ETHIO-SPOTLIGHT[1]

ISSUE 2: THE CLIMATE RESILIENT GREEN ECONOMY (CRGE) STRATEGY

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1. General overview: The Vision, the Challenge, the Plan

Developing countries are disproportionately vulnerable to disasters, and as a result, to climate change and its effects.[4] To this end, a country's ability to adapt and deal with climatic hazards largely depends on economic resources, infrastructure technology and available safety nets.[5] Before the Paris Conference of Parties 21 in 2015, only a handful of low income countries had made any progress towards mitigating or adapting to climate change.[6] Climate change poses a significant challenge to Ethiopia whose regions feature vastly different topography, thus demonstrate its climate vulnerability and directly affect its readiness to mitigate its impacts[7]. The lowlands in the southeast and northeast are tropical with average temperatures of 25-30°C, while the central highlands (over 1500 meters in elevation, covering about 45% of the country's surface) are much cooler with average temperatures around 15-20°C. The highland plateau is divided by the East African Rift Valley and is home to almost 90% of Ethiopia's population. The

[1]Ethio-Spotlight is a free 6-part (initially) series on topics that we as authors and in-country Fellows observe are of interest to the regional and international community. These articles are published with a view to collate and transmit information that may spark further engagement with our host-country and with the Oxford Policy Fellowship

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[4] C. McGuigan and others , Poverty and Climate change: Assessing impacts in developing countries and initiatives of the international community, (2002) https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3449.pdf accessed 2nd March 2021

[5] ibid

[6] C.J. Paul and E. Wenthal, The development of Ethiopia's Climate Resilient Green Economy 2011-2014: Implications for rural adaptation, https://www.tandfonline.com/doi/full/10.1080/17565529.2018.1442802 accessed 4th March 2021.

[7] In the climate context, '*Vulnerability'* measures the country's exposure, sensitivity, and ability to cope with the negative effects of climate change by considering vulnerability in six life-supporting sectors - food, water, ecosystem service, health, human habitat and infrastructure while '*Readiness'* measures a country's ability to leverage investments and convert them to adaptation actions by considering economic, governance and social readiness.

lowlands are vulnerable to increased temperatures and prolonged droughts that may affect livestock rearing. The highlands may suffer from more intense and irregular rainfall, leading to erosion, which together with higher temperatures may result in lower agricultural production. This, combined with an increasing population and conflict, may lead to greater food insecurity in some areas.

The government of Ethiopia, being aware of the role that developing countries play in climate change, established the Climate Resilient Green Economy (CRGE) strategy in 2011.[8] This was an unprecedented move by a low-income country set out to meet its green growth need, arrest agro-ecological degradation and to seize the opportunity to realize it's massive potential in renewable energy.[9] The International Monetary Fund forecasts Ethiopia's economy to be one of the fastest growing in the world.[10] The CRGE strategy, which is aimed at addressing both Ethiopia's climate change adaptation and mitigation objectives, forms part of Ethiopia's plan to reach middle income status by 2025 based on carbon neutral growth. In this regard, Ethiopia's vision, as set out in its Growth and Transformation Plan (GTP), is to reach a GDP per capita of USD 1000. The country intends to meet this goal by boosting its agricultural activity and strengthening the country's industrial base.[11] The CRGE strategy recognizes that the conventional development path would not only result in a doubling of GHG emissions, but also an unsustainable use of natural resources. In order to address the foregoing challenge, the CRGE has three complementary objectives which are to foster economic development and growth, to ensure abatement and avoidance of future emissions, and to improve resilience to climate change.[12]

The CGRE strategy also recognizes that the country faces resource constraints and challenges in reaching its ambitious goal of middle-income status by 2025. More particularly, the additional challenges include the lack of funding for investments required to support the projected growth, the country's large investment-savings gap, the insufficiency of the projected foreign direct investments, grants and transfers required to meet the additional investment needs. On account of the foregoing, mobilizing international private capital will be fundamental to closing the funding gap, and public finance (including climate finance) will significantly contribute to addressing the identified challenges.

