed drives and efficient motors, energy-efficient appliances, solar water heaters, electric and hybrid electric vehicles, solar photovoltaic (PV) systems, wind power, carbon capture and sequestration, advanced bio-energy.

## 7.7 India-Green bond

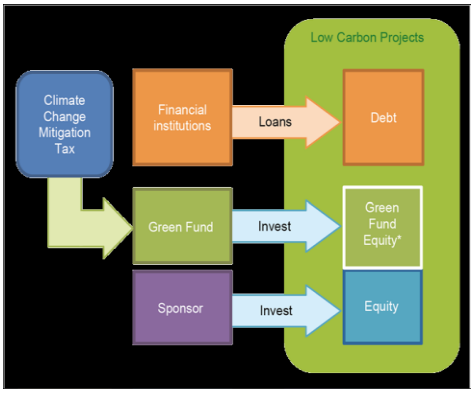
Yes Bank of India acted as a first mover on the clear direction given by the government, following India's commitments under the Paris Agreements and, as stated in the country's NDC, to increase renewable energy capacity by 175 GW by 2022 (Republic of India, 2016), which was seen by them as a strong policy enabler to seek innovative ways to boost private investments in green energy generation. Within this favorable policy and regulatory context, Yes Bank has designed some unique products with clear green credentials and marketed these heavily. Yes Bank issued the very first green bond in India in February 2015, raising EUR 124 million for financing green investments. It then issued EUR 39 million green bond in August 2015 and EUR 40.7 million green bond in September 2016 (Yes Bank, 2017b). Later, on World Environment Day in June 2018, Yes Bank announced the launch of its green deposit product (Yes Bank, 2018b). This also included the earmarking of proceeds raised through these deposits for sectors aligned to SDGs, as well as a contribution by Yes Bank to cover the cost of planting a tree for each account opened.

[50] https://www.giz.de/en/downloads/giz2019-EN-The-Role-of-National-Financial-Institutions.pdf

## 7.8 South-Africa-Carbon tax

The carbon tax was debated a long time, and even after it was passed the implementation date was postponed three times. Eventually, it came into effect on 1 June 2019.

The Carbon Tax Act gives effect to the polluter-pays-principle for large emitters and contributes to ensure that consumers and companies consider the negative adverse costs when making decisions about their future investments, production and consumption. In addition, companies receive.




incentives to adopt cleaner technologies. The carbon tax was designed to be applied in different phases. For instance, in the first phase, generous tax-free emissions allowances are given to all activities, but additional allowances can be given based on how the company conducts its operations and how it deals with its emissions (i.e. using carbon offsets to reduce tax liability, reducing emission intensity, complying with the reporting requirements, etc.). The impact of the carbon tax will be reviewed before initiating the second phase, which is expected to be at least three years after the tax started being implemented and taking into account how much GHG emissions have been reduced and the alignment with the NDC. Subsequent changes to the Carbon Tax will be made following a consultative and transparent process

## 7.9 India- Public Private Partnership

The state of Gujarat has been at the forefront of the solar energy revolution in India, successfully bringing online over 800 Mega Watts (MW) of ground based solar PV plants under a state program. In 2010, the government of Gujarat sought IFC's assistance to develop an innovative 5 MW rooftop solar public-private partnership (PPP) project in the state capital of Gandhinagar outfitting government buildings with solar panels. The success of this project has helped prove the potential for rooftop solar in India. To help attain its green energy vision, the government looked to replicate the project, but this time with the participation of its citizens, and sought IFC's assistance to structure a new project in the city of Vadodara with private citizens adopting the rooftop solar concept.

Madhav Solar (Vadodara Rooftop) Private Limited (the "Concessionaire") won the 25-year concession for a 5 MW rooftop solar project in the city of Vadodara. Under the concession, the

Concessionaire will install solar photovoltaic panels on the rooftops of primarily privately-owned properties such as commercial buildings, homes and industrial units, and sell the energy generated to the local utility. The Concessionaire will offer a lease rental to the owners for accessing and using their roofs. Besides attracting $8 million in private investment, the project is expected to result in 9,000 people receiving increased access to power and a reduction of 6,000 tons of GHG emissions annually. The project agreement was signed in June 2014.

## 7.10 Mauritania-PPP[51]

On the small (27 ha) village scheme of Nakhlet, Mauritania, operated by the village Coopérative (local village-based WUA), PSI-CORAF has proposed and tested a package of assistance and advice to farmers on water management and agriculture. The monitoring, conducted in a series of agricultural campaigns, provided an overall diagnosis of the scheme. It included a technical design assessment (canals recalibration, improved engine/pump adaptation), as well as a management assessment (establishing irrigation frequency/crop yield relationships, proposal for enhanced water turnout and monitoring tools). Results were shown to farmers and discussed with them, using a geographical information system (GIS) to improve the representation and understanding of critical issues. This support action resulted in technical and organizational changes and in a 50 percent increase in crop yield. It was proposed that this type of assistance and advice on design and O&M be later provided by a private I&D service provider. The cropping season is financed using working capital. The project pumps water from a tributary of the Senegal River, with the government agency handing over management control of the irrigation assets to a farmer's cooperative (WUA). The WUA is also responsible for raising credit to lend to farmers, and managing water pumping, input supply (herbicides, fertilizers, fuel etc.) and land preparation.

The main risk identified is the financial sustainability of this service provider, because of the small size of the scheme. Private activity in this context is affordable and viable only if it can broaden its intervention to include several schemes. The model employs a range of cost recovery instruments, including variable user fee payments made by farmers to the WUA for agricultural inputs; irrigation services (covering O&M) and depreciation of irrigation equipment. Farmers also contribute fixed subscription payments to guarantee the servicing of the WUA's debts which have

[51] *http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2131.pdf*

been accrued in raising capital to lend to the farmers Findings suggest that the project has achieved an internal rate of return of 103 percent to farmers per season, with a break-even yield of 2.7 t/ha.

## 7.11 Mali-PPP solar Mini-grid development

In 2015, there were around more than 160 standalone mini grids in operation being supervised by the Malian Agency for the Development of Domestic Energy and Rural Electrification (AMADER). Each mini grid on an average provides around 500 connections. The development of the market for private mini grids was supported by the government through AMADER with support from the World Bank and the German Development Bank (KfW). While the mini-grids are operated by the private sector, AMADER plays an important role as it provides potential investors in smaller mini-grids with a substantial percentage of initial capital costs of up to 80 percent of the project value. Grants are released based on potential investors reaching certain milestones. To ensure that the investor(s) has a stake in the business, they are supposed to cover the remaining amount within 60 days of the start of construction. Recently, AMADER has also started providing capital cost support for hybridization of the diesel-based mini-grids. Potential investors are granted revenue certainty as they are provided monopoly rights to sell electricity for 15 years in the area. Private operators are also allowed to set their own tariffs. However, final approval is provided by AMADER (*Rai et al., 2015*)

# 8 STRATEGIES FOR PRIVATE SECTOR ENGAGEMENT

This part covers the strategies premeditated to be implemented to stimulate private sector engagement for NDC implementation. The strategies are the direction government needs to take with the aim of achieving better engagement of private sector for the success of NDC goal achievement. The Strategies outlined below set out how government employs its resources, including the skills and knowledge in order to achieve its NDC mission or overall objectives and its vision. They are formulated taking into account the vision and the NDC plan, analysis of the context including SWOT and focusing on approaches that assuages the private sector engagement.

The strategies are designed in such a way that they ponder the following:

- flexible - adaptable to change, but in line with NDC requirement and CRGE vision
- responsive - taking account of market, economic and environmental conditions
- creative - to inspire commitment and ensure government stands out to stir private sector engagement
- challenging - so that it acts as a source of inspiration and motivation
- realistic – so that it can be seen to be achievable and private sector can get to grip with it
- focused – clear and understandable to all stakeholders

## 8.1 Entry points for private sector to climate action

It may need to make clear the entry points for private sector before the formulation of the strategies. All potential projects for private sector are identified in the updated NDC plan. In supporting the Ethiopia's NDC targets, there are a number of Climate Actions entry points for the private sector as encapsulated in Fig 20. These areas are covered in the current update NDC of Ethiopia.

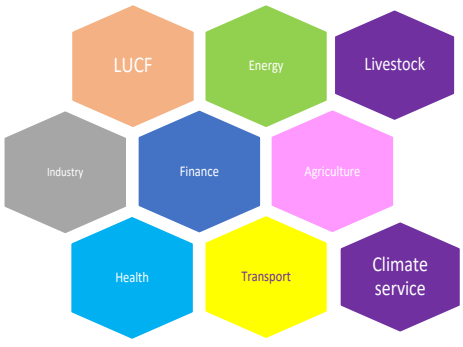



*Figure 26: Entry points for private sector*

In the agriculture, forestry, and Land-Use sectors, there are numerous opportunities for green investments by the private sector. Such opportunities covers areas such as irrigation and water management systems to adapt to changing rainfall patterns; installation of agrometeorological

stations and building advanced weather forecasting systems to allow farmers plan effectively construction of water harvesting structures and mini earth dams, briquette production from agricultural waste; developing crop varieties that are drought-and-heat resistant; and introducing innovative insurance mechanisms for farmers.

In the energy sector, renewable energy from solar, biomass, geothermal, wind are potential investment areas, Energy efficiency projects are also easily implementable investment areas for private sector.

Transport sector provides opportunity on building sustainable infrastructure for rail and public transport vehicle system, electric vehicle and infrastructure, blending of petrol and diesel with bio-source etc.

Industry sector has opportunity in energy efficiency, fuel switching, adopting modern technology, resource efficiency, circular process and the like for the private sector.

In the financial sector, there are several opportunities in the creation and deployment of innovative financial products for green investments. From green bonds to green credit lines, and from risk guarantees to carbon market instruments, there are abundant entry points for the financial sector to participate in climate action through green investments.

These are the highlights for the entry points for private sector investment in the NDC priority sector. The following then portrays the strategies for private sector engagement.

## 8.2 Strategies for private sector engagement

There are five strategic directions that can be considered as prerequisites for better engagement of the private sector thereby mobilizing, accessing, and utilizing private climate finance in a predictable and adequate manner. These strategic directions are composed of the following:

- Mapping
- Creating awareness and communication platform
- Greening the Financial sector
- Policy and institutional improvement
- Capacity building

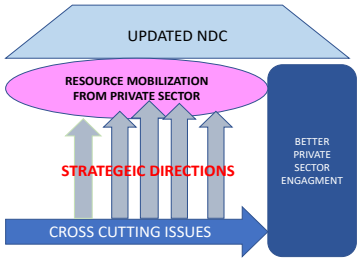



*Figure 27: strategic directions*

These strategic directions are not standalone elements. There are direct and indirect interlinkages among these strategic directions due to the integrated nature of the strategy.

### 8.2.1 Private sector mapping and identification of key sector actors

As a starting point, there is a need to have a clear idea of private sector actors to be engaged in advancing the NDC implementation process. The government needs to prioritize private actors according to their actual or expected contribution to NDC implementation. Focus should be on major contributors to GDP or sectoral performances, major consumers of resources or those with major impacts and related value chains. Large firms that are major power consumers or these affected by a specific issue, such as firms that require large amounts of water, large emitters should also be prioritized. The priority should also look into those private firms that have ESG and CSR programs to participate and engage in different forms including as philanthropic climate fund contributors. Finally, engaging banks, microfinance and the insurance sector is also a key element in building the financial structures for financing NDC measures. For this, mapping the private sector in their respective sectors and identifying the key players will help to get the engagement fast. Then, through gradual activity, the remaining private enterprises will come into board.

### 8.2.2 Creating awareness and communication platform

#### *8.2.2.1 MIS and Digital database*

The creation of a NDC private sector Management Information System (MIS) with proposed tools to include: (a) a private sector information database, an MIS; (b) a marketing tool; and (c) a monitoring and evaluation tool.

The creation of an MIS is to:

- Provide contact entry points and facilitate communication channels regarding the NDC processes and provide guidance as to private sector roles and support/investment for NDC projects
- disclose identified private sector priorities,
- Centralize and share lessons learned from country's private sector partnerships across sectoral focal areas and NDC
- supply more accurate, updated NDC project information in an effort to avoid duplication of actions, concentration of private sector participants or overlap of projects

- allow for the private sector to research and support proposed NDC projects or elements that can complement the substance of NDC financing
- provide accurate and timely information for guidance documents, such as case studies, and provide templates to promote best practices, as necessary
- Develop databases to cover all fields for recording private sector engagement

#### *8.2.2.2 Private sector advisory wing*

Establish a climate information repository and advisory service unit for the private sector to support awareness raising programmes for businesses, and to enable response to member requests for information on climate change. The advisory service can be realized through the following: -

- **Establish Contact and Communication:** The NDC team (CRGE directorates of sectoral institutions) need to prepare to establish contact and build relationships with the private sector stakeholders prioritized following the context analyses. This will involve reaching out to these actors while striving to ensure that a balanced representation of different climate-vulnerable sectors is maintained.
- **Outreach to relevant actors**—including domestic enterprises, financiers, multinational corporations, and MSMEs—is often best done through business associations, cooperatives, or chambers. These institutions are often a more efficient way of reaching a broad audience with knowledge products, climate information, or training. The NDC team should ensure that they look beyond their own networks when reaching out to private sector stakeholders and draw on the networks of colleagues in the ministries, departments, and agencies responsible for key vulnerable sectors. Early communication with private sector stakeholders should focus on informing these actors of the NDC process (what it entails, how it is envisioned for the country) and of the business case for investing in mitigation and adaptation. Eventually, these channels will be used to communicate how the private sector can become involved in the NDC implementation, how it can invest in climate action (mitigation and adaptation), and the enabling conditions that should encourage and facilitate these investments. As such, approaching communications in a strategic way will be important at the outset, and the NDC team should consider a few key approaches and factors before proceeding:
    - Be strategic: Set clear and measurable communications objectives, develop key messages to be conveyed to the private sector, and think about the most effective

channels for reaching the private sector audience. The private sector is, of course, not homogeneous, and different communications strategies (objectives, messages, channels) may have to be developed for different audiences and sectors. For example, the NDC team will engage with commercial banks and agricultural MSMEs in different ways.

