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# Making Growth Green and Inclusive:

# The Case of Ethiopia

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## EXECUTIVE SUMMARY

Ethiopian society, economy and environment are so intimately interlinked that systematic attention is essential if clashes are to be resolved and synergies realised. For example, the majority of poor people are principally dependent on agriculture but, in turn, society is dependent on farmers managing land well to sustain water supplies, biodiversity and other environmental services. Such relationships are dynamic and increasingly intense: climate change, rising population, resource scarcities and price volatilities put them all under pressure. An integrated perspective that works operationally is needed – one that makes economic, social and environmental sense and that inspires stakeholders. The holistic approach that the Ethiopian Government has recently developed aims to tackle the problems inherent in growth paths that produce environmental problems, and to realise potentials from investing in Ethiopia's natural assets. For example, the country's agricultural products and potential for green hydroelectric power are unique attributes that could drive development in ways that are environmentally sound and provide new jobs and satisfying livelihoods.

Ethiopia is one of the first countries in Africa to develop a green growth strategy. Ethiopia's leadership, and its early attempts through greening its economy to achieve more inclusive growth, are of real interest for a world in which alternative growth models for long-term sustainable development and social equity have rapidly become a priority in government, business and civil society. This is why the OECD and Ethiopia's Environmental Protection Authority (EPA) agreed to produce a brief case study of Ethiopian progress and prospects – principally to showcase Ethiopia's existing progress in going "green", i.e. what has been done in the country to produce the strategy, how to transform the strategy into an implementation plan, and the next steps for crystallising individual components of the strategy, but also to offer a small space for reflection within Ethiopia on where the work might go next. The study was written on the basis of a multi-stakeholder workshop organised by EPA and the OECD in Addis Ababa in October 2012, as well as supplementary interviews and literature.

The main policy driver for green growth in Ethiopia is the *Climate Resilient Green Economy Strategy* (CRGE). Developed under the leadership of the Prime Minister's Office and coordinated by EPA, the CRGE has made tremendous strides in providing vision, high-level commitment, credible analysis and planning an extensive portfolio of investments in a very short time. The CRGE's goal is to increase economic growth so as to leap from least-developed to middle-income country status, whilst at the same time reducing greenhouse gas (GHG) emissions and increasing climate resilience. The CRGE has two components: a Green Economy Strategy (GES), which mainly addresses mitigation and was launched in 2011; and a Climate Resilience Strategy (CRS), which focuses on adaptation and is currently being developed with a focus on agriculture, forestry and land use. The content of this study concentrates on the GES and the current debate in Ethiopia on its implementation, together with recommendations suggested by the authors, having reflected on the content of the GES and the workshop deliberations. The relationship between the GES and the future CRS is also touched upon. The GES screened over 150 GHG abatement technologies against cost criteria and conditions in Ethiopia, coming up with an investment plan of over 60 initiatives that can be turned into bankable projects in order to attract international climate finance. The GES's bold proposition is that, by 2030, there is potential for per-person GDP to increase by 475%, from USD 380 to more than USD 1,800 GDP per capita, while at the same time decreasing GHG emissions on a per capita basis from 1.8 t to 1.1t $CO_{2e}$ – over a third.

This is perhaps the first time in Ethiopia that key developmental and environmental aspirations have been dealt within an integrated way and with a clear business plan. The case study recommends that the current GES component of the CRGE strategy could be expanded, to improve its effectiveness in the long term:

- Firstly, by developing a strategy on distributional issues. A more deliberate focus on social equity and poverty reduction considerations can maximise the 'winners' and minimise possible 'losers' from embarking on green growth pathways, as well as ensure the widest range of sectors and livelihoods are embraced and mobilised, in particular with respect to land access and changes in land user rights. GHG abatement in agriculture, livestock and forestry especially, but also in power and transport, as indicated in the GES, will not always have positive environmental, social or broader economic effects. For example, the proposal to reduce GHG emissions from the livestock sector may make environmental sense in principle, given its 40% contribution to Ethiopia's GHG emissions. But in practice, some of the GES's plans – notably to shift beef producers to poultry production – are extremely challenging. They may yield major GHG reductions, but at the cost of considerable social upheaval, as well as halting what can be the ecologically optimal use of rangelands. Indeed, this proposal faces so many cultural constraints that it is probably the clearest example of the need to conduct environmental and social impact assessments (ESIAs) of all the CRGE proposals, to ensure they are both 'doubly green' and inclusive.

- Secondly, by ensuring all activities embedded in the green growth approach are fully environmentally sustainable – a 'doubly green' approach. The CRGE's current focus on tackling GHG emissions has a strong rationale given the potential international climate finance that Ethiopia could attract by harvesting many low-hanging fruits by mitigating the country's emissions. However, it will be essential to attach better environmental criteria to these activities to avoid unwanted environmental impacts, such as from constructing large hydropower plants. Moreover, a more active approach to protect and realise higher value from natural assets can support wealth creation and wellbeing for Ethiopians for whom natural resources are important assets in delivering key ecosystem services (*e.g.* food security, clean and secure water supplies, greater resilience to extreme weather events), and to build competitiveness to attract a wider range of investment and partnerships apart from climate financing. Thus equal attention should also be given to other environmental priorities, such as sustainable management of biodiversity and ecosystem services, sustainable land management, and improving provision of water and sanitation, to ensure many more ordinary citizens in the country can benefit.

- Thirdly, given the uncertainty of international climate finance over the long-term and limited incentives available to their private sectors, creating domestic Ethiopian incentives for both public sector (government budgeting and purchasing) and private sector investment (enterprise development in green sectors) could prove to be crucial. Shifting domestic investments toward "green" activities can be pursued in parallel with the international climate agenda.

Other potential improvements can be identified, including demonstrating government leadership in policy coherence, providing incentives to all actors to be aware of the potential of green growth sectors, strengthening national research capacity and ensuring national green growth progress contributes to, and draws from, the international green growth debate.

In terms of implementation, the case study suggests a step-wise approach building on the good progress already made and to accommodate some of the options identified:

| **Green growth today** – characteristics and achievements of the CRGE | **Future more inclusive green growth** – further needs to consider |
|---|---|
| ***LEADERSHIP AND PROCESS:*** | |
| ***Vision:*** high-level government vision and commitment | The public (especially the private sector), too, is inspired by the potentials of green development, and a vision is shared across society |
| ***Mandate:*** CRGE is informed by Growth and Transformation Plan (national plan) | CRGE principles in turn inform the next national plan |
| ***Roles:*** CRGE led by central government | Business, local government, civil society are also mobilised, with respective roles clearly understood |
| ***Responsibilities:*** Green growth is a secondary task for a few government officers | Green growth programmes are integrated into the daily tasks of many government officers |
| ***Sectors:*** Energy and industry are most engaged, given the CRGE's focus on GHG abatement | Agriculture and other environment-dependent sectors are also critical in determining the future sustainability of growth. Together, an Ethiopian 'green brand' is shaped |
| ***Timing:*** CRGE was rapidly developed for Durban climate change conference | Continuous improvement of the strategy proceeds through action research and evidence-based learning |
| ***Analysis:*** International IPCC-derived methodology identified GHG reduction priorities | Analysis addresses further Ethiopian needs beyond GHGs, and is informed by international GE networks |
| ***Data:*** generated by external consultants | Ethiopian capacity to generate and use own data |
| ***PRIORITY OBJECTIVES:*** | |
| ***Overall:*** Higher growth while reducing GHG emissions | Higher growth whilst also improving equity and better use of all natural assets |
| ***Development:*** Aim to reach middle-income status | Aim for wider measures of wellbeing and equity |
| ***Environment:*** Focus on climate change – reducing greenhouse gas emissions plus adaptation | 'Doubly green' – wealth creation and diversification through natural resource management / biodiversity, recycling, pollution control, etc; environmental and social aspects of GHG focus also addressed; alignment and synergies between mitigation and adaptation activities |
| ***Equity:*** Winners and losers are not addressed | Inclusion is key, and distributional issues are tackled |
| ***Solutions:*** GHG abatement technology dominates *e.g.* cook-stoves | 'Structures, systems and signals' are developed over time, *e.g.* making a full energy transition. Better alignment of Green Economy Strategy with Climate Resilience Strategy, notably to adapt and build resilience to extreme weather and climate change |
| ***IMPLEMENTATION:*** | |
| ***Criteria:*** CRGE's plans and monitoring continue to emphasise GHG reduction and income growth | Broader 'inclusive green growth' *principles* and criteria are mainstreamed in planning and monitoring |

| | |
|---|---|
| ***Modality:*** Implementation is mainly through an extensive project portfolio | Implementation is also through mainstreaming green growth principles into institutions' overall work |
| ***Development co-operation****:* CRGE projects are attracting aid interest | Aid modalities are also improved, *e.g.* performance-based funds, budget support to CRGE |
| ***Building on what works:*** CRGE does not yet draw on existing 'green' projects in Ethiopia | Identifies, catalogues, prioritizes, and incentivises Ethiopian activities that meet inclusive green criteria. Decentralised learning and continuous improvement |
| ***Sectors and livelihoods****:* Activities are organised around sectors | Activities are also attractive to specific livelihoods, too, *e.g.* particular environment-dependent poor groups |
| ***Roles****:* EPA and MoFED take the lead, with one officer in each line ministry designated to CRGE | Closer inter-ministerial collaboration; all ministry staff delivering green growth objectives; CRGE progress and follow up is anchored in a specific institution |
| ***Economics****:* natural assets are not given clear value, apart from carbon | Green accounting is piloted; incentive schemes are developed *e.g.* payments for ecosystem services |
| ***From projects to policies:*** current CRGE focusing on individual projects | Greater emphasis should be on policy design, implementation and monitoring – not only environmental policies, but also cross-cutting growth policies, e.g. labour policy, innovation policy and national budgetary systems |
| ***Finance****:* hopes are pinned on new international climate funds | Influence mainstream budgets and expenditure, too; and attract 'quality' domestic/foreign investors, notably the private sector in financing CRGE activities. |

## 1. Reflecting on inclusive green growth from Ethiopian perspectives – aims and scope of the country case study

Over the last four years, the OECD has been working to explore and demonstrate green growth prospects within OECD countries. It argues that green growth is a powerful means to improve economic growth, employment and wellbeing through sustainable management of natural assets and tackling climate change as well as other local and global environmental risks (OECD, 2011). More recently, the OECD has been sharing perspectives and lessons on how green growth approaches have been applied in developing countries, in part through its work on *Putting Green Growth at the Heart of Development* (OECD, 2013). The OECD was particularly keen to learn from, and share with its members, Ethiopia's recent high-profile and extensive work in preparing a Climate Resilient Green Economy strategy (CRGE). At meetings at Rio+20 in June 2012 between the Secretary-General of the OECD and the Director-General of Ethiopia's Environmental Protection Authority (EPA), it became clear that it was very timely to reflect on the Green Economy Strategy component of CRGE's progress, and consequent implications and prospects. The EPA of the Federal Democratic Republic of Ethiopia subsequently agreed to a joint study with the OECD.