Ethiopia's plan is to follow a green growth path that fosters development and sustainability.[13] The CRGE strategy follows a sectoral approach, initially identifying and prioritizing 60 initiatives that would help the country reach its development goals while emitting less GHG emissions. The initiatives prioritized within the green economy plan have met the criteria of passing an initial assessment of relevance and feasibility to be implemented in the local context, positively contribute to reaching the targets of the GTP and provide significant abatement potential at reasonable cost for the respective sectors.

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[8] Federal Democratic Republic of Ethiopia, Climate Resilient Green Economy: Green Economy strategy (2011).
[9] Global Green Growth Institute, Ethiopia's Climate Resilient Green Economy, sustainable https://www.greengrowthknowledge.org/national-documents/ethiopia%E2%80%99s-climate-resilient-green-economy-green-economy-strategy accessed 3rd March 2021
[10] ibid 7
[11] ibid 7
[12] ibid 7
[13] ibid 7

2. The Four Pillars of the Climate Resilient Green Economy: A sectoral approach

Ethiopia's green economy plan is based on four pillars[14] which are more fully set out below: -

(i) Improving crop and livestock production practices for higher farmer income and food security while reducing emissions.
This pillar recognizes that agriculture will remain a core sector of the economy that provides employment to the majority of the Ethiopian population. Traditional economic development could deliver the required growth required in this sector, but at a cost. The CRGE strategy, however, prioritizes initiatives that limit soil-based emissions from agriculture and limits pressure on forests by limiting expansion of land under cultivation. The strategy also prioritizes initiatives that increase the resource efficiency and productivity of the livestock sector. The prioritized initiatives in the livestock sector have offered the combined benefit of economic growth support, by increasing pastoralists' income and limiting emissions.

(ii) Protecting and re-establishing forests for their economic and ecosystem services including carbon stocks.
This pillar recognizes that in order to support continued growth in economic and eco-system services as well as growth of the GDP, deforestation and forest degradation should be reversed. The CRGE initiative has prioritized strategies to reduce demand for fuel wood and increase afforestation, reforestation, and forest management to increase carbon sequestration in forests and woodlands as well as the promotion of area closure, which would result in increased storage of carbon in Ethiopian forests.

(iii) Expanding electricity generation from renewable sources of energy for domestic and regional markets.
This pillar recognizes electricity as a fundamental enabler of modern economic development for powering cities, fuelling industrial activity and pumping irrigation water for agriculture. Ethiopia which needs to expand it's electricity supply at a rate of 14% per annum is endowed in natural resources which can meet this demand. In particular, its plan is to exploit its vast potential for hydro, geothermal, solar and wind power – all of which would deliver electricity at virtually zero GHG emissions. It is worth highlighting here that the generation of clean energy also allows for green development of other sectors of the economy. There is also potential that the projected supply will surpass domestic demand, which offers a possibility of exporting its clean energy to neighboring countries.

(iv) Leapfrogging to modern and energy-efficient technologies in transport, industrial sectors and buildings.
This pillar recognizes the opportunity to gear development of key sectors including transport, and industrial sub-sectors like cement, textile, leather and fertilizer industries, to contribute to the sustainable development pathway. The Ethiopian government aims to promote – among other initiatives – energy efficiency and the usage of alternative

[14] ibid 7

fuels in these subsectors. For the transportation sector, in particular, the strategy introduces initiatives that include introduction of stricter fuel efficiency standards, construction of an electric rail network powered by renewable energy, improvement of modern transport.

3. Making it happen: Policy framework, institutions, key sectoral initiatives, and climate finance

Policy framework

The preceding sections detail how Government of the Federal Democratic Republic of Ethiopia has integrated climate change objectives in broader national plans and policies through the Climate Resilient Green Economy (CRGE) strategy to prepare and protect the country from the adverse effects of climate change and to build a green economy that will help realise the country's national development ambition of reaching middle income status before 2025. The CRGE Strategy complements the current Growth Transformation Plan (GTP), which aims to set Ethiopia on a path to become a middle-income country by 2025.