- Speak the language of the private sector: The NDC team should ensure that they use clear terminology and familiar concepts when speaking with the private sector. The complex terminologies of climate science and policymaking are unlikely to gain much traction with this audience when compared to messaging around risk and return. Language may also have to be tailored to the sector with which one is trying to engage (i.e., agriculture, industry, energy, infrastructure, etc.…). Stick to language that is clear, concise, and relevant.
- Identify points of leverage: An understanding of the private sector context will help the NDC team to identify the key points of leverage that exist within a given private sector stakeholder or group and translate this into a value proposition for investments in mitigation or adaptation. It requires an understanding of the needs and capacities of key private sector actors, as well as existing barriers to investment. This will help to answer the question of why the private sector should be a part of the NDC implementation and what the government can or will do to help the private sector build its climate resilience objectives.

#### *8.2.2.3 Engagement platform*

Establishing a dialogue mechanism to facilitate increased engagement between the private and public sectors in order to identify mutually agreed solutions to challenges in terms of NDC public policy, regulations, directives, standards and guidelines is an important step in stimulating private sector for climate action.

Public-private dialogue (PPD) is the interaction between government and business for policy reform and is an important component to creating a good business environment. The form of interaction can range from formal communication channels to informal conversation. PPD can be executed through means of institutionalized methods such as mandatory public consultation in the process of enactment of new or improvement in the NDC laws and regulations, satisfaction surveys

and other forms of feedback on service provision, as well as less formal methods such as ad hoc focus groups, feedback provided by business membership organizations, etc., any of which can lead to a better experience for both regulators and businesses. PPDs bring together the government, private sector and relevant stakeholders in a formal or informal process to achieve shared NDC objectives and play a transformational role for the implementation.

Policies addressed can include such things as business enabling improvement for NDC investment, medium and long-term climate action development strategy, sector-specific regulation, etc. With this purpose in mind, the following high-level characteristics of PPD can help categorize the different approaches. Firstly, it is recognized that there are four levels of interaction between public and private sectors (Pinto, 2013): 1) Information – One-way provision of information 2) Consultation – Direct request from government for views and comments on policy development. 3) Dialogue – Regular, two-way communication to exchange views and understand mutual interests and shared objectives. As the name would imply, PPD mechanisms tend to fall into this category, which includes developing consensus among participants and taking collective action towards more NDC projects investments. 4) Partnership – shared responsibility in decision-making process. This can also take the form of the more widely recognized, Public-Private Partnership (PPP), which are owned and operated by government and private sector companies to varying degrees for climate action partnership and tends to have a long-term approach.

Promoting greater public–private dialogue on climate finance through regular forums and institutions is key to private sector engagement. These can include sectoral associations, investor platforms and public consultations. Increasing public–private dialogue can lead to increased understanding of climate change opportunities within the private sector, as well as greater appreciation of investment barriers and how these can be addressed

#### *8.2.2.4 Addressing climate data gaps, data disclosure standards, and developing taxonomies for sustainable financing*

There is high limitation of availability/accessibility of data for private sector with regard to availability on financial support and criteria required by different local and international organizations supporting the NDC implementation. In addition, in the absence of a governmental budget tracking or coding system that identifies spending linked to CRGE, or climate change mitigation and climate change adaptation, there is currently no mechanism available to unpack

activities funded under the country's development plans to determine climate-change linked expenditure (UNFCC,2020)[52]. Climate finance tracking in Ethiopia will benefit from the establishment of an accessible, and consolidated data and information management system that adopts climate finance classifications used globally and records climate change linked expenditure by the public sector, as well as donor and DFI climate change-linked expenditure. Such a system would ideally record not only total budgets, but characterize the funding by several other key features (e.g. project preparation expenditure, capital expenditure, operating expenditure; grant, loan, or equity; yearly breakdown; geographical breakdown; breakdown by source, etc.) to enable more sophisticated analysis of climate finance in the future.

A strong climate information architecture should comprise of high-quality, reliable, and comparable data; a nationally harmonized and consistent set of climate disclosure standards; and nationally agreed principles for climate finance taxonomies and other taxonomy approaches to align investments with climate goals. This could facilitate more accurate market pricing of risks, enable more informed investment decisions, and foster the growth of climate finance. In the absence of harmonized data, based on internationally accepted methodologies, information asymmetries among investors would continue to impede the allocation of risks. However, better disclosures may not be sufficient to ensure that financial flows from private sector are consistent with climate goals.

Climate information and data, as well as information on climate vulnerability, risks, and adaptation options, should be communicated strategically and in a way that makes a clear business case for investments. This could include making it clear to private sector actors that climate change will fundamentally alter the economy and that there could be significant risks to inaction, while also stressing that opportunities may emerge as a result of climate change

#### *8.2.2.5 One -stop-shop for better policy and investment decision making*

The landscape of climate finance shows that the information is scattered, limited or not publicly available including domestic climate budget expenditure in Ethiopia. In addition, no clear data and information is available for private sector to access if the sector requires to invest or engage in NDC implementation. There is no official nor publicly available record or database which

[52] https://unfccc.int/sites/default/files/resource/CF%20Needs_Ethiopia_rev.pdf

currently tracks financing from international NGOs, philanthropies, multilateral or bilateral development partners and private sector (UNFCCC, 2020). Climate finance tracking in Ethiopia will benefit from the establishment of a climate budget tagging system. The system can take a form of a one-stop-shop for a publicly accessible, comprehensive knowledge management system that not only tracks domestic public expenditure but also consolidates international investments from public and private financial actors. Improving transparency around climate finance flows will enable more informed decision making. With a comprehensive picture of how climate finance is being received (instruments and at what cost), where funds are being channeled (regionally and by sector), more sophisticated analysis will be possible. For example, the private sector would be able to identify areas of opportunity, while the government will have a better understanding of entry points and the risk mitigation instruments that are most effective at crowding in funds. The Ministry of Finance in Ethiopia is aware of this need and is collaborating with development partners to develop a climate-related expenditure tagging and tracking system. A climate budget system will create an enabling environment for effective tracking and monitoring of climate related expenditures and undertake data-driven decision making.

There is a need also that the NDC team or CRGE Facility's technical unit should establish a user-friendly, reliable, well-designed and organized centralized information and knowledge management system at the EPA[53]. This searchable database and archive will capture and store all climate change related data and information in an easily classifiable, retrievable manner.

There seems also a requirement that all sectors to maintain an online, dual-platform (server-based and cloud-based) information and knowledge management system. This will serve as searchable archive to trace and retrieve relevant documents and data, as well as to enable sharing and real-time dissemination of climate change related information and activities documented within the sector (at the national, regional, and woreda level)[54].

The Ministry of Finance and the CRGE Facility can build a one-stop-shop for a publicly accessible and comprehensive knowledge management system that not only tracks climate relevant domestic

[53] CRGE Assessment Report
[54] Ibid

public expenditure but also investments from other public and private financial actors. This can help identify entry points for the efficient use of public resources and bringing transparency in investment decision making.

#### *8.2.2.6 Engaging chamber of commerce and sectoral associations*

As noted above, information on and understanding of climate impacts and measures to reduce climate risks are limited among private sector actors in Ethiopia. To address this gap, the government can first try to leverage the country's business associations and multipliers, many of which engage regularly with their members. The associations can thus act as an efficient information conduit for information, including information on climate-related risks, opportunities to engage in the NDC implementation, or opportunities to access finance. Private sector associations can also engage in efforts to train and build capacities among their membership on climate change mitigation and adaptation, preferably in a "train the trainers" model, through which capacities built among associations are then transferred to members. These capacities can originally come from the government, can be developed organically within the association, or can be gleaned through interactions with other associations or industries, both domestic and international.

### 8.2.3 Greening the financial sector

#### *8.2.3.1 Introducing Innovative financial instrument for climate finance*

Private sector capital for climate finance includes the funding to be provided by private financial institutions, investors, and companies in climate-friendly projects (NDC projects) and financial assets. These investments are often priced on a market basis, with financial returns measured against risks. Scaling up private sector climate finance can be enhanced if the social benefit of carbon emission reduction were internalized in the financial returns and risks were reduced. At the same time, the large uncertainties surrounding the development of climate-related technologies, the financial returns of climate projects, and future carbon policies and emission pathways, often make climate-related investments risky. Thus, to attract private sector capital in climate mitigation and adaptation investment, there is a need for innovative financial instruments in addition to those that already exist, including blended and structured financing and risk sharing, where public financial resources can partly reduce and mitigate risks for investments. The appropriateness of such tools depends on Ethiopia's public debt and balance sheet sustainability, given the risk of potential contingent losses and liabilities.

#### *8.2.3.2 Improvement of investment instruments*

To mobilize private finance, public actors need to improve policy frameworks and investment environments and deploy concessional financing to target investment barriers for private sector investment (CPI 2021).

There is a wide array of available investment instruments, risk finance mechanisms, and broader finance-relevant solutions that financial actors elsewhere are already mobilizing in support of climate resilience across Africa. The level of "concessionally" required for certain instruments will vary by market or policy environment. Financial instruments can be used to finance activities that build physical resilience to climate change impacts (reducing physical risk) and are also useful in responding to risks where physical climate impacts cannot or have not been eliminated (through risk transfer and risk reduction instruments). It is critical to carefully select a financial instrument or structure that meets the conditions and activities targeted. Selection of appropriate financial instruments must be informed by the sectoral focus of the mitigation or adaptation activity, underlying country-level policy and market conditions, and the stakeholders and actors engaged. Instruments will only function successfully when they target an appropriate context. Key factors that must be considered when designing an instrument include currency stability, strength of project pipeline, strength of debt capital markets, presence of strong policy environment, robustness of climate information, and engagement/existence of a domestic private sector. When the key factors above are missing or below the standard required for traditional commercial investments, the strategic use of blended finance instruments can help move projects and other climate initiatives forward. Technical assistance or development grants can help structure and improve the bankability of projects, concessional capital and results-based guarantees can enhance returns, and first loss debt or loan guarantees can protect investor capital, crowding in private investment

These are several market instruments that private sector climate finance can utilize[55]:

- **Climate considerations in conventional commercial bank lending.** Commercial bank lending can play a significant role in climate finance. Total bank loans to the private

[55]Mobilizing Private Climate Financing in Emerging Market and Developing Economies, Ananthakrishnan Prasad, Elena Loukoianova, Alan Xiaochen Feng, and William Oman July 2022 .https://www.elibrary.imf.org/configurable/content/journals$002f066$002f2022$002f007$002farticle-A001-en.xml?t:ac=journals%24002f066%24002f2022%24002f007%24002farticle-A001-en.xml

nonfinancial sector may take the biggest share of the bank loan amount. However, climate-related considerations are not among the key factors that currently determine bank lending decisions. With physical and transition risks becoming more prominent, commercial banks need to start gaining awareness of climate-related risks. Banks need to augment their internal credit risk models to capture climate physical risks in the credit risk assessment as well as the quality of collaterals, although it is not currently a requirement. Some banks are planning to incorporate GHG emissions considerations in their companies' environmental, social, and governance (ESG) frameworks. However, the social benefits of climate mitigation are typically not reflected in the terms and conditions of conventional loan contracts, which continue to constitute a significant limitation of conventional bank financing.

- **Green bonds and green loans.** Green bonds are a form of financing wherein the proceeds are used to exclusively fund projects that have positive climate and environmental impacts via a use-of-proceeds approach. In addition, similar to green bonds, green loans, which are typically conducted via private transactions and are often smaller in size for each transaction than a green bond, are used to raise capital for green eligible projects. International Financial Corporation (IFC) and some other MDBs also use green loans to provide support to the low-carbon transition of developing countries.

- **Sustainability-linked bonds (SLBs) and sustainability-linked loans (SLLs**). SLBs are used by corporates and sovereigns to raise capital often at lower costs by committing to achieve predefined key performance indicators (KPIs) on sustainability. For example, an energy company may raise capital by issuing an SLB and committing to reduce the usage of fossil fuel by a certain percentage in its power generation fleet over the next five years. A country can issue an SLB and commit to reach certain national carbon emission targets by a predefined timeline. These bonds commonly enjoy lower interest rates but will incur a jump in the coupon rates if the issuer fails to meet their sustainability targets at predefined observation dates. An important characteristic of SLBs is that the proceeds from the bonds can be used for general purposes by the issuer. SLLs are capital intermediated through banks and are similar in concept to SLBs.