This paper is the result of a multi-stakeholder workshop held in Ethiopia in October 2012, facilitated by the International Institute for Environment and Development (IIED), and supplemented by in-country consultations and literature review. Workshop participants were invited in their personal capacity, having been selected primarily for their knowledge and analytical capabilities, rather than for their representational and administrative roles. They came from government, civil society, academic, media, and business backgrounds, between them covering the main sectors relevant to green growth – energy, water, industry, agriculture, biodiversity, urban and infrastructure. Supplementary interviews were held with the two main agencies responsible for the CRGE: the EPA; and the Ministry of Finance and Economic Development (MoFED) – within the latter, the departments responsible for budget, planning and the proposed CRGE Funding Facility. Finally, meetings were held with key development assistance partners to Ethiopia (Annex 1).

The paper is a joint product of two independent Ethiopian consultants, the OECD secretariat, and the International Institute of Environment and Development (IIED). It reflects on green growth policy in Ethiopia – notably the processes culminating in the Climate Resilient Green Economy Strategy. It explores green growth already in action – a range of on-the-ground activities which point to scale-up options for the future. And it begins to assess the country's enabling framework – those policies, instruments and mechanisms that regulate or incentivise further green growth activity compatible with Ethiopia's overall development priorities – offering preliminary recommendations on how to strengthen them. One key area of compatibility explored is *inclusion* – the extent that the majority of the population can participate and benefit from green growth. Inclusion was identified by workshop participants as a critical challenge to resolve if green strategies are to appeal to, mobilise, and work for a wider range of sectors and livelihoods, and bring benefits to all types of stakeholders. The OECD has also identified inclusion as important in its preliminary work exploring developing country contexts for green growth, notably for achieving the poverty-reducing and equity-creating potentials of green growth. A second area of compatibility is the challenge of being *'doubly green'* – reducing GHGs while also ensuring other environmental benefits. Attention to both of these can help in identifying opportunities that may not be so dependent on international climate finance.

Although only a brief reflection, it is hoped that this country study will help Ethiopia by showcasing real progress and prospects for green growth, clarifying the added value of the CRGE strategy and pointing to possible complementarity needs. The study also aims to improve overall OECD understanding of developing country perspectives and capabilities, and thereby to inform future OECD advice to development co-operation partners on how to better orient their support for green growth. With

other country case studies, the Ethiopia case study will be a key input into finalising the OECD's forthcoming report *Green Growth and Developing Countries*.

## 2. Ethiopian society, economy and environment – potentials and problems that shape a green economy

*Ethiopia is the second most populous country in Africa, and one of the continent's largest*. The country's dramatic and diverse landscape encompasses lowlands, deserts, canyons and high plateaus. Its current climate varies from very dry to very wet and five types of agro-ecology zones are identified: moisture-reliable humid lowlands; moisture-sufficient highlands (cereals-based); moisture-sufficient highlands (enset-based); drought-prone highlands; and arid lowland plains (pastoralism). The economy is highly dependent on agriculture and current climatic variability, as well as future climate change, poses challenges to achieving Ethiopia's green economy objectives. Even though Ethiopia has a largely rural population, with 84% (70.4 million) living in rural areas, 13.6 million people live in urban areas in 2011/12, the majority in Addis Ababa, and urbanisation is proceeding at a rapid 4.4%.

*Ethiopia is still classed as a least-developed country, although poverty and to some extent inequality are diminishing, notably in urban areas.* With per-person GDP of only $380[1], the proportion of the population below the poverty line in 2010/11 was 30.4% in rural areas and 25.7% in urban areas. Poverty has declined substantially according to the national Household Income Consumption Expenditure Survey. Between 2004/05 and 2010/11, income inequality measured by Gini Coefficient was changed little – from 0.3 in 2004/05 to 0.298 in 2010/11.[2] While urban inequality declined from 0.44 to 0.37, rural inequality increased from 0.26 to 0.27 (MoFED, 2012a). The unemployment rate has shown a declining trend in recent years, again especially in urban areas. The urban unemployment rate declined from 26.1% in 2003 to 11.7% in 2011, owing to a boom in construction.

**Table 1. Poverty and Inequality in 2010/11**

| | Total Poverty | Food Poverty | Gini Coefficient (inequality) |
|---|---|---|---|
| **Urban** | 0.257 | 0.279 | 0.371 |
| **Rural** | 0.304 | 0.347 | 0.274 |
| **TOTAL** | 0.296 | 0.336 | 0.298 |

*Source:* MoFED, 2012a.

*Ethiopia's economy is also one of the fastest-growing in Africa* (Figure 1). The service sector has been a major driver of tremendous economic growth: the country's GDP growth rate was over 10% between 2001 and 2010, with the service sector contributed to half of the total growth (Figure 2). Urban areas, contributed 62% of the GDP growth, with the service and industry sectors together now forming the major part of Ethiopia's GDP with about 55% over the same period.

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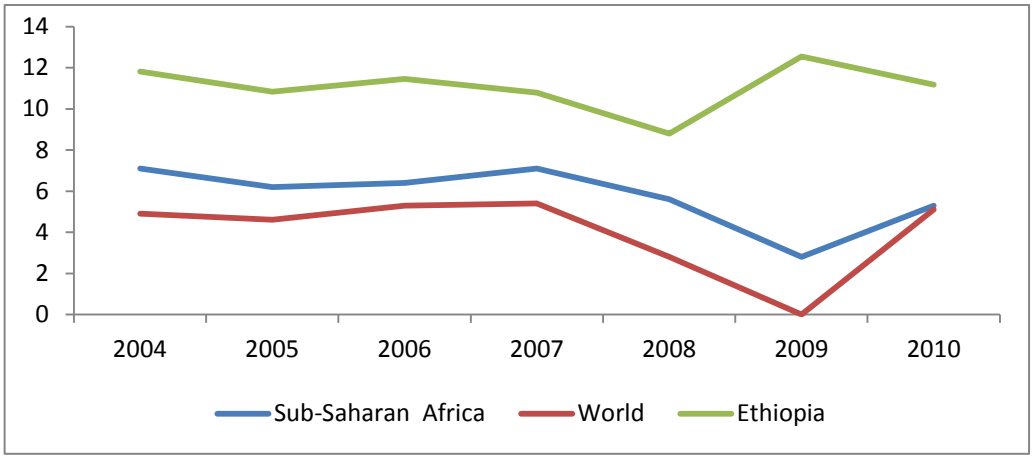
1 $1,040 in PPP terms in 2010 (World Bank, 2012).

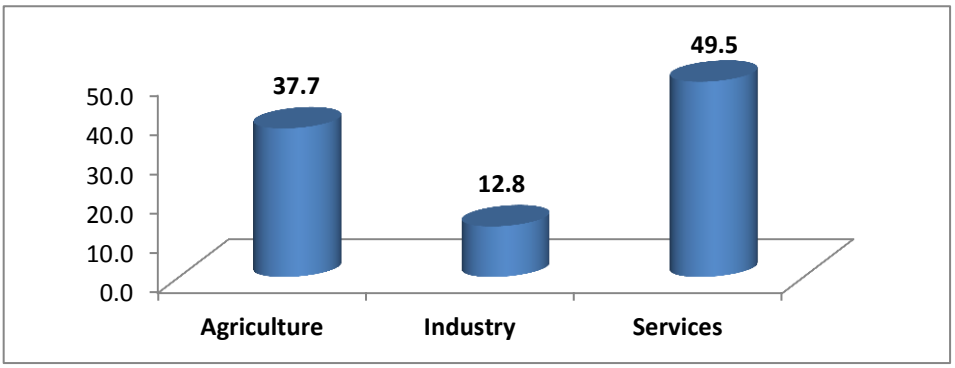
2 The Gini coefficient measures inequality on a scale from zero to one: zero expresses perfect equality (e.g. where everyone has equal income); one expresses maximal inequality (e.g. where only one person has all the income).

**Figure 1. Annual GDP growth rate, 2004-10**




*Source:* IMF, 2012.

**Figure 2. Sectoral growth contributions in Ethiopia (% of GDP) (2001-2010)**




*Source:* Computed from MoFED data.

*Agriculture remains of overriding social importance in Ethiopia*. Despite the shift in the economic structure, agriculture remains a major source of economic growth for the country, the principal source of income for the rural majority, and critical for food security for all Ethiopians. If poverty is to be reduced, and wealth created in ways in which the majority of the population can participate, then agriculture clearly has to be at the heart of any inclusive and green development strategy.

*Ethiopian agriculture is dominated by subsistence, rain-fed farming systems, with low external inputs and low outputs.* More than 70% of crop land is devoted to cereal production, that area having expanded by 27% from 7.0 million hectares in 2003/04 to 9.6 million in 2011/12. More than 11 million smallholders engage in cereal production, with cereal production totalling 18 million tonnes in 2011/12. The major food crops are teff, followed by maize, sorghum, wheat, and barley, along with several oilseed crops. The national average yield of teff, the cereal most favoured by consumers, is only 1.3 metric tons per hectare (mt/ha) in 2011/12, the lowest level of yield among all major cereal crops. Low agricultural productivity can be attributed to smallholder farmers having only limited access to agricultural inputs, financial services, improved production technologies, irrigation and agricultural markets; and, more importantly, to poor land management practices that have often led to severe land degradation. Ethiopia has one of the highest rates of soil nutrient depletion in sub-Saharan Africa and the use of chemical fertilizer and improved seeds is limited.

*Ethiopia is the largest producer of coffee in Africa,* with a reputation for producing some of the world's finest varieties. More than 60% of Ethiopian coffee is produced as forest or semi-forest coffee. The three main regions from which Ethiopian coffee beans originate are Harrar, Ghimbi and Sidamo (which produces Yirgacheffe coffee). Although coffee is a major agricultural export, the branding possibilities of these unique assets have not yet been fully exploited, along with value added possibilities such as certified shade-grown, organic and fair trade.