As mentioned in Issue 1, Ethiopia's Growth and Transformation Plan (currently in phase II i.e. GTP II) aims to spur economic structural transformation and sustain accelerated growth by focusing on ensuring rapid, sustainable, and broad-based growth by targeting key sectors and enhancing productivity within those sectors. GTP II specifically sets out the following objectives: -[15] (a) Achieve an annual average real gross domestic product (GDP) growth rate of 11 percent within a stable macroeconomic environment and thereby contribute towards the realization of Ethiopia's vision of becoming a lower middle-income country by 2025, while pursuing comprehensive measures towards narrowing the saving-investment gap and bridging the widening trade deficit; (b) Develop domestic engineering and fabrication capacity and improve productivity, quality, and competitiveness of the domestic productive sectors (agriculture and manufacturing industries) to speed up structural transformation; (c) Further solidify the on-going public mobilization and organised participation to ensure the public become both owners and beneficiaries from development outcomes; and (d) Deepen the hegemony of developmental political economy by strengthening a stable democratic developmental state.

The CRGE Strategy consists of a Climate Resilience (CR) component and a Green Economy (GE) component. Both components complement each other and are mutually reinforcing.[16] The Climate Resilience (CR) component, focuses on adaptation to climate change effects in two sectors - agriculture & forestry, and water & energy. The Green Economy (GE) component focuses on carbon-neutral economic growth (mitigation). It is expected that the GE part of the strategy is intended to lead to, among others, annual savings

[15] 'Ethiopia Growth and Transformation Plan II (GTP II)' (*Green Growth Knowledge Platform*, 2015) <https://www.greengrowthknowledge.org/national-documents/ethiopia-growth-and-transformation-plan-ii-gtp-ii> accessed 1 March 2021

[16] 'Climate Resilient Green Economy (CRGE)' (*Gggi.org*, 2012) <http://gggi.org/wp-content/uploads/2012/12/ethiopia_brochure_main_webready.pdf> accessed 1 March 2021

of USD 1 billion from the use of more efficient stoves; increasing livestock productivity; fuel cost savings of over USD 1 billion per year by 2030; and renewable electric power generation of over 67 TWh102.

The implementation of the CRGE is sector-based according to an approach known as the sectoral reduction mechanism (SRM), consisting of an Inter-Ministerial Council, a Technical Committee, and a Facility Secretariat.

Institutional framework

The CRGE Strategy is itself considered fairly unique in terms of its integration of both economic and climate change goals. Further, a key design principle regarding institutional setup is to use existing institutions and responsibilities in order to minimize the significant financial undertaking which is often a requirement of institutional reform.

Overall responsibility for oversight and delivery of the CRGE lies with Ethiopia's Environmental Council which is chaired by the Prime Minister and comprises members drawn from Federal Ministries, Presidents of National Regional States, and representatives of non-governmental bodies, the private sector, and trade unions. The Environmental Council, which can approve environmental standards and directives independently, is responsible for recommending laws and regulations for approval by the Council of Ministers.

Under the leadership of the Prime Minister's Office, the CRGE Secretariat comprises of representation from the Ethiopian Development Research Institute (ERDI), a technical and financial unit at the Environment, Forest and Climate Change Commission (EFCCC)[17] and the Ministry of Finance (MOF). This team is charged with developing standardized guidance and providing ad hoc, sector specific support to CRGE line ministries that implement the strategy. The inter-ministerial implementation team includes the Ministry of Water, Irrigation and Energy, the Ministry of Agriculture, Ministry of Transport, Ministry of Trade and Industry and the Ministry of Health

The governing structure which consists of EFCCC and MOF in a co-chair position is charged with the following roles and responsibilities[18]: - the EFCCC supervises and regulates implementation of the technical components of the CRGE initiative such as developing procedures for the review of green economy initiatives, providing relevant methodological guidance on determining geographical and sectoral boundaries, on setting baselines for the quantification of credits, and on measuring GHG emissions. Further, it maintains information on decisions regarding the implementation of all green economy initiatives for transparency purposes. On the other hand, MOF is charged with soliciting