#### 8.2.3.3 Development of capital markets.

Development of capital market can be key to fill the climate finance gap for private sector investment for NDC. Several efforts are underway, for instance, in 2021 the Ethiopian parliament enacted the Capital Markets Proclamation which paved the way for the creation of the Ethiopian Securities Exchange (ESE) (UNCTAD, 2021). The Ethiopian Capital Markets Authority will be the first-of-its-kind in Ethiopia to foster cooperation between the government and the private sector, including foreign investors (FSD Africa, 2022). Also, Ethiopian Investment Holdings (EIH), Ethiopia's first sovereign wealth fund, aims to attract private investment of at least USD 150 billion worth of state-owned assets in banking services, and telecom sector (Schipani Andres, 2022). The momentum needs to be harnessed to boost the private sector in the economy and mobilize finance for climate change related activities.

#### 8.2.3.4 Leverage the potential of MFIs and digital financial services:

The microfinance sector is relatively well developed and are performing well compared to other Sub-Saharan African countries in Ethiopia. Considering the relatively strong network and presence of MFIs in the country and huge potential of mobile banking services to increase energy access, the NBE needs to focus on providing favorable collateral and lending policies for the MFIs and to alleviate the licensing and authorization barriers for the mobile banking service providers.

This is particularly an interesting avenue to link with Pay-as-you-go (PAYGO)system. PAYGO is a financing technology that allows end-users to pay for solar energy in weekly instalments or whenever they are financially liquid. PAYGO is a pioneering, game-changing credit system that removes the initial financial barrier to solar energy access by allowing consumers to make a series of modest payments to purchase time units for using solar electricity instead of paying upfront for the entire solar lighting system.

PAYGO is emerging as a solution that addresses both end-customer affordability and provides sufficient margins to fuel operational models that can scale. Driving up access to local sources of debt financing will be critical in the long run. Financial service providers (FSPs/MFIs) in local markets could be the natural long-term solution to the sector's debt financing needs. FSPs and PAYGo Operators appear to have complementary assets that could be leveraged to scale financing of the sector if properly synched up. On one side, MFI banks and other financial institutions have access to low-cost sources of funding, specialize in managing consumer loan portfolios, and have

the balance sheet strength to take on additional lending. PAYGo operators' natural capabilities are in largescale sales and distribution, lease origination, call center teams and technology to manage ongoing customer care relationships; they also, and have strong payment risk mitigation tools in the PAYGo hardware, and often have the ability to repossess the asset.

#### *8.2.3.5 Developing blended financing instruments for risk-sharing:*

A five-year partial credit guarantee scheme (with 50% risk-sharing) was implemented by the Common Fund for Commodities in Ethiopia from 2011 to 2016 which successfully improved smallholder coffee cooperatives' access to bank loans and lower the collateral requirements. There were no defaults reported by the lending banks suggests that such schemes have the potential to be successful and mobilize private investments with efficient use of public funds which needs to explored further for the climate action.

#### *8.2.3.6 Adopt a multi-faceted approach to address debt burdens*

There is substantial reluctance for policy makers to take on more debt to address climate risk because of substantial existing debt loads and the risk of an increasing cost of finance as underlying physical climate risk (and understanding of that risk) increases. Actions that should be considered to address debt challenges in Ethiopia include:

- Advance efforts to link credit ratings with reductions in climate risk to incentivize mitigation or resilience and lower the cost of debt.
- Develop a balance between loans and other financial instruments including equity, results-based finance, and grants to reduce reliance on debt alone to finance climate actions
- Develop sovereign bonds with an adaptation component.

#### *8.2.3.7 Secure direct access to international climate funds*

A limited number of international funds allow direct access, including the GCF, the Adaptation Fund, the Global Environment Fund and the European Commission Directorate-General for International Co-operation and Development. Thus, in order private sector access directly this financial opportunity, private accredited bank is a pre-requisite.

- Screen national institutions, especially financial institutions, against the accreditation requirements for the relevant fund or funds, to identify potential eligible institutions and the resources required to fully meet the accreditation requirements.

- Selected financial institution to apply for accreditation for direct access to international green funds;
- Develop funding proposals from private that can be shared with bilateral and multilateral funders.

### 8.2.4 Policy and Institutional reform

#### *8.2.4.1 Policy and regulatory reform*

Reforming the regulatory framework will be essential to ensure that policies, laws and regulations create an enabling environment for private sector investment in climate resilience. Successfully engaging the private sector requires broader policy and market reforms that can enhance the investment context. Changes in public policy that respond to issues specific to the context can help address barriers and create entry points for private sector participation in climate projects and activities. Strategic actions to refine the regulatory framework are:

- Analyze the legal and policy context with representative of the private sector governing private sector engagement in climate action.
- Assess private sector engagement requirements and promote disclosure of climate risks and opportunities.
- Develop a legal, policy and institutional framework that supports private sector investment, such as private sector wing under the CRGE structure and to be cascaded into the sectoral CRGE entities, an appropriate incentive system to leverage private interest.
- Involve the private sector in the revision, identification and development of mitigation and adaptation actions and policies.

#### *8.2.4.2 Unified governance*

Currently the CRGE has two wings -the financial wing under MOF and the technical under EPA. It was noted from the different interview conducted that new structure is being under consideration under Ministry of Planning and Development how best the CRGE facility could discharge its task. As the time is right, the Government of Ethiopia may need to conduct an options analysis for exploring merge of the CRGE Facility wings in a way to end the branching of responsibilities and activities between the former EFCCC and Ministry of Finance, and to may be look for creating a

unified, integrated single institutional hub for all climate change related activities in Ethiopia (in particular, for NDC coordination).

Such unified governance will enable to focus on the priority tasks of the facility thereby enhance facilitating the engagement of the private sector and the implementation of the strategy as well as the NDC.

#### *8.2.4.3 Realizing the Private sector liaison office wing*

One of the actions identified in the updated NDC plan was having a private sector desk at the CRGE facility, which has not yet realized. The implementation of this identified action still relevant to support better engagement of the private sector. A private sector facility can be set up for which the primary mandate is supporting private sector needs with more tailored financial instruments such as a green guarantee fund, green incubator and accelerator facility. The CRGE Facility's technical unit may need to create a private sector liaison office (or officer as planned) to engage with the private sector on climate change activities, including the NDC (for enhanced private sector engagement on both resource mobilization as well as for technical partnership in implementation).

The role of the private sector liaison office may include: facilitating private sector contact with the CRGE/NDC and access to NDC business opportunities; acting as the voice of private sector in advising the government on how to better engage private sector on NDC investment and implementation and disseminating CRGE/NDC knowledge and research of interest to the private sector.

#### *8.2.4.4 Development of climate friendly standards*

One of the feedback private sector enterprises would like to have to engage in climate actions is standards. The main purpose of such standards is to provide private sector with a consistent, structured and pragmatic approach to prevent or mitigate the harm caused by climate change, whilst taking advantage of available opportunities. Investors will benefit from standardized approaches to defining the eligibility of nominated projects and assets and will be able to make investment decisions based on standardized environmental criteria. Standards can also help to apply uniformly in similar projects.

There are two ISO standards that can be of help when standards for climate action are initiated: ISO 14080 and ISO 14090. ISO 14080, Greenhouse gas management and related activities – Framework and principles for methodologies on climate actions, assists organizations in identifying, assessing, developing and managing methodologies on climate action. ISO 14090, Adaptation to climate change – Principles, requirements and guidelines, is the world's first International Standard on climate adaptation.

Standards can have significant impact on climate change mitigation and adaptation depending on how they are used and by whom they are mandated. General benefits from using standards include how they:

- are produced by experts and practitioners through a transparent, open and consensus based process.
- embody accepted good practice and can be used to demonstrate adoption of good practice.
- promote technical connectivity, interoperability and sustainability of activities, products and services.
- help with consistent terminology e.g., for climate resilience
- are used by many organizations, including governments, regulators, and influential clients.
- can be a tool to support legislation.
- form documents for common and repeated use.
- can reflect market needs and opportunities.
- can remove trade barriers and facilitate access to markets.

#### *8.2.4.5 Incentives on public purchase and technology purchase*

Green public procurement is considered an environmental policy tool with great potential. Having been charged with the responsibility of transforming greenness into a shared social norm, Green public procurement has the potential to play an exemplary and guiding role for the individual consumer. Green purchases are those that have a low environmental impact and are more sustainable in terms of the materials they're made from and the sourcing and manufacturing practices that make them. Green procurement also considers the immediate and future impacts of purchases through their consumption and eventual end-of-life stage. Green procurement policies

embody the triple bottom line (TBL), a business framework for improving performance in all three areas – environmental, social, and financial

Thus strategic move towards procurement of green products and technologies will have important contribution towards shaping the private sector for climate action through resourf efficiency and lesser environmental impact. Incentives are to be formulated in support of purchases of climate change mitigation or adaptation technologies and/or implementation of actions and/or R&D in the private sector (e.g. water efficiency incentives).

#### *8.2.4.6 Develop innovative financial incentive mechanisms*

One of the mechanisms private sector enterprises forwarded and the diagnostic study revealed is the need to have incentive for attracting investment for the NDC climate actions. Thus, there needs to require identifying the range of financial interventions needed to address barriers to private sector investment across relevant priority actions for NDC implementation.

Financial incentives aims here to alter the cost-benefit ratio for business activities that increase GHG emissions or increase climate risks, compared to with those that contribute to reduced emissions and increased climate resilience. The incentives options that can be applied are indicated below:-

**Introduction/phase-out of subsidies: The** Government of Ethiopia may consider to phase out subsidies for fossil fuel production and consumption. These encourage continued and increased use of finite resources and spur increased GHG emissions from fuel combustion. Phasing out these subsidies can help companies make operational decisions that better reflect the climate impact of using fossil fuel resources. Conversely, the country should offer feed-in tariffs to subsidize the cost of renewable energy power generation. Feed-in tariffs guarantee a payment for every kWh or MWh of electricity that a renewable energy operator provides to the grid, regardless of the market price for power. Feed-in tariffs can apply to utility scale operators as well as household-scale renewable energy systems, and have then potential to a massive increase in renewable energy generation

**Tax incentives:** Government may also need to employ a range of tax incentives to encourage engagement on climate change. These range from accelerated depreciation on

energy efficient equipment, to reduced VAT and import duties for renewable energy systems, and tax holidays for companies starting up in the environmental sector. In addition, governments may issue tax-advantaged "green bonds "to raise finance for climate related measures.

**Carbon pricing**: Under a carbon tax, the government can set a price that emitters must pay for each ton of GHG emissions they emit. Businesses and consumers will take steps, such as switching fuels or adopting new technologies, to reduce their emissions to avoid paying the tax. Carbon prices are intended to incentivize the changes needed in investment, production, and consumption patterns, and to induce the kind of technological progress that can bring down future abatement cost.

**De-risking investments:** It is clear that climate friendly investments are perceived as more risky. Every additional cost or source of uncertainty increases the risk that an investment will not meet its financial performance targets. All else being equal, riskier investments have to pay a higher risk premium than do less risky ones. The perception of risk may make many climate friendly projects unattractive. De-risking climate investments, therefore, entails measures that lower the "hurdle rate," or the rate of return that investors must reach before they will finance a new business or project. There are many ways to de-risk climate change-related investments. The more common approaches include:

- **Climate hazard/resource mapping:** Government support for hazard mapping helps identify the location and severity of potential climate hazards, for example flood zones and areas prone to high temperature and drought. Equipped with this knowledge, private sector operators can take steps to mitigate their risks, such as relocating, purchasing insurance or climate-proofing their operations. Similarly, government support for renewable energy and water resource mapping can help private sector operators more accurately understand resource availability, so they can more appropriately size and locate their equipment or farms, and better estimate likely revenues.
- **Loan guarantees**: Loan guarantees can reduce financing costs for climate related investments. Banks set interest rates and repayment periods based on

the perceived creditworthiness of borrowers. Partial loan guarantees from government or other sources can cancel out the bank's perceived nonperformance risk, resulting in dramatically lower interest rates and extended repayment periods for borrowers. These changes can be enough to make an otherwise unprofitable climate-related investment viable.

#### *8.2.4.7 Coordination mechanisms of development partner, public and private finance institution*

Coordination across public and private financial institutions could help ensure coherence and impact on mitigation and adaptation goals and alignment with the science. Government collaboration with other stakeholders could help by setting roadmaps, developing strategies, and convening stakeholders thereby private sector can better access the financial support to stimulate investments in climate action.