*Ethiopia has the tenth largest livestock population in the world.* With approximately 50 million cattle, livestock in Ethiopia provides income for farming communities and a principal means of household saving. Livestock confer a certain degree of security in times of crop failure, as they are a 'near-cash' capital stock. Furthermore, livestock provides farmyard manure to improve soil fertility and is also used as a source of energy. Livestock form an important source of GDP at 16 % of the total, and generate 14 % of the country's foreign exchange earnings. Yet cattle numbers are exceeding the land's carrying capacity in many areas, and some rangelands are degraded (FAO, 2005).

*Climate change has already had visible impacts in Ethiopia, with devastating droughts in some areas, associated crises in food security, and health impacts*. The impact of climate change in Ethiopia is already apparent in the increasing temperature and declining rainfall, particularly in northern parts which are exceptionally vulnerable to drought, with annual rainfall being only 100mm in the north-east. Such changes can be catastrophic for agricultural production, deteriorate infrastructure and worsen the livelihoods of the rural poor. Not only the amount of rainfall but also the temporal distribution matters for agricultural production (Demeke, 2004; Bewket, 2009). For instance, evidence indicates that a 10% decrease in seasonal rainfall from its long-term average leads to a 4.4% decline food production (von Braun, 1991). Studies (*e.g.* GebreEgziabher et al, 2011**;** Bewket, 2009; World Bank, 2008; von Braun, 1991) conclude that the frequency and intensity of drought is likely to increase over the coming decades, which will present a serious threat to biodiversity, ecosystems, water, agricultural and human health. Due to the strategic importance of agriculture to the national economy, and its sensitivity to water availability, this sector has been given priority by the government.

*Ethiopian society, economy and environment are intimately interlinked – and a holistic approach is needed if synergies are to be realised and problems resolved*. There is much to consider: poor people's dependence on agriculture and their related skills; society's dependence on farmers managing land well in order to conserve watersheds and biodiversity; the threats of climate change including increased risk of drought and more extreme weather; the unique attributes of Ethiopia's agricultural products and its potential for green hydroelectric power; and the powerful market drivers associated with rapid urbanisation. These problems and opportunities are linked and demand systematic attention. There are also increasing population pressures, resource scarcities, price pressures, and competition with other countries. An integrated perspective that works operationally is needed – one that makes economic, social and environmental sense and that inspires stakeholders. If adopted early, such a perspective offers many opportunities – not least to shape a generic Ethiopian 'green brand' that helps national competitiveness. The holistic approach that the Ethiopian Government has recently chosen to take is conceptualised around 'green economy', as we shall see in section 4. However, we want to be clear that this approach is not entirely new to Ethiopia – there are already 'glimpses' of a green economy in several sectors and locations, which we illustrate in section 3.

## 3. Glimpses of a green economy – pioneering initiatives in Ethiopia today

There has been considerable policy attention recently to incorporate environmental considerations in Ethiopia's economic plan, with the formulation of the high-profile CRGE. However, over the last few years, and prior to the CRGE, several green economy-type activities have been in operation, albeit often at a small scale at project level. Most of these have been driven by Ethiopian stakeholders who have increasingly become aware of, and have responded to, the many threats and opportunities of

environmental change – government, business, and civil society alike have all established innovations over the past few years. While few are supported by mainstream policy as yet, they are gaining in prominence. We have called these Ethiopian initiatives 'glimpses' of a green economy: they are isolated examples from a growing range of experiences in different sectors – some representing established broad-based policies, others newly-initiated pilot projects; but they could be improved and increased in number given the right conditions and sufficient incentives. These 'glimpses' offer a good basis to pursue some elements of green growth. However, unless real incentives for programmatic change can be provided to both consumers and producers in the country, real impacts on the economy and on environment will be minimal. The CRGE offers the potential to provide incentives beyond the project level to encourage programmatic and systematic changes that offer an alternative development path to suit particular Ethiopian circumstances.

Participants at the October 2012 workshop identified the following 'glimpses' as revealing lessons for supporting future 'inclusive green' scale-up in their respective sectors. The first four 'glimpses' 3.1-3.4 focus on energy, and the last three 3.5-3.7 on improved land management for sustainable natural resource products. They deserve renewed attention; together they could both expand the horizons of green economy laid out by the CRGE, and serve as initial implementation vehicles for specific needs.

### *3.1 The National Biogas Programme for Ethiopia (NBPE)*

The National Biogas Programme for Ethiopia (NBPE) establishes biogas digester plants that provide smallholders with alternative, renewable, clean, and safe energy (biogas) for cooking and lighting, as well as organic fertilizer (bioslurry) to improve their crop yields, and improved sanitation. The project has already brought these combined economic, social and environmental benefits to about 14,000 smallholders, from 1,600 biogas digester plants installed in 2009. The NBPE is being implemented in the four main crop growing regions of the country: Amhara, Oromiya, Southern Nations, Nationalities and Peoples (SNNP), and Tigray Regional States. In the Tigray region, for instance, the project covers many communities and includes women who are from the poorest segment of the community (Edwards et al., 2011). Results indicate that the use of bioslurry as organic fertilizer has indeed increased crop yields, out-performing chemical fertilizers. Co-ordinated by the Ministry of Water and Energy, the project was designed by the Ethiopian Government in collaboration with the Netherlands Development Organization (SNV). Lessons could be learned from this example for greening rural economies at scale.

### *3.2 The National Clean Cook Stove Programme Ethiopia (NCCSPE)*

The Government of Ethiopia's Growth and Transformation Plan (GTP) emphasizes the imperative of meeting the energy demands of rural households, while recognising the reality that wood is likely to continue to be the main source of energy for many. However, rural households that use open woodfires to cook household meals suffer health problems associated with indoor air pollution. As part of the NCCSPE programme, World Vision has been promoting fuel-efficient stoves, known as *Tikikil*, in Ethiopia. This stove produces little or no smoke and consumes less fuel wood (World Vision, 2012). World Vision's pilot project in the Oromiya region of Ethiopia disseminated 2,500 Tikikil stoves, and expanded to other regions such as Amhara, using an inclusive approach. Women's cooperatives are prioritised as key beneficiaries, with training and distribution of improved stoves being conducted through them, and community members being able to purchase units over a period, making monthly payments. The project also attempts to influence government, involving government agencies at different levels to ensure sustainability. Improved cooking stoves have been identified as having potential social benefits (improved health), environmental benefits (lower firewood use and emission reductions), and economic benefits (lower inputs requirements, such as fuel wood). Good evidence of this is now needed to warrant a very widespread roll-out. Efforts are being made to secure project accreditation under the Clean Development Mechanism and the Gold Standard Foundation.

### *3.3 Wind turbines*

The government of Ethiopia has planned to boost generation capacity to 10,000 MW from clean energy sources by the end of the GTP period (2014/15). This aims to support the transformation process in-country, combining economic objectives – to become the region's main power producer and principal exporter to neighbouring countries, with environmental objectives – to do so through clean energy, with social objectives – to connect people to clean energy. Because hydroelectric power forms the main source electricity at present, and will do for years to come, there is limited scope for attracting climate finance, which requires a shift from 'dirty' energy sources (i.e. the baseline is already 'green', and so climate finance would not be buying any improvement). None the less, the government intends to diversify energy sources towards other renewable and environment-friendly resources, planning 800MW generation capacity from wind energy by 2015. Two wind farms are being built in Tigray region (Ashegoda wind power project) and Oromiya region (Adama project) which, when completed, will generate a total of 171MW from these projects alone (MoWE, 2012). These have attracted foreign support (by the French government and Chinese government, respectively). In addition, the Ethiopian Electricity and Power Corporation (EEPCo), a government-owned utility company, is investing in a further 100MW generation capacity of wind power project in Assela area in Oromiya region, which is expected to be complete by 2016.

### *3.4 Protected Area Management*

Ethiopia's biodiversity is unique. There are over 6,000 species of plants, around 860 bird species and 277 species of mammals. However, many of the protected areas in the country are only "paper parks": there is *de facto* open access to legally 'protected' areas, which are being converted to agriculture. Regional and District investment bureaus allocate land inside protected areas for development. This is why the Sustainable Development of Protected Areas System of Ethiopia was set up, with support from the Global Environment Fund and UNDP. The project is spearheading a suite of interventions, focusing on the national system in terms of capacity building and training, and integrating the protected area system into mainstream development. Since the initiation of the project in 2008, valuation exercises have found that the main value of protected areas is in the environmental services that they provide to poor rural communities, many of which are food-insecure; protected areas were incorporated into the Ethiopia Poverty Strategy; and the legal boundaries of the protected area system were strengthened by supporting the demarcation and gazettement of four areas through a highly consultative process (UNDP, n.d.).

### *3.5 Community Forest and Development*

The Humbo Community-based Natural Regeneration Project was started in 2005 and is Ethiopia's first carbon trading initiative. Both sustainability and inclusiveness have been key features of the project, which has protected 2,728 hectares of degraded forest, and is now restoring and sustainably managing them. The Humbo forest had largely been destroyed by the late 1960s. Following two years of consultation, planning and negotiations, a farmer-managed natural resource regeneration approach was used to restore the degraded natural forests, with village-level cooperatives subsequently managing the restored forests. Apart from local social, economic and environmental benefits, this project has also attracted a new funding stream in the form of the Clean Development Mechanism (CDM) and the local communities are benefiting from the global market in carbon – albeit this is still a volatile one. The project got recognition and was the first project in Ethiopia (also in Africa) to receive temporary certified emission reductions. About 73,000 credits were issued, and the credits were purchased by the World Bank's BioCarbon Fund, which generates income for Humbo residents (World Bank, 2012).

### *3.6 Sustainable Land Management programme*

Land degradation and limited agricultural productivity are two of Ethiopia's most significant developmental and environmental problems. The Sustainable Land Management (SLM) programme was initiated by the Government of Ethiopia in collaboration with donors (*e.g.* World Bank, Finland, EU and Germany) and other stakeholders to reverse land degradation and improve agricultural productivity. SLM activities in Amhara, Oromiya and Tigray regions, running from 2005-14, already show encouraging results: about 77,000 hectares of land have been rehabilitated; a further 79,000 hectares of forest are being maintained in accordance with participatory forest management principles; and some 50,000 households, including female-headed households, have adopted sustainable land management practices. This kind of programme could form the core of any local green economy – protecting the natural assets that underpin development and livelihoods.