[17] Formerly known as the Ministry of Environment, Forest and Climate Change and before that the Environmental Protection Authority

[18]'Ethiopia's Climate Resilient Green Economy National Adaptation Plan' (*Www4.unfccc.int*, 2019) <https://www4.unfccc.int/sites/NAPC/Documents/Parties/Final%20Ethiopia-national-adaptation plan%20%281%29.pdf> accessed 1 March 2021

financial support from international sources and channel the available funds in the form of advance support or ex-post payment.

At the federal level, ministries and other sectoral agencies will participate and encourage the participation of other entities in their respective sectors in the formulation and implementation of the components of the green economy. Finally, the national regional states, in collaboration with the relevant federal level institutions, are responsible for implementing the majority of the initiatives outlined in the CRGE strategy with the coordination between regional and federal levels being under the responsibility of the respective environmental agencies of the national regional states.

It is further worth mentioning here that there are presently CRGE units which have been set up in various line ministries to streamline CRGE activities. It has, however, been noted that the capacity of these units is restricted by a lack of knowledge on climate change, combined with limited financial resources which present opportunities for further engagement and potential partnership with donor organisations.

Key sectoral initiatives

Four initiatives have been identified as priorities by the government and fast-tracked for implementation. They are: - (a) Attracting power infrastructure financing which will leverage Ethiopia's vast hydropower potential - This initiative recognises that power generation is a critical component to realize growth and economic development and a condition which supports green growth in other sectors. There is significant domestic demand for electricity and simultaneously offers significant export potential; (b) Promoting advanced energy efficient stoves especially in the rural areas - In Ethiopia, fuelwood usage is the largest source of rural energy supply and one of the largest contributors to GHG emissions. Consequently, efficient stoves can have massive benefits by increasing rural household income, health, women's empowerment, and education while decreasing emissions by around 50 Mt CO2e in 2030; (c) Reducing emissions from livestock towards a more efficient livestock sector - Livestock accounts for around 11 percent of the formal GDP and is also one of the largest sources of GHG emissions in the country. It is anticipated that sectoral growth can be achieved in this regard by monetizing reduced emissions (up to 45 Mt CO2e per year in 2030) which can be ploughed back and applied toward supporting GDP growth in livestock; and (d) Reducing Emissions from Deforestation and Forest Degradation (REDD) - Forests account for 1/3 of total emissions today and offer huge abatement potential through less deforestation and less forest degradation. With a robust afforestation and reforestation programme (second-largest in the world after the Brazilian Amazon) this is already underway

Climate finance

Grounded in the CRGE strategy, Ethiopia submitted its First Paris Climate Nationally Determined Contributions (NDC) to the UNFCCC in September 2017 wherein it committed

to reducing GHG emissions by 2030 to 145 Mt CO2e.[19] This is a 64% reduction of emissions compared to a Business-as-Usual (BAU) scenario in 2030. If the target is reached, the effect is that Ethiopia will achieve carbon neutrality by 2030. The NDC states that full implementation is contingent upon an ambitious multilateral agreement being reached among parties that will enable Ethiopia to get international support and stimulate investments in climate action.

In order to support the CRGE Strategy implementation, Ethiopia established an innovative funding mechanism i.e. the CRGE Facility. The Facility, managed by the Ministry of Finance (MoF), is a single, national funding mechanism, intended to manage and coordinate international climate funds, donor funds and domestic funds.[20] For implementation of the NDC, it is estimated that a total expenditure of approximately USD 150 billion will be needed by 2030 for mitigation of greenhouse gases (GHGs). This is equal to 25% of Ethiopia's current GDP. A strong role is anticipated for a dynamic private sector to mobilise some of the much-needed resources. At the moment, domestic climate change-relevant spending originates mostly from government funding i.e. the national budget which is stretched thin with a myriad of competing interests. Therefore, in order to close the budget gap for CRGE Strategy implementation, the Strategy foresees mobilisation of international climate finance from public and private sources, including development grants, 'pay for performance' greenhouse gas mitigation deals, and sale of emission credits in offset markets such as the Clean Development Mechanism (CDM)[21] and the Emissions Trading System (ETS).[22] Currently, such funding is not sufficient to finance NDC/CRGE Strategy implementation. However, Ethiopia has been proactive in seeking climate finance for priority actions, e.g. Ethiopia was awarded a USD 50 million grant in August 2020 from the Green Climate Fund for a climate resilience project.[23]