Development partners and different NGOs are engaging the private sector in adaptation actions in a number of ways. They can provide direct support for financing adaptation initiatives through instruments such as grants, blended financing, green credit lines or challenge funds (e.g., the Africa Enterprise Challenge Fund). They can support the generation and dissemination of climate information to private sector actors and invest in building their capacities to act upon this information. They can encourage the development of green, climate-resilient value chains and markets for green products and services. They can also facilitate and encourage partnerships on strengthening climate resilience between private sector actors in their own countries with private sector actors in partner countries (Crishna Morgado & Lasfargues, 2017). Development partners, and the support that they can offer, include:

- **Bilateral development cooperation providers**: These providers largely grant financing to the public sector and civil society organizations. Activities include facilitating dialogues with the private sector, supporting enabling conditions, capacity building and matching grant schemes. Some of the providers active in this space are USAID, SIDA, GIZ and DfID. More coordination is required to trace other NGOs and facilitate the collaboration with private sector
- **Public sector operations of development banks and climate funds:** These actors may provide loans, grants, or guarantees to the public sector, and activities financed

include enabling conditions support, capacity building and financial support through credit lines. The Green Climate Fund, for example, is mandated to support the NAP process and requires private sector components to be included in funding proposals. Other examples include the World Bank, KfW, AFD, GEF and Climate Investment Funds. Bilateral development finance institutions (DFIs) and private sector operators of multilateral and national development banks: These actors may provide equity, loans, guarantees or risk insurance to the private sector. Activities can include directly financing companies, providing funds aimed at mitigating risks in order to attract private investment, demonstrating viability in high-risk areas, and capacity building.

### 8.2.5 Capacity building

#### *8.2.5.1 Capacity building for financial institutions*

Build capacity of financial institutions – such as locally based pension funds, and development bank – to evaluate and act on climate risks. Key capacity needs highlighted by financial institutions relate to understanding the cost of climate impacts and climate risk management and developing financial instruments and bankable projects. This could also include a concerted effort to increase their membership in international financial initiatives such as the UN Principles for Responsible Investment and Banking[56], and the International Development Finance Club – and to provide these institutions with the resources to participate actively. Capacity building could also include strengthening skills to apply for GCF funding in addition to accreditation.

#### *8.2.5.2 Build capacity to develop science-based policy and projects:*

For much international public climate finance, there is a need to establish attribution between a climate impacts and the corresponding action/measure that aims to mitigate that impact. This attribution is challenging, requires substantial quantitative and science capacity and is often a critical factor for mobilizing adaptation finance. There is a substantial need to increase capacity to translate science into policy, and to translate policy into investment needs, for instance by utilizing climate resilience indicators to prioritize budget allocations. Resilience outcomes are also difficult

[56] UN Principles for Responsible Investment and Banking: The UN Principles for Responsible Investment is an organization dedicated to promoting environmental and social responsibility among the world's investors. The UN Principles for Responsible Investment relies on voluntary disclosures by participating members, called signatories. The Principles for Responsible Banking allow banks to generate new revenue streams by genuinely connecting to the environment and the society

to track against a moving baseline—for example, other development projects may have also contributed to improved social outcomes in a given localized region.

#### *8.2.5.3 Improve private sector capacity to contribute to a stronger climate ambition*

Capacity-building is a fundamental precondition in fostering enhanced and sustained participation of the private sector in NDC action. The following key strategic actions can be undertaken:

- Assess the capacity needs of the private sector to gain a sense of the areas the private sector considers to be the most important in investing in climate action, depending on key productive sectors.
- Harness potential platforms to engage the private sector in capacity-building initiatives for climate action at different levels, for greater co-ordination and coherence of capacity-building actions undertaken by different actors.
- Build the capacity of key private players in collaboration with academia and research organizations.
- Increase the capacity of local energy efficiency and renewable energy experts in the installation and maintenance of such technologies.
- Providing capacity building that can support the development of a projects include:
  - Capacity to undertake financial and technology needs assessments across the country's NDC priority sectors, to assess where efforts need to be focused and ensure projects are robust.
  - Technical understanding of available technologies to ensure the most suitable and effective technology is being used.
  - Capacity on financial modelling and cost– benefit analysis expertise to determine the financial feasibility of the proposed projects and ensure projects stay within the country's budget.
  - Writing skills to develop business cases and project concept notes, to ensure the most effective outcomes for implemented projects.

# 9 PILOT PROJECTS ON PPP

Typically, the purpose of the pilot projects is to get the stakeholders interested enough in the projects for further development and to be developed further as full proposal, if they are found sound. The highlights of the pilot projects are intended to provide a quick overview of the main elements of the projects concept, that include project background (challenges/barriers), project objectives, project deliverables, among other things. The goal is to capture the attention of the stakeholders/ audience and get them excited about the project that are proposed. It's essentially the "elevator pitch" for the project life cycle. The concepts are descriptive and paint a picture of what project success looks like for the clients.

Among four candidates, two are selected and their concept are written below. One is to expand solar mini grids and the second one is Electric vehicle.

## 9.1 Solar mini-grids

### 9.1.1 Development challenge

Clean energy generation and use as a replacement of carbon intensive energy source ensures climate-friendly sustainable growth, reduce climate related risks and avoid catastrophic outcomes of climate change, which has now become a critical feature of national development plans. As a responsible member of the global community, Ethiopia has taken a constructive role in international climate negotiations, stating its ambition to become a "green economy front-runner" as an expression of its potential, for and belief in, sustainable models of growth. This initiative's goals are consistent with Ethiopia's green growth ambitions and align with the country's updated NDCs. Inherent in the project design is the assumption that policies that support sustainable growth will help Ethiopia achieve development targets that are aligned with the Climate-Resilient Green Economy (CRGE) strategy. The CRGE aims to protect the country from the adverse effects of climate change and support development ambitions to reach middle-income status by 2025. These policies are a critical framing instrument for Ethiopia's broad economic planning and have proven to be particularly central in the design of Ethiopia's power development strategy. Mini-grids powered by renewable energy directly address two NDC components: (i) reduction of greenhouse gas (GHG) emissions and (ii) reduction of the impact of climate change on Ethiopia's population, environment and economy. Mini-grid development also helps to deliver on key CRGE objectives

viz: (i) ensuring economic development is sustainable by limiting GHG emissions, (ii) creating green job opportunities, and (iii) protecting the economy and people from the adverse effects of climate change.

Ethiopia has a huge potential to become the hub for solar energy technologies market, considering its suitability for off-grid energy systems. More than 75% of the Ethiopian population lives in the countryside, creating major challenges to fulfill their power needs through the national grid. The dispersed nature of rural populations is one of the key reasons for policymakers to consider the use of off-grid energy systems such as mini-grid and solar home systems to achieve universal access in the country. The current energy access levels in Ethiopia stands at a 44%, where 33% of access is provided through grid connections and 11% through off-grid solutions (MoWIE, 2019). The average across sub-Saharan Africa stands at 43% (Blimpo & Cosgrove-Davies, 2019). To increase access and fulfill the country's demand, the Ethiopian government launched its National Electrification Program (NEP II) in 2019 laying out the country's ambition towards universal access by 2025 through a combination of grid-connected and off-grid energy systems (MoWIE, 2019). With the expected expansion plan, the centralized grid is expected to supply electricity to around 65% of the Ethiopian population and the rest 35% would be met by off-grid systems.

There are many reasons to be optimistic about Ethiopia's potential in off-grid market. Off-grid energy companies have made enormous progress by bringing power to nearly 470 million people according to the Global Off-Grid Lighting Association (GOGLA) (Network, 2020)[57]. In the African continent, nearly 60 million people are electrified by off-grid applications according to the International Renewable Energy Agency (IRENA) (IRENA, 2016). On the opportunities created for employment, solar PV based businesses are estimated to employ around 3.9% of the African workforce according to IRENA (IRENA, 2019). However, the sector has several barriers such as lack of resources, lack of knowledge of the technology, lack of clear climate policy, lack of qualified personnel, lack of knowledge and experience in marketing and communication according to a study by Cagno et al. (2013), Dahlqvist and Söderholm (2019), and Di Foggia (2016)

[57] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8420235/

Ethiopia has one of the lowest per capita energy supply and consumption[58]. About 56% of the total population have no access to any form of electricity[59]. More than 90% of the households use solid biomass fuels for cooking. These and other features reveal that Ethiopia lacks a modern, flexible, reliable, and affordable energy system that could withstand its fast-growing energy demand due to high growth rates of population, urbanization, and industrialization. The existing energy system impinges on the quality of the environment in several ways. About 46% of the total greenhouse gases (GHG) emission which comes from the land use change and forestry (LUCF) sector attributes to forest degradation due to fuelwood consumption[60]. Indoor air pollution is responsible to about 65,000 premature deaths [61]and nearly 5% of the national burden of disease[62]. It is clear that dependence on biomass energy exposes users especially women to both physical and psychological health challenges. Women are exposed to pollution while preparing meals using biomass fuel which may lead to respiratory complications and other health-related challenges. Additionally, while gathering biomass fuel, women may be exposed to other risks and hazards that may lead to poor health and or trauma.

*Ethiopia has achieved good progress in connecting 33 percent of its population with on-grid electrification and 11 percent with off-grid pre-electrification, with the combined achievement of 44 percent of electricity access. By 2025, at least 65 percent (about additional 15 million people) are targeted to be connected through grid solutions. The remaining 6 million households in rural and deep rural areas (equivalent to about 35 percent of the population in 2025) are targeted to be connected through off-grid, including mini-grids.* Ethiopia has set a target of creating access to electricity for 9 million households through the standalone solar (SAS) systems by 2025[63]. It is an ambitious but achievable target if existing constraints can be tackled. However, there are challenges to mitigate to achieve this ambition. The main ones include high initial investment cost,

58 https://www.sciencedirect.com/science/article/pii/S2667095X22000022#:~:text=Ethiopia%20has%20one%20of%20the,spending%20for%20imports%20%5B4%5D.

59 Ibid

60 Ethiopia's Climate-Resilient Green Economy Strategy, Federal Democratic Republic of Ethiopia, Addis Ababa (2011)

61 Household air pollution: burden of disease, World Health Organ. (2016), p. 2021

62 H. Sanbata, A. Asfaw, A. Kumie, Indoor air pollution in slum neighbourhoods of Addis Ababa, Ethiopia, Atmos. Environ., 89 (2014), pp. 230-234, 10.1016/j.atmosenv.2014.01.003

63 https://www.ace-taf.org/kb/unlocking-forex-for-the-off-grid-solar-sector-ethiopia-policy-brief/

lack of local manufacturing, lack of full awareness of the operation, frequent failure of the systems, lack of sufficient maintenance experts, high maintenance and installation costs, lack of spare parts are considered to be the key challenges that are affecting the market diffusion and sustainability of the systems.

### 9.1.2 Strategy

#### *9.1.2.1 Project objective*

The objective of the proposed project is to contribute to reducing GHG emissions by boosting the solar PV mini-grids component of the country's ambitious goal of reaching universal energy access and to mobilize private sector participation in the domestic renewable energy market, thus supporting the achievement of Ethiopia's Updated Nationally Determined Contribution, which mentions rural electrification as a key objective. Vulnerable and geographically dispersed rural communities currently disconnected from any grid are the key beneficiaries of this program, with a special focus on women and children through productive uses, community services and early warning systems.

#### *9.1.2.2 Outcomes and outputs*

The envisaged pilot project is composed of three primary interconnected components driving the development and deployment of solar microgrids and their supporting activities as detailed below

**Component 1: Technical Assistance to the solar rural electrification stakeholders:**

This component is planned to target capacity building of the project's key stakeholders (private sector, Ministry of water and Energy, local operators, rural beneficiaries incl. community-based organizations), to favor the implementation of a sustainable framework of the delivered services and benefits of the solar mini-grids. The capacity building activity may be suitable to start with the end-user beneficiaries' climate information, solar power benefits awareness and appropriation, the technical and administrative competencies of the assigned project implementing unit, gearing gender and youth institutionalization, and the environmental expertise and knowledge management required upstream and downstream:

*Table 3: Output and activities*

| Outputs | Activities |
|---|---|
| Output 1.1 - Capacity building of rural electrification stakeholders | Activity 1.1.1 - Trainings on procurement procedures, project management and financial source requirements. |
| | Activity 1.1.2 - Seminars and trips and workshops (technology watch, public consultations) |
| Output 1.2: Build the capacity of microgrid customers to understand basic energy literacy including economics, end uses, technology /applications and safety | Activity .1.2.1: Conduct public meetings and trainings for community stakeholders on best practices for the use of electricity, safety, economics, and new technology |
| | Activity .1.2.2: Develop and implement a school curriculum for children to teach them about basics of electricity, renewable energies and safety. |
| Output 1.3 - Gender action plan implementation | Activity 1.3.1 - gender-relevant community-organizations mapping & tutoring |
| | Activity 1.3.2 - gender-stakeholders training ( local operators – community organizations) |
| | Activity 1.3.3 - gender-oriented communication campaign |
| Output 1.4 - Environmental & social downstream activities | Activity 1.4.1 - E&S measures implementation and monitoring |
| | Activity 1.4.2 - Establishment of a recycling unit for batteries and other waste (CFL, other) |

**Component 2: Procurement and Installation of solar powered mini-grids**

| Outputs | Activities |
|---|---|
| Output 2.1 - Preparation of detailed Engineering Studies | Activity 2.1.1 - Site selection, engineering studies & Specific environmental and social analysis for each site |
| Output 2.2 - Supply, installation and commissioning of equipment | Activity 2.2.1 - Solar PV power plants construction and mini-grid deployment |
| | Activity 2.2.2 - Smart meters installation & miscellaneous works |
| Output 2.3 - Modern public lighting | Activity 2.3.1 - Deployments of solar street lighting in small towns around the installation |
| Output 2.4 - Control and supervision of work | Activity 2.4.1 -Control and supervision of work |

#### *9.1.2.3 Theory of change*

The brief theory of change (depicted in figure 1 below) that drives this Project is that the provision of affordable, reliable, and clean electricity and accompanying activities through the deployment of solar microgrids in rural Ethiopia. This can directly support the expansion of renewable energy and reduction of GHG emissions compared to the status quo of energy alternatives. The status quo scenario is that rural citizens use kerosene, diesel, and charcoal while also enabling people living in rural Ethiopia to access basic services and economic opportunities near where they live. The target beneficiaries of this initiative are people living in rural, particularly benefits women, who face a depressed local economy, food insecurity, and very high levels of poverty and unemployment. While people in these areas often have very little disposable income, they nevertheless are exposed to climate hazardous and health problems due to biomass usage. These fuels are inconvenient and often also bad for people's health and emit greenhouse gases that contribute to global climate. Further, establishing a foundation of clean, reliable, and affordable electricity can fundamentally change how communities in rural areas are able to plan for and respond to climate change by providing for local energy literacy training and business support; and enabling new technology, approaches, and resources for long-term adaptation. New enterprises and income, sustained power for critical services like health clinics, water purification, post-harvest processing for food security, and food distribution are all avenues enabled by microgrid electrification.