### *3.7 Local holistic management*

The pastoral and agro-pastoral communities of the Borena zone are highly vulnerable to drought, which leads to a range of environmental, health and economic crises. The Agency for Cooperation and Research in Development (ACORD) has been implementing an Integrated Drought Risk Reduction project in Borena. This brings together water development, rangeland improvement, animal health services, and community capacity enhancements to strengthen the coping mechanisms of four peasant associations (PAs): Megado, Did Jarsa, Hodod Semero and Mana Soda (ACORD Borena Dire Office, 2011). Already, 14,300 people are direct beneficiaries of the project. Ponds have been rehabilitated, springs developed and made accessible to communities and livestock, and slow sand filters constructed. Training has also been given to four rangeland management committees on rangeland improvement and hay preservation. The communities have been deeply involved in the execution of the project, which has extended to 1,422 ha of their land. Programmes such as this – which include the people who are most dependent upon natural assets, are vulnerable to climate hazards, but who are potentially the managers of environmental services – offer much learning for a more widespread approach to inclusive green growth.

### *3.8 Addis Ababa in the global C40 programme*

Addis Ababa is a member of the C40 – forty cities committed to tackling climate change, both through mitigating GHG emissions and in deploying adaptation actions. A climate change impact and vulnerability assessment has already been undertaken for Addis, using UNDP and IPCC climate change impact assessment guidelines, and a city-level resilience plan has already been drafted. As part of the C40 commitment, the municipal authority is also examining the sustainability of urban land use and actions are already taken to scale up urban green areas. Furthermore, outreach campaigns have also been carried out to make Addis' citizens aware of the benefits of saving water and other natural resources (CDP, 2012).

### *3.9 From peripheral initiatives to mainstream green growth strategy*

The initiatives highlighted above cover a broad range of successful practices for green growth. They were developed, mostly prior to the conceptualisation of a national green growth strategy, to suit local circumstances. Replacing chemical fertilisers with organic alternatives for greener food production, diversifying renewable energy sources to close the energy access gap, integrating land use management with community forestry approaches, and tackling urban-level climate change are among the actions which are also currently outlined in the CRGE as having great potential to achieve accelerated economic growth, mitigate climate change and scale up development benefits. The success factors of these examples, such as using robust scientific approaches (*e.g.* to measure city level vulnerabilities), integrating policy agendas to seek synergies (*e.g.* land and agriculture), providing incentives for private sector engagement (*e.g.* biofuel blending) and maximising co-benefits of environmental management (*e.g.* health benefits in addition to air

pollution control), provide a good basis for scaling up existing activities to drive a well-grounded implementation of the CRGE.

## 4. Ethiopia's Climate Resilient Green Economy Initiative – a vision of green growth, and a strategy to achieve and sustain it

### *4.1 Drivers of Green Growth*

*The concepts of 'green growth' and 'green economy' have been reframing assumptions worldwide about the conventional growth model*. The 2008 global financial crisis saw these concepts enter political debate and frame economic decision-making, particularly when most G20 countries dedicated a significant proportion of their economic stimulus packages to green investments. The idea was that stalled growth and unemployment could be kick-started through investing in new 'green sectors' such as low-carbon energy, transport, buildings and other infrastructure. Others have viewed the idea as making changes in economic governance to tackle resource scarcities – how can the energy, transport, agriculture, water, and other resource demands of economic growth best be met (OECD, 2012). These diverse concepts were explored but not fully resolved at the 2012 Rio+20 conference. Ethiopia is one of the first countries in Africa to embrace these concepts. Ethiopia's challenge is to improve economic growth, as part of what is required to eliminate poverty, while avoiding the environmental damage that would both undermine its productive natural resource base and contribute to global climate problems.

*Ethiopia aims to achieve middle-income (MIC) status by 2025.* In the last several years, Ethiopia has recorded double-digit economic growth. To achieve middle-income status before 2025 – and move from GDP of just $380 per person to over $1,250 – annual growth rate must be sustained at over 10 per cent. The Growth and Transformation Plan (GTP) identified priorities for reaching the MIC goal: boosting agricultural productivity – since agriculture is the main occupation of over 80 per cent of Ethiopians, strengthening the industrial base – particularly where this can be built on Ethiopia's huge hydroelectric power (HEP) potential, and fostering export growth – which includes export of HEP.

*But the government also recognises that a conventional development path to MIC status would result in future acceleration in GHG emissions and over-exploitation of natural resources.* Under a business-as-usual scenario, GHG emissions would grow more than double from 150 Mt $CO_{2e}$ today to 400 Mt $CO_{2e}$ in 2030. On a per capita basis, emissions would increase by more than 50% to 3.0 t $CO_{2e}$, exceeding a global guideline of 1 t and 2 t per capita to limit the negative effects of climate change. Business-as-usual could also be financially challenging, with a significant share of GDP being spent on fuel imports, putting pressure on foreign currency reserves and facing high opportunity costs of financing other development priorities, such as education and providing health services. It could also result in unsustainable use of natural resources, such as fuel wood, in being locked into outdated technologies, and in losing an increasing share of GDP to fuel imports because of future projected economic growth. Clearly, a new way needs to be found if the needed growth is not to be accompanied by – and ultimately undermined by – resource scarcity, high costs of environmental damage and accompanying costs in human health and erosion of development progress.

### *4.2 Green Economy Strategy*

*The government developed its Climate Resilient Green Economy strategy (CRGE) as an anticipatory strategy to avoid the negative effects of growth*. The CRGE's vision is to achieve middle-income status by 2025 whilst building a climate-resilient green economy – for Ethiopia to become a "green economy front-runner".

*The CRGE has three complementary objectives:*

- Fostering economic development and growth
- Ensuring abatement and avoidance of future GHG emissions
- Improving resilience to climate change

*Behind these objectives are three broad tactics:*

- Tapping into international climate finance – which requires an emphasis on demonstrable GHG abatement;
- Seizing opportunities for innovation based on the latest production platforms – "leapfrogging" to the newest and best technology rather than reproducing each evolutionary stage undergone by already-developed economies;
- Creating competitive advantage out of a focus on sustainable use of resources and improving their productivity – although this strategy is less well developed as yet.

There are two main components to the CRGE: the Green Economy Strategy (GES, which primarily addresses objectives (i) and (ii) and the subsequent Climate Resilience Strategy (CRS, addressing objective iii). The GES component was produced rapidly and launched in 2011. It was led by the Prime Minister's Office to assure economy-wide coverage, with the EPA and Ethiopia Development Research Institute to engage expert drivers of the process, and with support from the Korea-based Global Green Growth Institute (a new intergovernmental body) and external consultants in greenhouse gas abatement to gain the benefit of international experience.

*The GES screened over 150 GHG abatement technologies against conditions in Ethiopia, coming up with an investment plan of over 60 viable projects.* That screening process covered: potential contribution to, and alignment with, the GTP's growth objectives; significant GHG abatement potential compared to projected business as usual (BAU); cost and return on investment of the resulting abatement; and feasibility in the Ethiopian context, concentrating on seven sectors with high GHG intensity. The initiatives that were prioritised fall into four groups:

- Improving crop and livestock production practices for reduced emissions, whilst increasing food security and farmer income;
- Protecting and re-establishing forests for their carbon stocks and other ecosystem services;
- Expanding electricity generation from renewable sources of energy for domestic and regional markets;
- Leapfrogging to modern and energy-efficient technologies in rural cooking, transport, industry, and buildings.

*The methodology used to prepare the GES was rigorous but top-down*. Its strength is the fact that it is relatively simple, being strongly focusing on GHG abatement, and being based on IPCC precedents (see 5.1). This also helped the analysis to be done in the very short time available – from February 2011 to the Durban Climate Change Conference (COP17) at the end of the year. Over 50 Ethiopian experts from the selected sectors generated data, which the external consultants calculated BAU emissions projections for sectors that were identified to be higher sources of emissions (Table 2) and came up with possible abatement measures in those sectors and their individual marginal abatement cost.

**Table 2. GHG emissions drivers according to sectors**

| Sectors | Drivers |
|---|---|
| Forestry | • Deforestation<br>• Forest degradation |
| Livestock | • Methane from animal digestion<br>• N2O from manure left on pasturelands |
| Soil | • Crop production<br>• Fertilizer use<br>• Manure management |
| Transport | • Passengers (inner city, intra city and international)<br>• Freight (dry, construction and mining and international cargo) |
| Industry | • Chemicals, Agro-processing<br>• Pulp & paper, Leather & textile<br>• Cement, Mining |
| Buildings and cities | • Solid waste<br>• Liquid waste |
| Power | • Conventional energy sources and installation of renewable technologies Off-grid fossil fuel |

*Source: Environmental Protection Authority of Ethiopia, 2011*

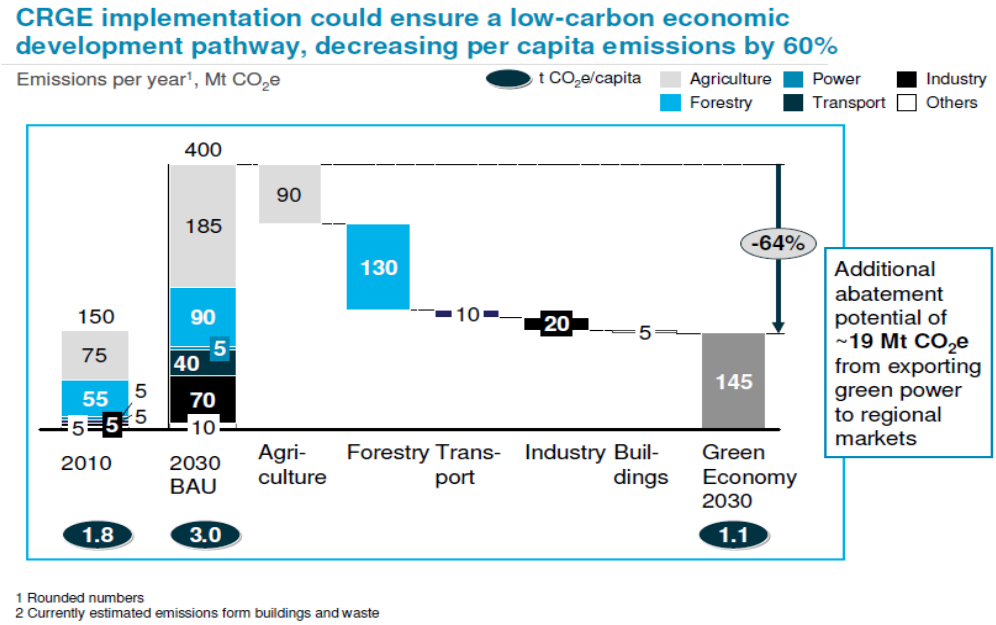
Business-as-usual (BAU) emissions projections were based on population growth and GDP growth trends, using 2010 as the base year. Projections for 2025 demonstrated that the current pathway for economic development will increase GHG emissions by more than 150%. In absolute terms, the highest increase –adding around 110 Mt $CO_{2e}$ in GHG emissions – will come from agriculture, followed by industry at 65 Mt and forestry at 35 Mt. However, in relative terms, growing industrialization will manifest itself in the highest annual emission increase of more than 15% from the industrial sector and around 11% from transport. Industry emissions under BAU assumptions are therefore projected to increase more than 12-fold, while transport emissions are projected to increase 7-fold.