Current climate change-relevant projects

Various projects are financed and implemented through bi and multilateral channels and international climate funds. Of the international climate funds that are active in Ethiopia, the Scaling-Up Renewable Energy Program for Low Income Countries (SREP) of the Climate Investment Funds (CIF) makes one of the largest contributions with approximately USD 30 million in grants approved, mostly for geothermal energy development. The investment plan also foresees large-scale hydropower development and distribution of renewable energy. Other projects include the Responding to the Increasing Risk of Drought: Building Gender

[19] 'Intended Nationally Determined Contribution (INDC) of the Federal Democratic Republic of Ethiopia' (*Www4.unfccc.int*) <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Ethiopia%20First/INDC-Ethiopia-100615.pdf> accessed 1 March 2021

[20] 'Ministry of Finance and Economic Cooperation Of The Federal Democratic Republic Of Ethiopia (MoFEC)' (*Green Climate Fund*, 2016) <https://www.greenclimate.fund/ae/mofec#contacts> accessed 1 March 2021

[21] 'The Clean Development Mechanism' (*Unfccc.int*) <https://unfccc.int/process-and-meetings/the-kyoto-protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism> accessed 1 March 2021

[22] 'Implementing Effective Emissions Trading Systems – Analysis - IEA' (*IEA*, 2020) <https://www.iea.org/reports/implementing-effective-emissions-trading-systems> accessed 1 March 2021

[23] 'FP136: Resilient Landscapes and Livelihoods Project' (*Green Climate Fund*, 2020) <https://www.greenclimate.fund/project/fp136> accessed 1 March 2021

responsive Resilience of the Most Vulnerable Communities, the Ethiopia Rural Productive Safety Nets Project and the Climate Smart Integrated Rural Development Project.[24] It is also worth noting that all the 17 projects approved for the 2018/2019 Public Private Partnership pipeline are clean energy and green infrastructure projects, which seek to leverage on private sector financing and expertise.[25]

4. Conclusion

Although climate change continues to pose a significant challenge to Ethiopia, giant forward leaps have been made under the CRGE to address and mitigate its effects with observable success. The CRGE strategy demonstrates the Ethiopian government's commitment to by-pass conventional development paths and create a green economy where economic development goals will be met in a sustainable way. The implementation of the CRGE has, however, not been without its challenges which have included climate change knowledge capacity restrictions in CRGE units, established in the various line ministries, combined with limited financial resources in implementing the sector specific initiatives. The foregoing challenges, however, present enormous opportunities for further engagement and potential partnerships with donor organisations on issues of climate change. Furthermore, with the recent legal developments in investment and the establishment of the PPP framework in 2018, more fully discussed in issue 1 of this series, there is a great opportunity for private sector participation in the development of green infrastructure, exploiting renewable sources in clean energy production and financing of other climate relevant activities.

[24] 'Climate Change Profile - Ethiopia' (*Reliefweb.int*, 2018) <https://reliefweb.int/sites/reliefweb.int/files/resources/Ethiopia_4.pdf> accessed 2 March 2021

[25] A total of 14 projects are power projects with 6 PPP Hydro Power Projects and 8 PPP Solar Projects while the balance of the projects are highway schemes - 'Climate Change Profile - Ethiopia' (*Reliefweb.int*, 2018) <https://reliefweb.int/sites/reliefweb.int/files/resources/Ethiopia_4.pdf> accessed 2 March 2021