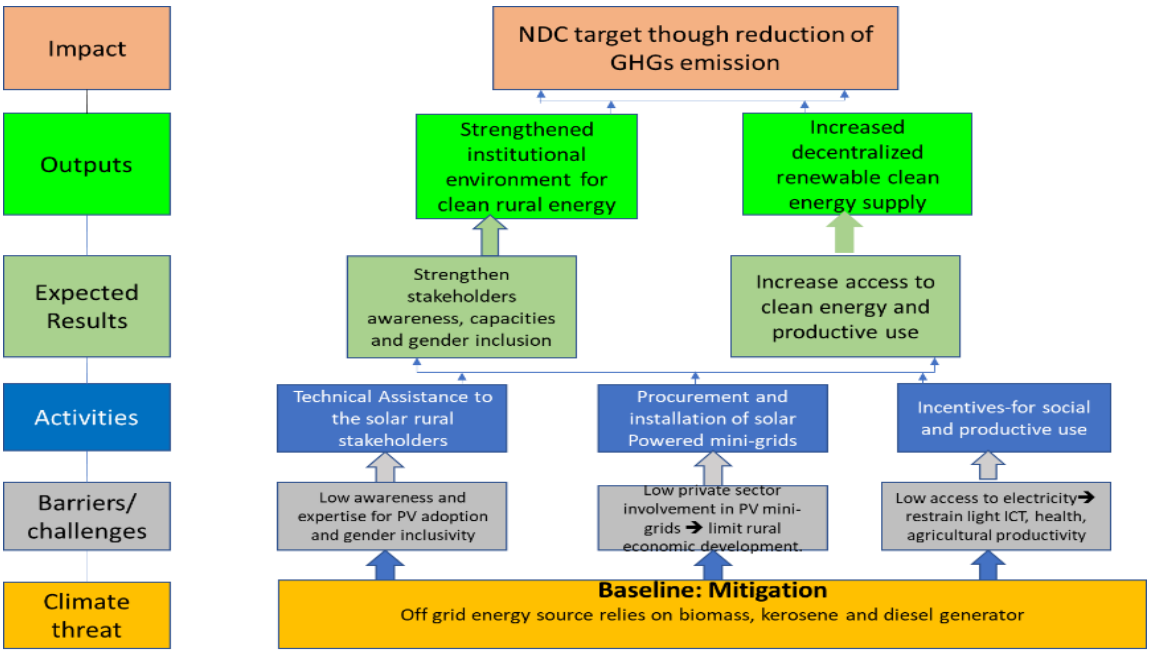



*Figure 28: Theory of Change*

Solar rural electrification can tackle established climate vulnerabilities of off-grid communities to health & water sanitation, agricultural & economic productivity as well as empower women and young populations to build more climate informed & resilient livelihoods. Droughts, floods and other severe weather events indeed have serious consequences for rural livelihoods and economies, pushing vulnerable communities further into poverty – all the more as climate variability and change can make these events more frequent and more damaging.

Besides households, solar energy could indeed power numerous of different productive activities that can be mechanized across agriculture, industry and commerce, transforming people lives while avoiding emissions. Given the importance of agriculture in predominantly rural off-grid areas and majority of the population of Ethiopia households are active in the agricultural sector.

In the sector of social services, the project's focus also targets safe energy supply for cold storage of medicines, operation of health centers at night, and effective Information & Communication Technologies and early warning systems allowing populations to have access to climate information or previsions. However, several obstacles still prevent the full realization of solar power potential for servicing communities and productive users

- Capacity constraints: The lack of availability of long-term grid expansion plans by the Government of Ethiopia has resulted in a lack of confidence in the private sector for investing in micro-grid infrastructure in rural areas[64]. The Government can increase certainty for the private sector by:
    - Sharing knowledge of its grid expansion and off-grid plans so the private sector does not invest in places that are soon to be connected
    - insisting on quality products that ensure sustainability and build consumer confidence
    - Supporting financing options that make these products affordable to the poor
- While the markets for off-grid lanterns and solar household systems have grown, the technical services infrastructure – including capacity for design, manufacture and assembly, as well as installation and service provision – has not grown along with the rapid increase of sub-standard solar products on the market. As a consequence, customers have had to deal with faulty installations, encountering technical problems with their devices and problems with poor quality.
- Information-wise, the advantages and possibilities of solar energy are poorly known and sometimes misunderstood. Users do not necessarily have the right information on quality or reliability of solar products on the market, nor enough visibility on the costs as compared to their limited ability and willingness to pay. Required implementation capacities include technical, transactional, marketing and communication expertise.
- Upfront investment costs of solar infrastructures and equipment are out of the affordability range of most households and rural microenterprises. Available financial resources rates mismatch real needs from operators and end users, both towards traditional financial institutions and households credit sources.
- Incentives : Current policy does not provide attractive incentives or create a sufficient enabling environment for private sector investment.

### 9.1.3 Financing and Management arrangement

Different entities may be involved in investment, ownership, and operations of the mini-grid. There is a division of labor between the responsibilities of various actors through joint ventures or

[64] Policy Brief, CDKN 2018

other contractual arrangements. The generation and distribution of electricity can be divided between government companies, private firms or local communities that can be further analyzed and refined. The feasible financing and management structure is designed as shown in the figure below as public private modalities. The success of these models depend on the regulatory framework and clarity of property rights.

Mini-grids are infrastructure. Two core features of infrastructure assets dictate what they need from the public and private sector: First Private Sector Infrastructure assets require high upfront investment and generate steady returns over a long time period of 10–20+ years. This means infrastructure needs long-term, low cost capital, which in turn means reducing risk as much as possible, for as long as possible. Second, Public Sector Infrastructure assets deliver services that are vital to a country's economic prosperity. Governments will intervene with regulation and subsidized funding to ensure critical infrastructure gets built and maintained. As infrastructure assets, mini-grids need long term, low-cost capital from the private sector, and regulatory and subsidy support from the public sector.

Mini-grids are infrastructure assets that need long-term, low cost capital, and long-term de-risked regulatory frameworks. Project finance is often used to achieve this. Project financing fixes the risks and cash flows over a project's lifetime in order to bring risk levels down to match the long-term, low cost financing the projects require. Reliable, low risk cash flows are the objective. As far as possible, revenues and costs are therefore fixed through long-term contracts. Where not possible, revenues and costs are structured to be as predictable as possible.

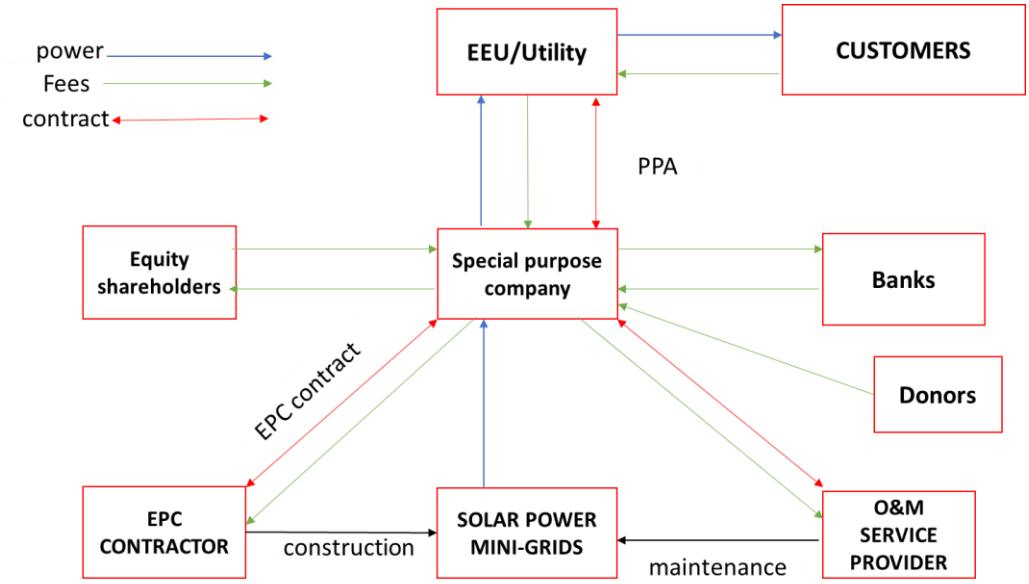



*Figure 29: Financing and management model*

PPP schemes typically involve the creation of a special-purpose company (SPC) or special purpose vehicle (SPV) to develop, build, maintain, and operate the (project) asset for a contracted period of time. A special-purpose company (SPC) or special-purpose vehicle (SPV) is created to develop, build, maintain, and operate the plant, and assume a substantial portion of its financial, technical, and operating requirements, thus minimizing risk to the public entity. The SPV establishment can be private or joint venture with government. This project company raises finance through a combination of equity—provided by the project company's shareholders—and debt provided by banks, or through bonds or other financial instruments. The SPV enters into a contract with the government and with subcontractors to build the facility and then operates and maintains it. The special-purpose or project company is the central administrative and operating entity handling all contracts for funding with equity and debt investors. It also manages the construction and operation and maintenance (O&M) contracts, as well as the billing of the utility company. This type of business model is suitable renewable energy projects.

This model could be a frontrunner for the private sector engagement model in Ethiopia, wherein both GoE and private investors can combine strengths to contribute funds, technical and managerial skills to intensify growth of mini-grids. Since the management of this model is complex, clear operating modalities are required between the partners mainly around roles, contractual obligations, exigencies like insolvency, etc.

## 9.2 Electric vehicle (EV)

### 9.2.1 Contextual analysis

The transportation sector emits almost a quarter of all energy-related $CO_2$ emissions (UNIDO, 2020). Road vehicles – car, trucks, buses, two- and three-wheelers – account for over three-quarters of transport emissions and remain the fastest-growing sector. On current trends the global passenger car fleet is set to double by 2050, with most of the growth taking place in developing markets where policies to curb emissions are often lacking[65].

To meet the objectives of the Paris Agreement and the 2030 Agenda for Sustainable Development, direct transport emissions must peak around 2020 and then decrease by over 9 per cent by 2030 (UNIDO, 2020). To achieve such a fall will require urgent action to improve the transport sector, scale up non-motorized transport and put cleaner, more efficient modes of transport on the roads. If the integration of mobility with the electricity sector and digital technologies is developed in tandem with renewable and efficient energy supplies, along with flexible options on grid management, electric vehicles (EVs) could prove to be the silver bullet[66]. EVs are efficient, low-carbon, quiet and able to improve grid reliability, making them a crucial part of global efforts to cut fossil fuel dependency, improve air quality and decarbonize the economy

Fuel combustion from transport operations are responsible for about 40 % of global $CO_2$ emission and climate change and leads directly (e.g. damages) and indirectly (e.g. rethink of planning considerations) to reasonable rise in transportation infrastructure expenditures. One of the promising solutions (Domanovszky, 2014; Mikosova et al., 2018; Zöldy, 2011) for these problems is decoupling the mobility needs and the fossil energy needs. Electric mobility offers notable benefits to this process (Zöldy and Török, 2015; Smit et al., 2018), a growing share of electric vehicles (EVs) also underlines its potentials.