*The CRGE's dramatic bottom line is that, by 2030, there is potential for per-person GDP to increase by 475% while decreasing GHG emissions by 35%.* It identifies domestic potential for abating 250 Mt $CO_2$e in 2030 by implementing the selected GHG abatement options instead of conventional development practices, which is a 64% decrease in GHG emissions compared to BAU. Given the projected population growth, emissions on a per capita basis would decrease from 1.8 to 1.1 $tCO_2$e, i.e. by 35% – even though GDP per capita would rise considerably from USD 380 to more than USD 1,800. However, this is accompanied by major assumptions about willingness and ability to make big changes within the seven main sectors – and is reliant on securing the finance.

*Financial requirements for the CRGE's plans are estimated at $150 billion over the next twenty years.* $80 billion would be capital investment, and $70 billion operating and programme costs. It will be tough to attract the investment. Much investment will be required in green infrastructure (10% growth rates will require 14% annual additions in hydroelectric power), but infrastructure tends to have high up-front costs and long pay-back periods and delays. Over the next five years alone, the CRGE suggests that 27.5% of GDP will need to be invested. Where average domestic savings are only 11.9% and half the investment burden is foreign exchange-denominated, Ethiopia's green plans will inevitably rely on attracting international climate finance and other foreign investment. A CRGE Funding Facility was created, managed by the MoFED, to centralise the various sources of finance for implementing priority projects

that are developed by line ministries and regional governments within the framework of CRGE framework (MoFED, 2012b). It will have a tough job, but there is potential for attracting investment. Over 80% of the abatement potential identified by the CRGE will be achievable at relatively low cost – $15/tC – which could be attractive internationally. However, a major attendant risk needs to be managed – of selling off all the cheapest CERs so that Ethiopia has fewer affordable options left, if the country ultimately needs to meet its own mitigation target under a future global climate regime from 2020.

**Figure 3. CRGE implementation**




*Source:* EPA, 2011.

### *4.3 Climate Resilient Strategy*

Ethiopia's dependence on agriculture for growth and development and limited adaptive capacities make it highly vulnerable to climate change. The second component of the CRGE therefore constitutes the Climate Resilient Strategy, to be completed in 2013. Ethiopia submitted its first National Adaptation Programme of Action (NAPA) to the UNFCCC Secretariat in 2007. The May 2010 report of the UNFCCC's Least Developed Countries Expert Group suggested that a programmatic approach could be more effective than the NAPAs' project approach, and encouraged the updating of NAPAs. In line with this, the country developed Ethiopia's Programme of Adaptation to Climate Change (EPACC) in early 2010. Its 29 components cover adaptation at sectoral, regional and local community levels. All levels of government administration, all types of civil society, religious organizations and local communities across the country are invited to participate – to ensure an equitable and balanced response to climate change for social justice, as well as assist in mobilising appropriate knowledge, skills and actions. Based on the EPACC, a first phase towards formulating the Climate Resilience Strategy consolidation was carried out by UNDP in 2011. It consolidated the existing adaptation work in Ethiopia by taking stock of ongoing programmes and comparing them against the risks, vulnerabilities and adaptation challenges identified by sectors and regions. This identified existing gaps between the two. A second phase is currently taking place, focusing on building administrative capacities for adaptation as well as assessing the cost of adaptation and prioritising adaptation measures in the agricultural sector. Further adaptation measures will also be defined in infrastructure and health sectors.

*Agriculture has emerged as a priority for both GHG abatement and climate adaptation.* In a country where agriculture is currently the largest GHG producer (40+ per cent for livestock alone), it is not surprising that investments prioritised by the GES will result in a significant reduction, not only in GHG emissions in agriculture, but also in agriculture's GDP share (higher agricultural productivity and changing types of livestock), dropping from 42% today to only 29% by 2025. Due to its high exposure to climate change and its importance for the livelihoods of the majority of the population, the CRGE Inter-Ministerial Committee has identified agriculture to be fast-tracked for detailed adaptation planning and action. An international consortium has been contracted to assist with this work, although its rapid delivery timeline is challenging. The implication for agriculture to take on the twin challenges of GHG reduction and adaptation need to be assessed in particular on the synergies between the win sets of actions (compared to business as usual), especially for the impact of such actions on poor farmers. There are certainly some potentials: some measures, such as soil conservation policies, will tackle both adaptation and mitigation simultaneously. Support programmes and gradual diversification of crops and income sources, as well as farming practices, will be necessary.

### *4.4 Institutional and consultation arrangements*

T*he CRGE is being accompanied by a permanent inter-institutional setup as a means for capacity-building and identifying sector specific initiatives.* Despite suggestions during the inception, no separate (stand-alone) institution was created for the delivery of the CRGE work. Instead, an oversight CRGE Inter-Ministerial Committee was created by the Prime Minister's Office to give high-level policy direction, with ministerial and high-level official representation from each of the ministries contributing to the CRGE. Under this is a Technical Committee comprising mid-level managers of the sectors, and Sub-technical Committees covering operational issues of the CRGE. This institutional set-up is both new and active: the Inter-Ministerial Committee meets on a bi-monthly basis to assess the outputs of the Technical Committee; the latter meets every 15 days; while the sub-technical committee members convene twice every week. Overall oversight is given by Ethiopia's Environment Council but the Government, recognising the CRGE's fundamental implications for the economy, is planning that the EPA will oversee technical aspects of implementation while the MoFED will oversee the financial mechanism.

*Consultation was not extensive, but it built on the previous consultations of the GTP.* Regional and sectoral consultations were held over two months by the CRGE Sub Technical Committees and the EPA, primarily focusing on government, public bodies and some academics. In all, around 300 stakeholders were identified and consulted to develop the initial reports. This was reasonably participatory, and in line with Ethiopian government normal practice. However, there has not yet been much outreach of the CRGE's plans, and so the CRGE is not yet fully internalised among the many stakeholders who need to understand it: they understand the GTP better. Nevertheless, further consultation is planned as CRGE implementation proceeds.

The CRGE's participatory process works across three dimensions: horizontally across sectors; vertically from federal level down to local communities and back up to the federal level; and through time, gathering and disseminating learning to deepen benefits and widen coverage. Each local community will formulate its own work programmes and by-laws to guide and govern the actions of its members towards greater climate resilience. From an initial sample focus of 64 woredas[3] (12% of the total) the lessons will be gradually scaled up to the whole country. And each government sector will ensure the mainstreaming of climate change via Sectoral Climate Programmes and Action Plans.

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[3] Third-level administrative divisions in Ethiopia.

### *4.5 Donor Support for the CRGE*

Several development co-operation agencies in Ethiopia are already tailoring their programmes to support the CRGE's objectives. Although not engaged in developing the CRGE strategy, several are already playing a significant role in shaping and supporting its implementation plan. Some are focusing on green economy outcomes in thematic areas, notably energy and forestry. Others focus on building or enhancing enabling factors, such as law enforcement, capacity development and awareness-raising for ministry staff, incentivising private sector engagement, and creating credit lines for innovation and technology development. 'Green' concerns are also being mainstreamed into aid programmes in the economic and social sectors, such as using social protection instruments for climate adaptation (Box 1).

**Box 1. Donor support for CRGE**

**Norway:**

- **CRGE Facility Support** – Norway has committed US$60 million per annum for 5 years for direct support through the CRGE Facility. Most of this is to support CRGE energy and forestry initiatives. It will predominantly be result-based financing, with some upfront grants for enabling activities such as MRV, and capacity building to the sectors (particularly Ministry of Agriculture, EPA and the Ministry of Water Resources).
- **Energy+** – This will assist Ethiopia to achieve universal access to sustainable energy by 2030 and reduce emissions of GHGs from the energy sector. It will seek to build over time an overall approach to the energy sector on renewable energy and energy efficiency policy. Once it is fully operational (by 2013), it will predominantly run with a results-based payment modality.

**United Kingdom/ DFID:**

- **Strategic Climate Institutions Programme (SCIP)** – This programme is intended to fill the investment gap that may be created before the CRGE Facility becomes fully operational. It will finance programmes that are found to be strategic and with transformational impact. The SCIP has already channelled resources to three projects (standardizing Ethiopia's Grid Emission Factor; supporting grass roots communities in local adaptation programmes; and Ethiopia's negotiations support programme). It is now attracting interest from other donors including Norway and Denmark.
- **Climate high-level investment programme (CHIP)** – this programme aims to channel UK climate finance to investment opportunities in Ethiopia. It will channel finance at the national level (through the CRGE Facility), and sector level (direct financing through ongoing programmes such as the Productive Safety Net Programme], disaster risk management, forestry etc.).

**Sweden:**

SIDA and the Swedish Energy Agency have financed a project to explore the potential of projects for carbon financing. This was done by EPA through collaboration with the African Climate Policy Centre.

**Multilaterals:**

- **World Bank** - the World Bank has established the Climate Innovation Centre to support private sector-led innovation under the CRGE. The CIC has completed its design phase and is now becoming institutionalized.
- **UNDP** – UNDP is the trustee of the earmarking window of the CRGE facility. Project requests for financial resources will be channelled through this window while non-earmarked, strategic support will follow the rules of the Ministry of Finance and Economic Development of Ethiopia.

## 5. Taking stock – reflections on Ethiopia's progress in green economy

### *5.1 Analysis of the CRGE*

Ethiopia's CRGE has already attracted the attention of the OECD, other international organisations, neighbouring countries and the domestic and international media. It is clearly a very high-profile policy initiative laying out potential Ethiopian paths towards a green economy. In this section we offer an independent view of progress to date, informed by our assessment of CRGE documentation, interviews with local and international stakeholders, and the October 2012 workshop. We focus on the Green Economy Strategy, the first of two strategic components of the CRGE. We believe that the CRGE has been a highly strategic exercise that could now be in a position to benefit from expanding its perspectives, and ensuring good alignment with the Climate Resilience Strategy, the second component of the CRGE.

*The CRGE builds on a series of progressive development strategies that have begun to link economic growth, poverty reduction and sustainability.* Since the late 1990s, the Government of Ethiopia has had clear aspirations for broad-based sustainable development and poverty reduction, as evidenced in a series of strategies such as the Sustainable Development for Poverty Reduction Programme (SDPRP, 2000-2004), the Plan for Accelerated and Sustained Development to End Poverty (PASDEP, 2005 to 2009), and the Growth and Transformation Plan (GTP, 2010-2014). The effects on the economy of the first two strategies were judged to be very significant, with strong economic growth, poverty reduced, employment increased, and some exports flourishing (MoFED, 2002, 2005).