Globally, the automotive future is looking increasingly electric, due to growing regulatory moves, including forthcoming bans on sales of internal combustion engine (ICE) vehicles, shifting consumer behavior, and ongoing improvements in battery and charging technology[67]. Automotive

[65] https://www.unido.org/sites/default/files/files/2020-08/UNIDO_Electric_Mobility_Paper.pdf
[66] Ibid
[67] https://www.howwemadeitinafrica.com/is-sub-saharan-africa-ready-to-make-a-move-to-electric-vehicles/140514/

Original Equipment manufacturers (AOEMs) are making commitments to cease production of internal combustion engine (ICE) vehicles meaning that, over time, new vehicles purchases will inevitably be EVs[68]. By 2035, the world's major automotive markets – the United States, European Union, and China – are expected to sell only electric vehicles (EVs), and by 2050, 80% of the world's vehicle sales are expected to be electric[69]. EVs are a critical component of achieving climate neutrality and improving quality of life in cities by reducing air and noise pollution. Clean transportation and electrification of the transportation network powered by a clean grid can help improve environmental and health outcomes

Sub-Saharan Africa faces unique challenges when it comes to the e-mobility transition, such as low rates of electricity access, low electricity reliability, and low affordability. However, this does not mean that the continent has to be left behind in the electrification of transport[70].

Ethiopia plans to have 12% of all vehicles to be hybrid and electric by 2050 (EPA, 2011). Currently government is providing incentives to promote the importation and local assembly of electric vehicles ( Yizengaw, personal interview on January 10,2023). According to Yizengaw, there are many economic, regulatory, technical and informational challenges that must be addressed by all stakeholders in order to achieve the transition to electric mobility as highlighted below. It was also mentioned that Government is making progressive changes and put in place various incentive mechanisms which are at the draft stage. Mobility is set to change dramatically in the coming years as electric vehicles and networks to support them look set to grow quickly; however, there is a long way to go before this paradigm shift in transport becomes a reality. The market for EVs is still in its infancy and many barriers need to be overcome before they become a common mode of transportation.

| Key barriers | | | |
|---|---|---|---|
| Economic | Regulatory | technical | information |
| - High upfront EV cost<br>- Viability of business | - Charging issue<br>- Tarif issue | - standards<br>- -grid stability<br>- Battery performance | - Lack of awareness |

*Table 4: Barriers for EV transition*

[68] https://shellfoundation.org/app/uploads/2022/02/EV-Report-McKinsey.pdf
[69] Ibid
[70] https://shellfoundation.org/app/uploads/2022/02/EV-Report-McKinsey.pdf

#### 9.2.1.1 Economic barrier

**Purchase price of EVs:** EVs have a higher price tag than conventional internal combustion engine (ICE) cars, mainly due to the cost of the battery, making them less attractive to many potential consumers. The high upfront cost of EVs is slowing down its adoption rate, despite lower running and maintenance

costs associated with EVs compared to ICE vehicles. Providing attractive financing solutions for better adoption by lowering the upfront capital outlay is required to accelerate growth of the sector, which is in its nascency in Ethiopia

**Business viability issues:** Even though EVs have very low operating costs, fleet operators that use traditional ICE vehicles will face higher capital costs to replace them with EVs. It is difficult to offer EVs at the same rate as ICE vehicles or even deploy the vehicles at a higher cost. Under current market conditions, it is challenging to construct a profitable business case for public EV charging stations for several reasons. These include high initial investments, low and uncertain near-term demand for public charging. As the penetration of electric vehicles is very low, utilization of initial charging stations would also be low, resulting in higher total cost of ownership (TCO) and lower revenues for the charging station operators/owners.

#### 9.2.1.2 Regulatory barriers

**Characterization of EV charging activity:** The characterization of EV charging activity either as the sale of electricity or as a service has been a major point of contention. Internationally, the majority of countries have characterized EV charging as a service, and hence, have kept the market open for all the players without the requirement of obtaining a licence from government authorities. Charging infrastructure is the backbone of electric mobility, but is also one of the key perceived barriers to EV adoption given its limited availability and long charging times. High operating costs, uncertain utilization rates and unproven business models are some of the key challenges holding back new EV charging stations operators from expanding. However, as technology develops, EV adoption continues, and financing becomes available, stakeholders can focus on building robust charging infrastructure networks.

**Tariff issues: C**harging stations require acquisition of land and electricity charging tariffs. If charging stations are charged the tariff applicable for commercial use, which is generally higher than the average cost of supply in order to subsidize various categories of consumers and high

aggregate technical and commercial (AT&C) losses, it would force them to charge high rates to consumers. This would make electric vehicles less attractive than ICE vehicles under the present scenario, due to the currently higher initial cost of EVs compared to ICE vehicles. The Ministry of transport is working now on these issues to make the charging fee affordable through working with the municipality for land acquisition and electric authority for fair electric charges

**Coherent strategies:** lack of coherent strategic directions at national level including lack of clarity over the role of municipal authorities to play in delivering EV charging infratructure

#### *9.2.1.3 Technical barriers*

**Charger standards and protocols:** There is no single agreed charger standard in many countries, which results in a lack of interoperability.

**Grid stability issues:** Normal EV charging behaviour will put extra load pressure on the grid at peak hours. Stable grid supply and distribution network is a necessity. Hence, Electric utility is likely to become increasingly concerned with managing the charging activity of electric vehicles in order to avoid any adverse impact on the electricity grid. Higher EV uptake would need to be supported by the strengthening of the distribution & sub- transmission network. However, EVs can have a positive impact on grid stability if EV charging is done during off-peak hours.

#### *9.2.1.4 Informational barriers*

There is lack of awareness about electric vehicles, their performance, and the incentives and regulations in place for their use.

### 9.2.2 Strategy

#### *9.2.2.1 Pilot project objective*

The aim of this pilot concept is to facilitate the reduction of greenhouse gases and other emissions from the road transport sector in Ethiopia through the accelerated adoption of electric vehicles. This can be enabled through targeted investments across the e-mobility value chain, which can help address some of the key issues impeding the sector, such as high upfront capex, technology risk, range and operational performance anxiety, inadequate availability of charging infrastructure as well as financing solutions through creating alternative channels. The envisaged idea can also help create an enabling environment for local investment and ultimately catalyze the scaling up of the emerging market.

This pilot concept project of Ethiopia E-Mobility proposal seeks to create financing mechanism aiming at

faster adoption of electric vehicles and growth of associated infrastructure in the country. This is believed to enhance

- to provide suitable financial to electric vehicle owners and operators;
- to provide tailored financial solutions to ancillary areas to further develop the electric vehicle ecosystem, such as charging infrastructure
- using financial solutions to mitigate current user concerns, including high upfront costs, residual value risk and reliability;
- to facilitate development of EV ecosystem through investments, partnerships, and capability development of market participants;
- to mobilize significant amount of emerging institutional capital into electrification of transport sector.

#### *9.2.2.2 Outcomes ,outputs and activities*

As depicted in the figure below, the expected outcome, outputs and activities are formulated. The envisaged concept will have two outcomes, four outputs and activities to fulfill the outputs.

**Outcomes**: The concept focused on crowding-in private sector capital to support the scaling-up of investment in e-mobility sector across Ethiopia.. There are two level outcomes:

- ***Enabling environment for EV market established****:* Through the demonstration of innovative financing products, increased EVs on the road, and more charging infrastructure, it is expected that there will be an enabling environment for EVs to accelerate further, including an increased number of participants, new financial products, greater infrastructure, and developed domestic assembly and supply capabilities.
- ***Increased penetration of electric vehicles in Ethiopia:*** This is the fundamental outcome sought as a result of all the activities. This will be achieved both directly through investments made by the Platform (increasing number of e-vehicles and charging stations) but also indirectly through crowding-in commercial capital that is expected to expand operations and make independent investments (not linked to the Platform) which in turns will also increase the penetration of e-vehicles.

**Co-benefits:** there are co-benefits that can be obtained through the implementation of the envisaged pilot project. These are the following:-

- *Decreased pollution:* greater penetration of EVs is expected to have a significant impact on air quality and related health benefits due to lower pollution in the cities, particularly in Addis Ababa
- *Job creation:* There is expected to be growth in the EV sector and a corresponding increase in financing solutions for such EVs. The SPV will create new jobs as part of this broader sectoral growth.

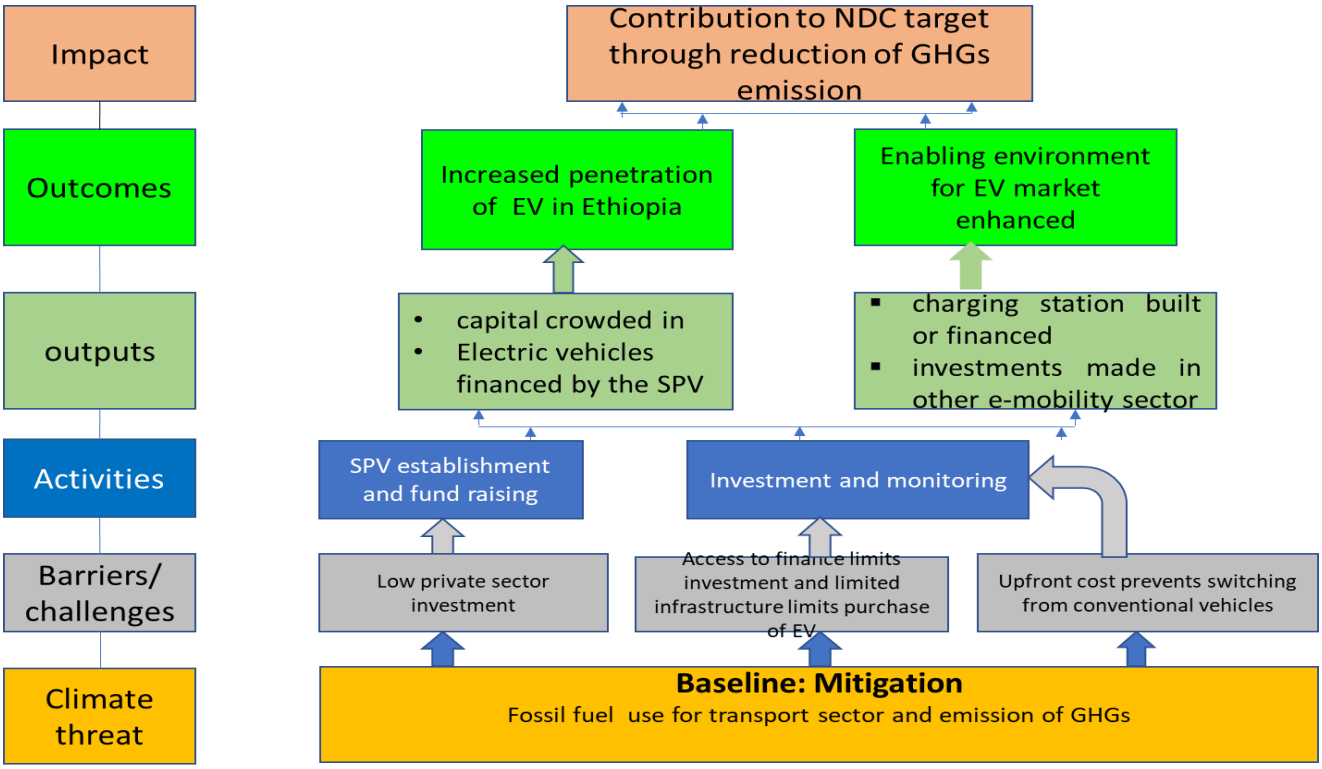



*Figure 30: Theory of change*

**Outputs**: there are four outputs as depicted inn the theory of change figure . These are the following:-

- **Output1: Capital crowed in:-** The SPV will support investment made by operators / sponsors, enabling capital to be crowded-in..
- **Output 2: Electric vehicle financed by the SPV:-** The SPV will finance a number of electric vehicles based on transaction opportunities and market demand across different vehicle segments (two wheels, three wheels etc…)
- **Output 3: Charging station built:-** The SPV will finance several charging stations based on transaction opportunities and market demand.

- **Output 4: Investment made in other areas:-** The Platform may make investments in other e-mobility sectors and EV technologies based on market demand.

**Activities:** the activities identified are the following.

- ***SPV Establishment and Fundraising****:* Establishment of the Platform (activity I) provides an investment opportunity for commercial investors to invest in the e-mobility sector. Further investment and development of the sector through other activities will also help to reduce investment risks (real and perceived) associated with the sector. The E-mobility Financing through the SPV will facilitate investment from climate finance to the end beneficiaries whilst also crowding-in investment from other investors..
- ***SPV Investments and Monitoring:*** This primarily includes screening and evaluating transactions and counterparties, application of best business practices, gender and environmental standards, diligent monitoring, establishing innovative financial and capital management solutions. The investments made by the SPV will provide new financing options, improving the availability of, and risks assumed by, financing. The financing provided by the SPV is intended to target reduction in the upfront cost paid by the customers of EVs. The investments in charging infrastructure section will increase capacity to support more growth in EVs. Similarly, the increased EVs financed by the SPV support the development of charging infrastructure, EVs, support local assembly of vehicles in an inclusive and sustainable manner, as well as reduce upfront capital commitment from to invest further into R&D in the e-mobility space

### 9.2.3 Financing and Management arrangement

As shown in the figure below, a Special Purpose Vehicle (SPV, a project company is suggested to be created to develop and manage the project, which is a key feature of the PPPs work) is configured, in which the government's consortium agency and private consortium hold shares and be established as joint venture form. The government consortium can be Ministry of Transport, Ministry of urban Development, Ministry of water and Energy and municipalities. Private sector consortium can be electric vehicle assemblers and importers as well as companies that wish to engage in the construction of charging stations. The Private sector consortium may also be responsible for financing much of the finance, design, construction, operation and maintenance.