*The CRGE adds real value to these previous strategies in mapping out the basic requirements for an Ethiopian green economy:* It offers a clear policy vision which, despite the death of Prime Minister Meles, appears to continue to enjoy high-level political backing. Its clear link to the GTP, notably its reassertion of the need to achieve middle-income status, means that it builds on previous decisions about where national development is headed. And it focuses on priorities for tackling Ethiopia's linked economic and climate-related problems, offering some compelling evidence that improves confidence to invest in greener growth paths.

*The CRGE is tactical, rather than offering a fully comprehensive plan on all aspects of green growth*. A 'totally comprehensive' approach has tended not to work, from the experience of most countries' earlier national sustainable development strategies, since they were 'all things to all people' and hence owned by few (Dalal-Clayton and Bass, 2010). The CRGE's Green Economy Strategy has a clear focus on GHG emissions reduction, mirroring global attention on the world's biggest environmental problem – climate change mitigation. Even if Ethiopia's own GHG emissions are inconsequential globally, this focus both confers moral legitimacy on Ethiopia, and is potentially attractive to emerging international climate finance. Moreover, as a single factor relevant to all sectors, it is relatively easy to include GHG levels in a wide range of sector plans; mainstreaming several biodiversity, pollution, and soil and water conservation issues – albeit issues that may often be of greater importance locally – is trickier and consequently is rarely done effectively.

*The CRGE makes good economic sense*. The CRGE's Green Economy component focuses on Ethiopia's particular resource endowments, addresses some of the biggest economic risks facing the country, identifies the lowest-cost GHG abatement options, and makes the case to attract international finance. Many of the diverse carbon-related investment ideas in the CRGE are practicable and financially sound. While such ideas have not yet reaped rewards in terms of significant climate funding, they have improved the confidence of Ethiopia's bilateral donors, some of whom have supported the CRGE process, but more of whom are considering ways to help Ethiopia address the evident implementation and capacity challenges. *However, the scope of the CRGE needs to gradually expand – to better deal with issues of inclusion, non-climate environmental challenges, policy incentives and systematic changes, and institution-*

*building*. While the current focus of the CRGE is usefully tactical, if the singular focus on achieving MIC status and GHG reduction were to continue beyond an initial carefully-monitored phase, that focus could bias against future options for wellbeing. Sustainable development demands, ultimately, that linked systemic problems are tackled with systemic improvements to institutions and governance, and not just with investment projects. It requires changing the way that routine government expenditure is channelled, and not just with attracting new sources of finance. It demands attention to the range of environmental opportunities, and not just with GHGs. And it requires a keen focus on social issues, so that it is not only well-placed people and businesses that can benefit from newly-favoured areas.

*Moreover, there are potential drawbacks of the CRGE's GHG focus*: GHG abatement in agriculture, livestock and forestry especially, but also in power and transport, will not always have helpful environmental, social or broader economic effects. For example, the proposal to reduce GHG emissions from the livestock sector makes broad sense in principle, given its 40% contribution to Ethiopia's GHG emissions. But in practice, some of the CRGE's plans – notably to shift beef producers to poultry production – are extremely challenging. They might yield major GHG reductions, but at the cost of considerable social upheaval, as well as removing what can be the ecologically optimal use of rangelands. Indeed, this proposal faces so many cultural constraints that it is probably the clearest example of the need to conduct environmental and social impact assessments (ESIAs) of all the CRGE proposals, to ensure they are both 'doubly green' and inclusive.

*The methodology behind the CRGE might not be robust to the full set of Ethiopian green growth needs:* The foreign consultants' methodology enabled Ethiopia to identify the least-cost GHG abatement technologies compatible with national conditions. The methodology is certainly credible with its roots in IPCC-led assessments, and potentially rewarding with its tendrils in new international climate finance. There are three problems, however. Firstly, it seems that the approach was fundamentally unaltered in its application in Ethiopia. Because of this GHG focus, it might be better suited to the energy, industry and transport sectors, where emissions and fossil fuel use are already overriding concerns. There are many non-carbon reasons for Ethiopia to pursue greener paths of development: notably improving income from sustainable natural resource and biodiversity management, from cleaning up pollution, from recycling waste, and from export opportunities, *e.g.* exporting hydropower to neighbouring countries – yet different issues need to be analysed here. So the methodology, being narrowly focused on climate change, has missed these additional green growth opportunities. It could also have looked at resource efficiency – for example, identifying how waste energy and materials have been and can be used in a wide range of activities and enterprises suited to poor groups. Secondly, the way that the information was generated did not fully involve and capacitate the target audience in the ministries, which consequently are not well positioned to use the results regularly in their decision-making. Thirdly, there are weaknesses in the CRGE's lack of inclusion of different social and economic groups, both in engaging them in the formulation of CRGE, but also in recognising the implications (benefits and costs) of CRGE implementation on these different groups.

*Although the CRGE includes much that could contribute to poverty reduction, as a strategy it is not yet overtly inclusive:* On the one hand, by taking its cue from the GTP, leaders of the CRGE process felt that the CRGE could benefit from the GTP's extensive consultation and its focus on poverty reduction. In this sense, it was thought that a 'spirit of inclusion' was broadly inherited by the CRGE. On the other hand, the CRGE methodology did little to look at the specific poverty and inequality issues connected to natural assets and environmental hazards, or at the opportunities available for specific environmentally-dependent poor groups – and little to identify the distributional implications of its recommendations. Hence there are not yet clear answers to the question: 'who will be the winners and losers from the CRGE's approach to green growth?' It cannot simply be assumed that, when environment is better treated by policy, then people will automatically enjoy the income, health, safeguard and livelihood benefits, or that the poor will benefit proportionately more because they are correspondingly more dependent upon the environment. Many environmental solutions turn out to be 'poverty traps' rather than 'routes out of

poverty' (OECD, 2008). The ability to predict these should be an important component of any strategy that attempts to shift policy and investment towards environmental options.

*Formulating the CRGE was a rapid and centralised process, with key roles played by outsiders:* It had been decided that the CRGE should be ready for the then-Prime Minister to announce at the Durban Climate Change Conference (COP17). This meant fast-tracking the work. However, there was not enough in-country technical expertise available, and so external consultants undertook more of the work than might be ideal. Data unavailability at sector level, and lack of technical capacities by ministry staff to understand the various mitigation scenarios, presented challenges for securing robust Ethiopian engagement in, and understanding of, the GHG abatement analysis methodology and its outcomes.

*The business model for kicking off CRGE's implementation is highly dependent on attracting international climate finance, although this market is uncertain*. The CRGE's emphasis on GHG reduction not only serves to reduce Ethiopia's own emissions, but it also aims to attract international finance through offering emission reduction credits from mitigation projects. Such an approach can be rapid in terms of getting some individual CDM-like projects started. However, as with other LDCs and African countries, it is proving hard to attract the right levels of financial resources (Africa has only a very scattered CDM project implementation record). International donor support is another source, with governments of UK, Norway and soon Denmark already being major actors in support of Ethiopian green growth. Most of their support is likely to be focused on low-carbon infrastructure and projects in forestry, energy and agriculture, rather than longer-term investments in governance changes and incentives systems. Domestic finance is not yet attracted to green growth: there are few guarantees and other incentives to shift investment from 'brown' to 'green' activities, and it is too early for the recent progressive policy changes to have incentivised private sector engagement, especially in the absence of an active engagement programme or accord with business.

### *5.2 Analysis of the constraints to achieving green growth agenda in Ethiopia*

We have identified the CRGE as the most prominent feature in the Ethiopian green growth landscape, albeit still a 'map' rather than a 'destination'. As importantly, section 3 illustrated the potentials of many existing green initiatives in Ethiopia – which show how things could be in the future, even if they are still just small 'trees' rather than great 'forests'. These need to be examined further for their potential; however, it is already clear that conditions are not always conducive for realising that potential at scale. There are many constraints that block the implementation of both the CRGE and the scaling up of existing green growth solutions. These will need real attention if green growth is to be enabled in practice.

*Limited government capacity in relation to the huge new green growth agenda:* While the CRGE inter-ministerial framework and CRGE Facility are promising, significant and continuous institutional development effort is needed across the range of authorities with a stake in green growth. With ministries frequently changing their mandate, and government officers moving post, there is little continuity for driving long-term agendas such as green growth. Work on the CRGE remains a secondary job for almost all government officers involved. They received little advance capacity support before working with the external consultants on the strategy. They still have few job-related incentives and little training. This means that follow-up action on the CRGE, and to scale up the existing 'glimpses', are in question.

*Lack of data and limited knowledge on relevant variables:* In common with many countries, the parameters of green growth (such as GHG emissions, values of natural capital, and inclusion of environmentally-dependent minorities) were not previously treated as being relevant to Ethiopian development. This is why there had been little investment in the people and institutions that collect, study and disseminate data on them. Thus dilemmas are now being faced in handling apparent uncertainties about the GHG baseline developed for the CRGE.

*Clashing perspectives on green growth:* As interest and initiatives develop around green growth, and the stakes are consequently raised, we can initially expect a clash of interests. We are certainly witnessing this globally. Some stakeholders see green growth as an opportunity to rapidly improve GDP growth, jobs, inward investment and other mainstream economic variables by investing in particular low-carbon technologies – in effect increasing the size and productivity of the 'green sector' of the economy. The drivers of the CRGE – notably the Prime Minister's Office and development partners – appear to have similar perspectives. Other stakeholders, however, see green growth as a process of realising greater wellbeing from natural assets, through mainstreaming environmental objectives across all sectors and better including environment-dependent stakeholders (often the poor) in economic activities, while respecting ecological limits – in effect greening the whole economy in an inclusive way. Some institutions and people have very strong interests in particular perspectives on green growth agenda - the reality is that both perspectives can add real value to development and livelihoods. Climate change can increase the importance of maintaining natural assets and thus increase the urgency felt both for mitigation and adaptation objectives. Therefore, the two components of the CRGE Initiative need to be carefully aligned to avoid conflicts and unexpected consequences. We do not yet face a significant clash of perspectives in Ethiopia, but robust debate can be expected quite soon, and ways to forge an Ethiopian approach to green growth that realises all potential benefits (and manages the potential downsides) might need to be explored.

- *Lack of effective systems:* Systems for tracking linked environmental, social and economic problems, and systems for tackling them, are integral components of an intelligent green growth strategy. They are needed to support green growth mainstreaming, ensure policy coherence, and enable the kinds of investment that the CRGE promotes. However, such systems are not yet robust enough in Ethiopia, and neither are they fully covered by the CRGE:

- *Social and environmental safeguards:* Although there are guidelines both for assessing negative impacts as well as for amplifying positive impacts, their application is weak. This is partly because of the recent trend of assigning environmental and social impact assessment (ESIA) review to sectors that are actually dealing with the proposed projects. Neither is it rigorously applied to environmental proposals. Indeed, the CRGE itself does not seem to have been subject to an assessment; it seems to be assumed that the CRGE is good for the environment as a whole. In addition, there are inadequate guidelines for, and practice of, strategic environmental assessment (SEA), which is the more appropriate mechanism for assessing both negative impacts and social and environmental potentials of new policies.

- *Government budget, expenditure and procurement systems:* Green issues are not yet mainstreamed into government budgets. We do not know what the government spends on environmental investment or protection: the budget is not coded for environmental expenditure. Neither do we know about changing environmental values and the costs associated with environmental risks - public expenditure review processes do not ask specific questions about environmental costs, benefits or risks. Consequently, the pros and cons of green growth projects cannot be highlighted. It is not surprising that government procurement – the purchasing of buildings, equipment, supplies and services – also pays no attention to sustainability issues; indeed, it is currently not allowable to include environmental conditions in 'requests for proposals'. Furthermore, if public procurement were to discriminate in favour of environmental sustainability (or pro-poor inclusion), in the absence of verification in Ethiopia to prove the sustainability of supplies to agreed standards, this might open the door to corruption. However, there are examples on which to build an inclusive green procurement programme: the Protection of Basic Services (PBS) programme supported by the World Bank positively discriminates in favour of the poor.

- *Research, innovation and action learning in support of green approaches:* Government research groups have tended to lead in green technology innovation (indeed, there is a general government tendency to dominate research, planning *and* implementation). In spite of some developments such as the Biofuels Learning Forum, there are no strong knowledge partnerships with business and civil

society. But business and civil society involvement is needed to test new green solutions in Ethiopian field and livelihood conditions. Yet, even where they have made progress, as in some of the 'glimpses of a green economy' we laid out in section 3, there is no systematic attempt to catalogue them, learn from them and then improve the enabling conditions for scaling up successful approaches. This might explain why the CRGE emphasises new initiatives and foreign technologies, rather than scaling up what already works in Ethiopia.

- *Monitoring, accounting and accountability mechanisms:* Ethiopia's ability to monitor the wide range of social and environmental issues is questionable – not just as a one-off as in the safeguards above, but regularly to check whether balanced green growth is being achieved, and who the winners and losers might be. In Ethiopia, as in most countries, there is a realisation that restricted monitoring of poverty (against narrow criteria of cash income and food basket cost) is inadequate; as is restricted monitoring of environmental conditions (which rarely addresses aspects that matter to poor groups) – but action towards this is limited. GHG monitoring capacity is now being built for Ethiopia, because the CRGE pins its hopes on attracting international climate finance, and good MRV (monitoring, reporting and verification) is an essential part of the emissions reduction 'product'. Finally, with relevant data in short supply, accountability for the CRGE is inevitably constrained.

- *Incentives favouring 'brown' practice, and lack of well-designed and stable incentives for green practice*. In section 1, we outlined how prevailing economic signals within the Ethiopian economy often cause businesses and individuals to degrade the environment – or at least not to invest in cleaner approaches. Tax holidays have been correlated with environmental degradation. Incentives have been given for investment in large-scale biofuel farms; yet they have led to deforestation (African Biodiversity Network, Ethiopian Society for Consumer Protection and the Gaia Foundation, 2010). Meanwhile, modern, energy-saving equipment and renewables technologies are available, but are taxed at the same high rates as luxury products – despite the recent (albeit *ad hoc*) lifting of taxes for some renewable energy products such as solar panels, and importation of trial electric vehicles with a view to their possible local manufacture to replace 70,000 diesel-fuelled tri-wheelers.

All of this suggests the need to better understand and address these positive and negative incentives and assumptions, and to shift subsidies from supporting 'bads' to encouraging 'goods'. The 2008-9 cuts in fossil fuel subsidies, and the support for renewable energy, form a strong foundation for this (although subsidy removal was introduced primarily for financial reasons, and the savings being realised in the treasury have not been directed to renewable energy development or energy efficiency).. Ethiopia has also joined the Friends of the Fossil Fuel Subsidy Reform movement that comprise a number of non-G20 countries, enabling Ethiopia to gather momentum for putting pressure on the G20 Countries to adopt similar measures. Green policy instruments, such as payments for ecosystem services, feed-in tariffs for renewables, and taxing unsustainable use of natural resources are promising, but are not yet in place to send the right policy signals to public and private sectors alike. Finally, the CRGE's principal assumption is that international climate finance will offer an incentive that is greater than prevailing incentives for 'brown' practice; yet international prices for carbon have been disappointing, and there is a strong risk that they remain too low, too expensive to access, and too volatile to provide a sure and single driver for green growth in Ethiopia. A possible fossil fuel discovery in Ethiopia would alter the economic case behind the CRGE, lowering fossil fuel prices and discouraging investment in renewable energy sources.

The above constraints are so significant that some of them ought to be elevated to the status of 'goal' (rather than 'risk' or 'assumption') in the CRGE. Hence in section 6 we go on to *suggest that institutions, capacities, systems and incentives are given top priority* in green growth strategy development. It would not be helpful to promote the CRGE's proposed set of technologies and investment projects alone, if people and their institutions are not ready for them, and if prevailing economic signals make them unattractive and unsustainable over the long run.

### *5.3 Analysis of the future drivers of inclusive green growth*

*The CRGE focused on climate change as the main problem driving green growth.* The CRGE was far-sighted in addressing the core problems that could destabilise the relationship between human wellbeing and the environment – notably the temperature and water scarcity problems associated with climate change, associated natural resource degradation, and the lack of capability to adapt – which will eventually cause many people to lose their livelihoods.

*However, the CRGE missed other, people-centred problems that could also drive demand for more inclusive green growth* – notably the social pressures arising from the lack of rights to land and natural assets, as well as resource scarcities and price volatility in food and energy products. Other environmental problems, such as soil erosion or the collapse of ecosystem services like crop pollination, could also lead to social dislocation and conflict and drive demand for green responses. Both these people-centred problems and the climate change drivers could reach tipping points – where increasing incidents of disaster or extreme events necessitate a system-wide response. So, beyond GHG abatement alone, it is important to anticipate the full range of linked and independent drivers, develop scenarios for them, and plan green growth strategies that are resilient to them.

*The CRGE anticipated international climate finance as a principal engine of green growth, but other positive levers for change are also becoming apparent in Ethiopia:* Even within climate finance, the drivers of change are increasingly to ensure that GHGs reductions are accompanied by other environmental and social benefits, too: carbon-plus other co-benefits (witness the range of initiatives such as REDD+, REDD++, Energy+). But there are also positive drivers that could be more firmly embraced in their own right. Globally, if not yet in Ethiopia, the growth of environmentally- and socially-discriminating markets offers possibilities for Ethiopia to export sustainable tourism, energy and food products, as well as biodiversity conservation services. The market for 'geographically identified' products has become significant in some countries, i.e. protected brands of food from specified regions, with particular potentials from protecting unique Ethiopian coffee varieties to expand Ethiopia's share of the world coffee market beyond its current 3%. The positive driving forces behind the isolated 'green growth glimpses' that already exist in Ethiopia (section 3) and the constraints in the way of scaling them up (above) need to be better understood.

Some of the levers of change work at the regional level. The technical possibilities for massive international energy grids are becoming more viable financially, supporting the CRGE's notion of Ethiopia becoming a regional green electricity supplier, and potentially also a regional investor in the production of energy-intensive products that gain competitive advantage through their green status.

*Development partners can also support timely changes, and indeed are already doing so in Ethiopia*. They are supporting capacities in the technical, managerial and administrative fields required to make CRGE implementable. And they are providing incremental capital to put in place climate-resilient low carbon infrastructure, boost agricultural productivity and deploy policy incentives and mechanisms. However, donors' convening power could be further employed in bringing on board multiple stakeholders, in particular civil society groups, into the green growth debate – in this way opening up more ambitious opportunities in governance and mobilising the public.

*Finally, we must acknowledge considerable uncertainty in the positive and negative factors' impact on 'green growth' solutions*. As we have stressed earlier, we need to anticipate and keep track of the vagaries of climate change, climate finance, fossil fuel prices and possible discoveries in Ethiopia, as well as resource scarcities and their social impact. Each of these affects the fundamental economics of green growth decisions, and so variances need to be assessed. Green growth will not follow a predetermined course. To ensure that the course taken works in Ethiopia's favour, it is important to build resilience – good information, robustness, innovation and spare capacity – into Ethiopian systems. We go on to discuss this in section 6.

## 6. Moving forward – systems and structures for an inclusive green economy

### *6.1 Step-wise approach to CRGE implementation*

Ethiopia's CRGE has made tremendous strides in vision, high-level commitment, awareness, analysis and planning in a very short time, focusing on ways to improve growth rates whilst reducing GHG emissions. The OECD October 2012 workshop offered Ethiopian stakeholders a valuable moment for reflection on that progress. In this section, the authors again offer an independent view informed by the documentation, interviews and workshop discussions.

The foundations established by the CRGE are solid, but they are largely matters of process rather than outcomes and impacts as yet. Further practical considerations now need to be embraced – some, but by no means all, already being reflected in the CRGE and in some of the isolated 'glimpses' in different sectors (Section 3). Table 3 summarises further needs to consider, and a brief discussion of them is offered below.