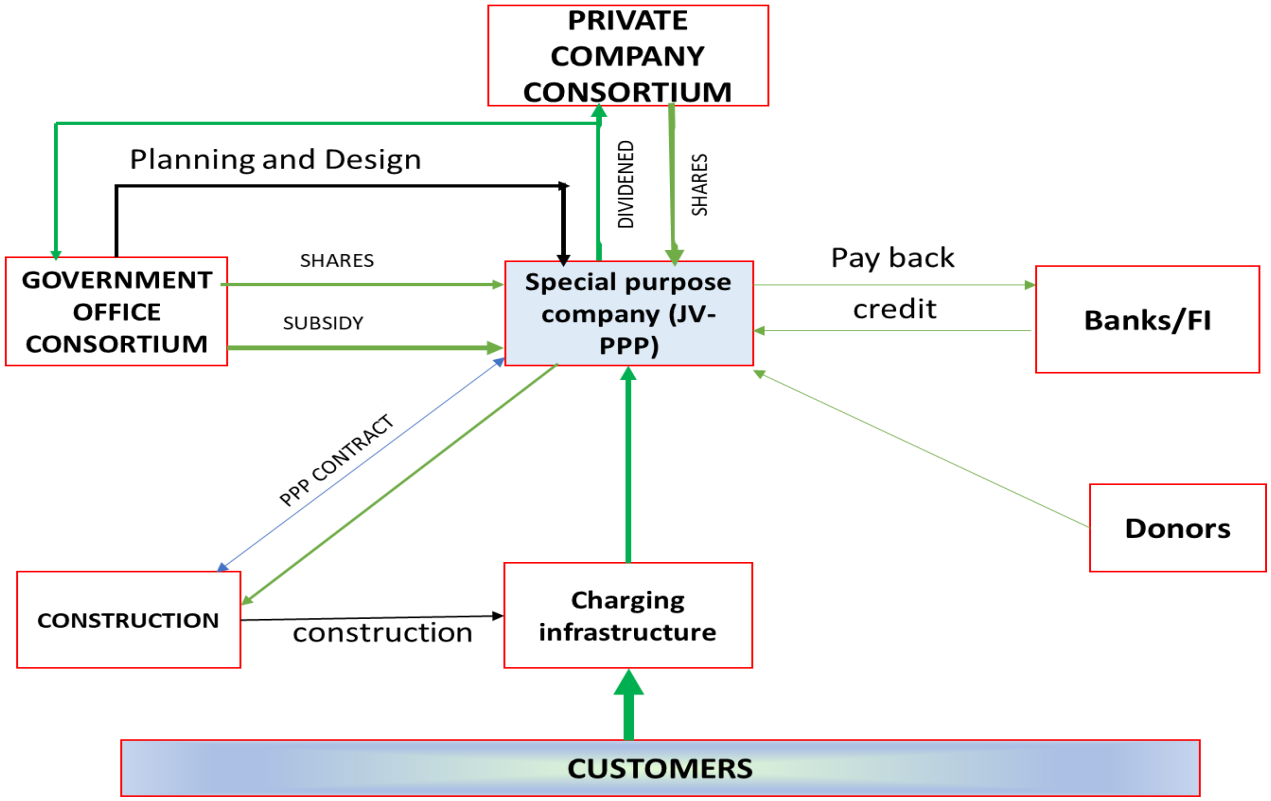



*Figure 31: Financing and management structure*

# 10 RECOMMENDATION

The strategies developed are enormous and the implementation of which ensures better engagement of private investment in climate action. All strategies developed cannot be implemented at once because of the presence of many stakeholders, various opinions and differing in delivery of results from the different strategies. Thus, establishing priorities is necessary to complete everything that needs to be done. Prioritization is important because it allows to give attention to tasks that are important and urgent so that one can later focus on lower priority tasks

Among the priorities, creating an enabling environment for private participation in climate action is important and urgent as it influences the private sector to undertake such action. This includes set of policies (laws and regulations), incentives, standards, information, and institutions that encourage or facilitate the private sector to invest or behave in ways that reduce GHG emissions or adapt to the current or anticipated impacts of climate change. Policies need to be revised and updated to reflect the current situation with climate change impacts and trends, with the aim of creating an enabling environment in different sectors that would favor private sector green investment aimed at contributing to the NDC.

An enabling environment for private participation in climate adaptation requires strong incentives, availability of climate risk and vulnerability data, and institutional capacity to guide investment decisions. Although ensuring that investments are climate resilient offers private returns to investors and makes projects more viable, many adaptation investments lack adequate returns for the private sector because they also provide public goods. Reaching sufficient adaptation investments, therefore, requires creating appropriate regulatory mechanisms or financial incentives such as blended finance, credit enhancement, and other targeted risk reduction or revenue boosting measures. Supporting adaptation also requires developing information services or platforms that provide localized climate risk and vulnerability data so they can be embedded in investment planning and guide investment decision-making.

The private sector's contributions must be recognized not only towards the achievements of NDC objectives but also for their profit-making objectives and returns on their investments, which lead to job and wealth creation. A major step will be to constantly involve private sector representatives from small, medium and large companies across different sectors in national climate processes and initiatives.

Other priority is access to finance for private sector. Firms' access to finance could be improved by developing the capacity of banks to have good understanding of climate change adaptation and mitigation and strengthen their credit risk assessment towards NDC-linked, green investments and facilitate accreditation to GCF. Credit guarantee schemes for mitigation and adaptation projects might be a way to alleviate collateral constraints, while strengthening secured transaction laws and making collateral registry more efficient. This would support green lending to small and medium-sized enterprises, without putting financial stability at risk.

Other areas of fucus can be dedicated standards and regulations to be in place to incentivize private sector investment. Transparency and accountability both by private sector and government institutions should be encouraged through standards and regulations that ensure that defaulters are prosecuted accordingly. Government should identify some small-scale green projects and implement them successfully. This will build confidence in the minds of the private sector firms and encourage them to step in and invest. In this regard, the pilot concept notes included in this report are good starting point to further develop and implement with the private sector as a learning tool for joint work and confidence building strategy. The proposed structure for implementation is in PPP modalities and Public-private partnerships (PPPs) would work best if past experiences and lessons are used to inform decision-making, including the designing, funding and implementation of future partnerships. Activities that ensure a level playing field and appropriate regulation throughout the partnership need to be mainstreamed by the government to protect and assure private companies and investors. Public sector governance structure and policies need to be strong to get the private sector to participate in climate finance more actively. In particular, the private sector would need to have confidence in risk management, particularly in complex financial structures. Specific public policies should be developed to generate the needed trust and confidence for the scaling up of private sector climate financing

Capacity building is also areas that need to get emphasis. Inadequate internal capacity of private sector institutions is recognized as impediment for them to invest in climate actions. Capacity building of private sector actors on the likely impact of climate change on their business as well as the opportunities presented by climate change to their businesses could go a long way to influence the private sector actors to undertake climate investments. It requires engagement of the

private sector as a means, not an end: It is not enough to work with the private sector simply to say the government is working with them. The engagement—whether it's a formal partnership, a dialogue, or other form—must have a purpose. Working with the private sector is a mean to achieve a goal, not the goal in itself.

It is also important to ensure institutions supporting the NDC implementation are fit for purpose. It is required to be clear on what needs to be done and the best placed institution to do it. If an institution is meant to play a role that it currently does not fulfill, examine what change needs to occur to make sure that all institutions are fit for purpose. In this line it requires to develop a flexible portfolio of private sector engagement mechanisms: Not all formats of engagement will work with all types of enterprise. It requires to be flexible in how the public and private sector interact for different types of goals.

Other areas of focus in the implementation of the strategies include the following: -

- Strengthen support for project identification and development: A strong pipeline of bankable projects is key to attract public and private climate finance. This may require policy and regulatory changes and readiness support.
- Build capacity of domestic financial institutions: It will increase access to international public and private capital to finance projects and SMEs with strong climate potential. It will also help Secure direct access to climate funds: Support domestic institutions to fulfil the requirements needed to access climate finance

# 11 ANNEXES

## 11.1 Annex I. Stakeholders consulted at December 21, 2022 workshop (BISHOFTU)

| s/n | Name | Organization | Designation | Email | Telephone | Remark /Sector |
|---|---|---|---|---|---|---|
| 1 | Mr. Bemnet Teshome | UNDP | Senior Program Coordinator | bemnet.teshome@undp.org | 0934505470 | UNDP |
| 2 | Dr. Zewdu Eshetu | AAU | Instructor | Zewedu.eshetu@gmail.com | 0911476384 | education |
| 3 | Mr. Mikyas Sime | MOF | GCF Program Coordinator | mikyassime@gmail.com | 0912789051 | Finance |
| 4 | Mr. Berhanu Assefa | MOA | Program Coordinator | berhanuassefa186@gmail.com | 0916831504 | Agriculture |
| 5 | Mr. Hailu Abate | Ethio Admas Agro-industry S.C | Project coordinator | Abatehailu60@gmail.com | 0979792068 | Private sector ( agro-processing) |
| 6 | Mr. Habtamu Denboba | EPA | Resource Mobilization and M&E Specialist | habtamuderh@yahoo.com | 0911462655 | Environmental protection |
| 7 | Mr.Samson Emeru | MOA | Climate Resilient Green Economy Project Coordinator | samiemeru@yahoo.com | 0912726651 | Agriculture |
| 8 | Mr. Fitsum Deresse | Green Tech Africa | General Manager-Ethiopia Offiice | deressafitsum@gmail.com | 0911645824 | Private sector ( renewable energy) |
| 9 | Mrs. Tirhas Mebrahtu | EPA | Director, Resource Mobilization and Project Management | tirhashindeya@gmail.com | 0912464234 | Environmental protection |
| 10 | Mr. Gebrie Mengistie | Reach for Change | Impact Officer | gebrie.mengistie@reachforchange.org | 0911880653 | NGO |
| 11 | Mr. Habtamu Adam | EPA | Climate Change Negotiation Coordinator | Habtamu.adam@gmail.com | 0918157795 | Environment |
| 12 | Mr. Benti Firitsa | EPA | M&E Director | firditsabenti@yahoo.com | 0912105430 | Environment |

| | | | | | | |
|---|---|---|---|---|---|---|
| 13 | Mr. Million Sisay | Ethiopian Leather Industry Association | ELIA Secretary | elia.aalfz@gmail.com | 0910718086/0902224728 | Private sector (leather association) |
| 14 | Mr. Buni Lalego | EPA | Expert | buniyeshilalegodigasse1234@gmail.com | 0916051431 | |

## 11.2 Annex II. questionaries to key stakeholders

### 11.2.1 Annex 2.1: Questionaries for SMLE and MNC-private sectors

**Stakeholders' response towards designing private sector engagement in the NDC implementation**

The Government of Ethiopia submitted its updated National Determined Contributions (ETH NDC) to the UNFCCCC in July 2021.The NDC covers both the adaptation and mitigation activities. 18 adaptation activities and six sectors for mitigation have been prioritized. 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. As all stakeholders will have common and differentiated responsibilities towards the implementation of the NDC, their involvement and honest input has paramount importance for actions ahead. As input for designing the private sector engagement strategy in implementing the NDC, the following questionaries have been prepared. Thank you in advance for your time and valuable contribution.

1. **What is your company/sector**

| Company name | Sector | Contact details | | | Remark |
|---|---|---|---|---|---|
| | | Full Name | Tel | Email | |
| | | | | | |

2. **Do you have knowledge on the NDC prioritized activities?_____**
3. **Have you participated in the NDC Planning?_____**
4. **Do you have project or a plan to have project on the NDC Activities_____(if** yes, please fill the following)

| NDC Project /activities (planned or existing) | Details( start and end date, delivery type, stakeholders involved) | Total budget requirement and your organization contribution | Project implementation modality (governance type) |
|---|---|---|---|
| | | | |

5. Do you know the meaning and implications of "climate change adaptation" and "climate change mitigation" in your respective sector/sectors?

_____

_____

_____
_____

6. Which subjects do you consider that need to be strengthened through better information/capacitation/learning in your respective sector/company/association??

_____
_____
_____

7. What enabling conditions or factors do you suggest to be put in place for better engagement and involvement of private sector? ( policy, financial, non-financial etc)…Please elaborate from the perspective of more private sector investment and partnership in the NDC implementation.

_____
_____
_____
_____
_____

8. How should the enabling conditions (cited on no.6 above) be designed and implemented to bring the intended impact?
9. _____
_____
_____
10.
11. What actions do you consider are necessary to be developed in to properly address the climate change effects identified in the preceding question?

_____
_____
_____

12. As private sector has contribution to climate change, how do you contribute to the NDC goals?

_____
_____

13. Some countries designed public-private partnership (PPP) for joint implementation of NDC projects. Do you foresee or have experience in the PPP for NDC implementation?_____; If yes, please elaborate:

_____
_____
_____

14. Do you have suggestion on how best we can design the public private partnership modality for your company to invest/engage in NDC implementation? _____; if yes, please elaborate:

_____
_____

_____
_____

15. Designing, implementing and demonstration of PPP pilot projects as a show case is believed to stimulate private sector engagement. Do you have any suggestion on a project that can be developed as pilot using PPP model for immediate implementation ?_____
_____
_____

16. Continuous engagement of private sector has paramount importance in the process of creating enabling environment and participation in achieving the NDC country goal. For this establishment of private sector platform seems a pre-requisite. What type of engagement platform do you suggest to ensure private sector will have determinantal contribution?
_____
_____
_____
_____

17. Who should involve in the private sector platform and what should be their role?
_____
_____
_____
_____

18. What capacity development actions are needed for the private sector to invest/ engage in the NDC implementation?
_____
_____
_____
_____

19. Please supplement below any additional suggestion you may have regarding strategies to be designed for more private sector investment/ financial contribution in the NDC implementation.
_____
_____

### 11.2.2 Annex 2.2: Questionaries (Government Institutions)

**Stakeholders' response towards designing private sector engagement in the NDC implementation**

The Government of Ethiopia submitted its updated National Determined Contributions (ETH NDC) to the UNFCCCC in July 2021.The NDC covers both the adaptation and mitigation activities. 18 adaptation activities and six sectors for mitigation have been prioritized. 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. As all stakeholders will have common and differentiated responsibilities towards the implementation of the NDC, their involvement and honest input has paramount importance for actions ahead. As input for designing

the private sector engagement strategy in implementing the NDC, the following questionaries have been prepared. Thank you in advance for your time and valuable contribution.

1. What is your organization

| Company name | Contact details | | | Remark |
|---|---|---|---|---|
| | Full Name | Tel | Email | |
| | | | | |

2. Do you have knowledge on the NDC prioritized activities?_____
3. Have you participated the private sector in the NDC Planning?_____
4. Do you have project or a plan to have project on the NDC Activities_____(if yes, please fill the following)

| NDC Project /activities (planned or existing) | Details( start and end date, delivery type, stakeholders involved) | Total budget requirement and your organization contribution | Project implementation modality (governance type) |
|---|---|---|---|
| | | | |

5. Which private sector companies are participating with your organization and for which project (s)_____
_____

6. What are challenges or the barriers (depending on your answer for the above) you encountered/foresee for private sector investment in the NDC projects _____
_____
_____
_____
_____

7. What are the current incentives (regulatory, economic and information) in place to support private investment in Sector X, and what opportunities do they provide for promoting more climate-compatible investment?
_____
_____
_____

   a. Is there enabling policies for private sector to engage in the NDC projects ?_____
   b. Do the existing policies for promoting private investment have implementation instruments, and are the existing regulations being enforced?_____
   _____
   c. Who are the target beneficiaries (i.e. which potential private investors and which sub-sectors)?

_____
_____

d. Are there any specific sub-sectors highlighted within existing incentives?

_____
_____
_____

e. Are there any climate change considerations in the existing incentives frameworks?

_____
_____

f. Do the current climate policies include incentives for private sector investment?

_____
_____
_____

8. What enabling conditions or factors do you suggest to be put in place for better engagement and involvement of private sector? ( policy, financial, non-financial etc)…Please elaborate from the perspective of more private sector investment and partnership in the NDC implementation.

_____
_____
_____
_____
_____

9. How should the enabling conditions (cited on no.6 above) be designed and implemented to bring the intended impact?

_____
_____
_____

10. Some countries designed public-private partnership (PPP) for joint implementation of NDC projects. Do you foresee or have experience in the PPP for NDC implementation?_____; If yes, please elaborate:

_____
_____
_____

11. Do you have suggestion on how best we can design the public private partnership modality? _____; if yes, please elaborate:

_____
_____
_____
_____

12. Designing, implementing and demonstration of PPP pilot projects as a show case stimulate private sector engagement. Do you have any suggestion that can be developed as pilot projects using PPP model for immediate implementation ?

_____
_____
_____

13. Continuous engagement of private sector has paramount importance in the process of creating enabling environment and participation in achieving the NDC country goal. For this establishment of private sector engagement platform seems a pre-requisite. What type of engagement platform do you suggest to ensure private sector will have determinantal contribution?_____
_____
_____
_____

14. Who should involve in the private sector platform and what should be their role?
_____
_____
_____
_____

15. What do you think motivates the private sector to engage in the NDC implementation?
_____
_____
_____
_____

16. Please supplement below any additional suggestion you may have regarding strategies to be designed for more private sector investment/ financial contribution in the NDC implementation.
_____
_____

### 11.2.3 Annex 2.3: Questionaries for private enterprises

Full Name of the organization: _____

Contact person: Full Name : _____; Email_____ : Tel:_____

**Stakeholders' response towards designing private sector engagement in the NDC implementation**

The Government of Ethiopia submitted its updated National Determined Contributions (ETH NDC) to the UNFCCCC in July 2021.The NDC covers both the adaptation and mitigation activities. 18 adaptation activities and six sectors for mitigation have been prioritized. 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. As all stakeholders will have common and differentiated responsibilities towards the implementation of the NDC, their involvement and honest input has paramount importance for actions ahead. As input for designing the private sector engagement strategy in implementing the NDC, the following questionaries have been prepared. Thank you in advance for your time and valuable contribution.

1. **What is the extent of weather and climate impact brought to your organization? please put 'x' mark on your best choices in the table below**

| s/n | Impact on | A. No impact | B Small impact | C Moderate Impact | D Significant impact |
|---|---|---|---|---|---|
| 1.1 | Physical damage | | | | |
| 1.2 | Disruption of internal production and operations | | | | |
| 1.3 | Disruption of value chain | | | | |
| 1.4 | Changing downstream market condition | | | | |
| 1.5 | Regulatory and policy risk | | | | |
| 1.6 | Reduced financial performance | | | | |

**2. Does your organization have projects on mitigation or adaptation beyond what is required by regulation/standard as climate change agent?**

A. Yes B. No C. Future plan

**3. What are the challenges to design and implement climate change ( mitigation and adaptation) projects at your organization?**

| s/n | challenge | A. None | B Low | C Moderate | D Significant |
|---|---|---|---|---|---|
| 3.1 | Absence of standards | | | | |
| 3.2 | Lack of capacity | | | | |
| 3.3 | Lack of financial incentive | | | | |
| 3.4 | Lack of information | | | | |
| 3.5 | Lack of policy and regulation | | | | |
| 3.6 | Cost | | | | |
| 3.7 | Lack of market for green products | | | | |
| 3.8 | Lack of experts | | | | |

**4. What opportunity does your organization consider through climate change projects and creating green jobs?**

| s/n | opportunity | A. None | B Low | C Moderate | D High |
|---|---|---|---|---|---|
| 4.1 | More sustainable supply chains | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 4.2 | New types of products | | | | |
| 4.3 | Diversified services, markets and economy | | | | |
| 4.4 | Increased reputation and brand value | | | | |
| 4.5 | Improved Financial performance | | | | |
| 4.6 | Other (please specify | | | | |

5. Does your organization have information on the Ethiopian Climate Resilient Green Growth Strategy and the National Determined Contribution priority sectors plan?
   A. yes , fully B. yes, partially C. yes little D Not at all
6. Private sector is required to be engaged in the NDC implementation? What does your organization require to participate voluntarily?

| s/n | Requirement for participation | A. None | B Some how required | C Required | D Highly required |
|---|---|---|---|---|---|
| 6.1 | Information and awareness | | | | |
| 6.2 | Voluntarily Standard | | | | |
| 6.3 | Capacity building | | | | |
| 6.4 | Engagement platform | | | | |
| 6.5 | Financial Incentive | | | | |
| 6.6 | Policy and regulation | | | | |

7. What should be the strategy you would suggest for strong private sector participation in the NDC implementation?

   _____

   _____

8. Does your organization know where and how to get financial resource to match with own resources for climate change projects?

A. Yes B. No C. Doesn't need

9. What should be the potential approaches to encourage private sector engagement in climate action?

| s/n | Approaches to encourage participation | A. Not Likely | B Some how LIkely | C LIkely | D Highly required |
|---|---|---|---|---|---|
| 9.1 | Provision of Information, awareness and knowledge | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 9.2 | Subsidies and other financial incentives like tax incentives | | | | |
| 9.3 | Policy and regulatory measures such as mandatory GHG reporting and climate risk/opportunity assessment | | | | |
| 9.4 | Performance standards like minimum energy performance standards, energy labelling, water efficiency standard, etc | | | | |
| 9.5 | De-risking investment actions such as Climate hazard / resource and climate risk mapping, Loan guarantees and blended finance | | | | |
| 9.6 | Capacity building or skills development | | | | |
| 9.7 | Others | | | | |

### 11.2.4 List of private enterprises responded for the questionaries

,

| S/n | Name of Private sector | Sector | Location |
|---|---|---|---|
| 1 | Ethio Agri-CEFT | Agriculture | AA |
| 2 | Horizon Plantation | Agriculture | AA |
| 3 | Veg pro Flower farm | Agriculture | Oromia |
| 4 | East African Agribusiness plc | Agriculture | Oromia |
| 5 | Kality Food share Company | Agro-processing | AA |
| 6 | Jay-Jay Textile | Textile | AA |
| 8 | Shints Garment PLC | Textile | AA |
| 9 | JP textile PLC | TExtile | Hawassa |
| 10 | Junpier Glass Share company | Glass | Amhara |
| 11 | Dashen Brewery | Bevereage | Amhara |
| 12 | Heineken brewery (Bedele) | Bevereage | Oromia |
| 13 | Muger Cement Factory | cement | Oromia |
| 14 | Derba Cement Factory | CEment | Oromia |
| 15 | Habesha cement fcatory | CEment | Oromia |
| 17 | National cement factory | cement | Diredawa |

| | | | |
|---|---|---|---|
| 18 | PIttards Leather SC | leather | Oromia |
| 19 | AA Glass and Bottle SC | Glass | AA |
| 20 | MInaye Packaging PLC | Packaging | AA |
| 21 | Awash Melkassa Chemical SC | Chemical | AA |
| 22 | Marton Motor Engineering PLC | TRansport | AA |
| 23 | Daylight Applied Technologies PLC | Energy | AA |
| 24 | Green Scene Energy PLC | Energy | AA |
| 25 | Hellosolar Technology PLC | EnergY | AA |
| 26 | Upper Awash Agroprocessing Enterprise | Agro-processing | Oromia |
| 27 | Automotive Manufacturing CO. of Ethiopia | transport | AA |
| 28 | Habesha Steel Mills PLC | Steel | Oromia |
| 29 | Steely R.M.I PLC | Steel | oromia |
| 30 | Adamitulu Pesticides Processing SC | Chemical | Oromia |
| 31 | National Alcohol &Liquor Factory | beverage | AA |

## 11.3 Annex III Documents reviewed and stakeholders contacted

### 11.3.1 Annex 3.1: Documents reviewed

The following documents have been reviwed.

i. CRGE mainstreaming guidelines,
ii. Gender analysis for the updated Nationally Determined Contributions (NDC) and for the National Action Plan (NAP),
iii. Identification of capacity gaps and development of institutional capacity building plans for the implementation of the NDC,
iv. Finance strategy for the updated NDC,
v. Resource mobilization strategy for the NAP,
vi. NAP Implementation Roadmap,
vii. Identification of NGOs role on NDC,
viii. Development of Ethiopia's NDC Implementation and Partnership Plan for 2021-2025, 30 June 2022;

ix. Eth-NAP- 2017;
x. Updated NDC 2021;
xi. Sectoral 10-YPDP;
xii. PPP proclamations and regulation;
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### 11.3.2 Annex 3.3: List of experts interviewed/consulted

i. Mr. Misganaw Eyasu (MoF) CRGE Facility Coordinator (misganaw.eyassu@undp.org) (0911687985)
ii. Mr. Mikyas Sime (MoF) Program Coordinator (mikyassime@gmail.com) (0912789051)
iii. Mrs. Tirehas Mebrahtu (GCF Focal & Resource Mobilization Directorate Director at EPA (tremeb1@yahoo.com) (0912464234)
iv. Mr. Mensur Dessie (Negotiation Directorate Director at EPA (mensurdes2012@gmail.com) (0928974938)
v. Mr. Addis Negash (Director, CRGE Directorate MoA) 0911023263
vi. Mrs. Rukia Mohammed (Director, CRGE Directorate MoUDC) 0911897756
vii. Mr. Esmael Mohamed (Director, CRGE Directorate Moi) 0911006346
viii. Mr. Yiengaw Yitayih (Director, CRGE Directorate MoT) 0918303815

ix. Dr. Muktar Abduke (NDC Partnership Support Unit in country facilitator at MoPD) 0965189542 (muktar.Ahmed.5@ndcpartnership.org)

x. Dr. Dawit Wubeshet (World Bank, NDC Advisor. dmulatu@worldbank.org

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5. Climate Policy Initiative, 2022: Climate Finance Innovation for Africa
6. Climate Policy Initiative, 2022: Landscape of Climate Finance in Ethiopia
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