**Table 3. Ethiopian green growth – foundations and future needs**

| **Green growth today** – characteristics and achievements of the CRGE | **Future, more inclusive green growth** – further needs to consider |
|---|---|
| ***LEADERSHIP AND PROCESS:*** | |
| ***Vision:*** high-level government vision and commitment | The public (especially the private sector), too, is inspired by the potentials of green development, and a vision is shared across society |
| ***Mandate:*** CRGE is informed by Growth and Transformation Plan (national plan) | CRGE principles in turn inform the next national plan |
| ***Roles:*** CRGE led by central government | Business, local government, civil society are also mobilised, with respective roles clearly understood |
| ***Responsibilities:*** Green growth is a secondary task for a few government officers | Green growth programmes are integrated into the daily tasks of many government officers |
| ***Sectors:*** Energy and industry are most engaged, given the CRGE's focus on GHG abatement | Agriculture and other environment-dependent sectors are also critical in determining the future sustainability of growth. Together, an Ethiopian 'green brand' is shaped |
| ***Timing:*** CRGE was rapidly developed for Durban climate change conference | Continuous improvement of the strategy proceeds through action research and evidence-based learning |
| ***Analysis:*** International IPCC-derived methodology identified GHG reduction priorities | Analysis addresses further Ethiopian needs beyond GHGs, and is informed by international GE networks |
| ***Data:*** generated by external consultants | Ethiopian capacity to generate and use own data |
| ***PRIORITY OBJECTIVES:*** | |
| ***Overall:*** Higher growth while reducing GHG emissions | Higher growth whilst also improving equity and better use of all natural assets |
| ***Development:*** Aim to reach middle-income status | Aim for wider measures of wellbeing and equity |

| | |
|---|---|
| ***Environment:*** Focus on climate change – reducing greenhouse gas emissions plus adaptation | 'Doubly green' – wealth creation and diversification through natural resource management / biodiversity, recycling, pollution control, etc; environmental and social aspects of GHG focus also addressed; alignment and synergies between mitigation and adaptation activities |
| ***Equity****:* Winners and losers are not addressed | Inclusion is key, and distributional issues are tackled |
| ***Solutions****:* GHG abatement technology dominates *e.g.* cook-stoves | 'Structures, systems and signals' are developed over time, *e.g.* making a full energy transition. Better alignment of Green Economy Strategy with Climate Resilience Strategy, notably to adapt and build resilience to extreme weather and climate change |
| ***IMPLEMENTATION:*** | |
| ***Criteria****:* CRGE's plans and monitoring continue to emphasise GHG reduction and income growth | Broader 'inclusive green growth' *principles* and criteria are mainstreamed in planning and monitoring |
| ***Modality:*** Implementation is mainly through an extensive project portfolio | Implementation is also through mainstreaming green growth principles into institutions' overall work |
| ***Development co-operation****:* CRGE projects are attracting aid interest | Aid modalities are also improved, *e.g.* performance-based funds, budget support to CRGE |
| ***Building on what works:*** CRGE does not yet draw on existing 'green' projects in Ethiopia | Identifies, catalogues, prioritizes, and incentivises Ethiopian activities that meet inclusive green criteria. Decentralised learning and continuous improvement |
| ***Sectors and livelihoods****:* Activities are organised around sectors | Activities are also attractive to specific livelihoods, too, *e.g.* particular environment-dependent poor groups |
| ***Roles****:* EPA and MoFED take the lead, with one officer in each line ministry designated to CRGE | Closer inter-ministerial collaboration; all ministry staff delivering green growth objectives; CRGE progress and follow up is anchored in a specific institution |
| ***Economics*** *:*natural assets are not given clear value, apart from carbon | Green accounting is piloted; incentive schemes are developed *e.g.* payments for ecosystem services |
| ***From projects to policies:*** current CRGE focusing on individual projects | Greater emphasis should be on policy design, implementation and monitoring – not only environmental policies, but also cross-cutting growth policies, e.g. labour policy, innovation policy and national budgetary systems |
| ***Finance****:* hopes are pinned on new international climate funds | Influence mainstream budgets and expenditure, too; and attract 'quality' domestic/foreign investors, notably the private sector in financing CRGE activities. |

*Achieving green growth is a medium- to long-term endeavour – involving step-wise institutional and behaviour change that is likely to take several years.* The CRGE's Green Economy component lays out a politically- and financially-attractive first step in its set of projects to reduce GHGs and accelerate progress towards middle-income status. But green growth is as much about systems and structures as individual solutions. A further, and perhaps tougher, set of steps will be needed to transform institutions

and incentive structures to realise the potentials for all economic activity to also deliberately produce social and environmental benefits. Leaders in all sectors and livelihood groups will need to be engaged, and will need to gain green economy capacities and access green technologies. In other words, many people throughout Ethiopia will turn the good (if so far 'top-down') green economy vision into diverse, bottom-up realities. In particular, the agriculture sector will need to be much more engaged – not only because of the GHG emissions of the sector, but primarily because of its guardianship of natural assets, its employment of the majority of the population, and its potential to generate wealth for those who stay in a more sustainably managed sector.

### *6.2 Potential areas of improvement*

#### *6.2.1 Making CRGE more inclusive*

*Inclusion will become increasingly essential for the credibility of the green growth concept, and for its success.* While pursuing Ethiopia's primary growth aim of achieving middle-income status, a green growth strategy will need to better engage people who depend upon natural assets or who suffer from environmental hazards, developing opportunities to improve the wellbeing of specific groups of poor people through participating in green economic activity. Next steps in implementing the CRGE will need to put the regions, people (especially women, youth and marginalised groups) and business (in both the formal and informal economy) at the centre.

Inclusive growth is both an outcome and a process. On the one hand, it ensures that everyone can participate in the growth process, offering their information and opinions and taking part in decision-making, as well as in participating in growth activities themselves, benefit-sharing and monitoring green growth activity.

*The economic values of natural assets needs to be considered.* While initially focusing on the CRGE's primary environmental aim of cutting back GHG emissions, an effective green growth strategy will also need to make far better use of natural assets within ecological limits. Green growth is also about understanding, developing, investing in and earning more from Ethiopia's soils, water bodies, forests and biodiversity – and then accounting for changes in environmental stocks and flows. Green growth will also need to tackle the possible, if unintended, environmental and social problems and trade-offs that might arise from a focus on GHG reduction. The most important environmental and social values associated with natural assets – and not only the financial values – need to start becoming reflected in planning and accountability mechanisms,

*A set of inclusive green growth principles and criteria would be useful* for guiding further strategy development, screening existing and potential activities, and monitoring. The twin concerns for inclusion and for a wider range of environmental issues might best be encompassed by agreeing on a set of principles and criteria. The workshop suggested the bare bones of this:

- *Inclusion:* inclusion in the research and analytical processes (understanding social differentiation and inequality, and contributing different views and knowledge systems), inclusion in decision-making processes (extent of participation by business, local government, and civil society), inclusion in their outcomes (measure of involvement in inclusive green growth activities, perhaps by social/livelihood group), and inclusion in their impacts (measure of the distribution/equity of benefits, costs and risks);
- *Human wellbeing:* broader than income and food security alone, adding other measures correlated with environmental condition *e.g.* health, security, employment and skills;

- *Environmental limits:* net changes in levels of environmental capital (qualities and productivity of water, soil, biodiversity, etc, as assessed traditionally in state-of-environment reporting) and of environmental hazards (including measures of GHGs and pollutants).

### *6.2.2 Government leadership in green finance and policy coherence*

*There is now a need to rationalise recent policy and regulatory developments that touch on green growth, but are not yet fully coherent – notably the CRGE 2011, GTP 2010, the biofuel strategy 2007, and the Investment Proclamation 2006 (revised in 2012).* In a country where government still tends to lead in setting the overall development direction, the next national development plan, i.e. the successor to the GTP, should be treated as the principal vehicle for policy coherence and mainstreaming inclusive green growth. Hence CRGE aspirations and implications need to be taken up early in post-GTP planning. Furthermore, some policy constraints that block all of these will also need resolution: firstly, reforming land use planning policy so that spatial and sustainability matters can be considered together; and secondly, strengthening rights regimes for natural assets and carbon so they are equitable and support sustainable practice.

*Shifting mainstream expenditure, and attracting other forms of investment, towards green growth will be as important as projects that attract special climate finance*. An inclusive green growth strategy should be attractive to a wide range of investors, and not only to those operating in the (still-uncertain) international carbon and climate finance market. It should be of interest to domestic and foreign investors who understand that greener, inclusive approaches are more resilient to shocks and are more reliable in securing long-term growth, as well as those export markets that favour environmentally- and socially-sound goods and services through means such as certification and labelling.

*Government leadership in green planning could extend to budgeting and purchasing, too.* Government can lead implementation by setting examples in areas for which it has lead mandate. Two suggestions can confidently be made. Firstly, government expenditure will need to be reviewed and revised against inclusive green growth criteria, building on established public environmental expenditure review protocols. Secondly, government procurement of sustainable goods and services would send strong signals to market players supplying government, which can help the market to get used to new specifications (OECD, 2012). The government's public procurement database, to which all prospective government suppliers are required to register, could start to introduce green considerations. While challenging initially, trials in sustainable public procurement of vehicles, buildings, equipment and supplies could be launched, and there are international networks that can support this.

### *6.2.3 Incentivising all actors*

*Establishing incentive schemes:* The workshop felt that the most urgently required incentives are at the level of those individual who are in a position to spearhead green growth – career incentives, especially for government officers and for those working in research and knowledge fields. For example, the Forum for Environment's Green Award Scheme has been encouraging of leaders in the industry; more could be done for government officials and scientists.

Beyond this, mainstreaming green growth entails resetting the policy and economic 'signals' that stakeholders receive. Thus incentives aimed at individuals will need to be followed up, in a step-wise manner, by sector-wide schemes that (1) shift subsidies from 'bads' such as fossil fuel use to 'goods' such as energy efficiency and renewable energy, and (2) offer payments for defined and verified environmental services through both domestic and international payment mechanisms. Such incentives can have a wide-ranging impact, and be a cost-effective and sustainable complement to implementing specific green growth projects designed top-down. Access to these incentive schemes, and their distributional implications, will require detailed assessment: poor people can be disproportionately affected by some subsidies, and richer

people can often better make use of new subsidies than the poor. Richer households spend a proportionately larger amount on fuel products; this would indicate that they benefit more than poorer households from any universal fuel subsidy on these products (Mekonnen et al., 2012). Other studies also show that in rural areas relatively wealthy households benefit more from chemical fertilizer price subsidy than poor rural households (Holden et al., 2005). A multi-stakeholder accord on green economy might be considered: a similar approach has been agreed in South Africa, establishing the relative roles and commitments of business, civil society, and central and local government.

*Identifying and building on what already works for inclusive green growth in Ethiopia:* Establishing what existing approaches meet inclusive green growth criteria in different Ethiopian contexts can help with the detailed design of incentive schemes (as well as individual projects), inspire stakeholders, and attract investors and gain their confidence:

- *Activities and businesses – an 'Ethiopian catalogue' of existing inclusive green growth enterprises and activities* could be prepared, bringing together evidence of the greenest, most inclusive, and profitable activities that work well, building on those identified in section 3. Here, there are opportunities for improving synergies with the Climate Resilience Strategy, identifying enterprises and activities that also adapt and build resilience to extreme weather and climate change. Government and international actors should also be more proactive in providing policy and support signals to the private sector, to create the enabling conditions for them to play a more significant role. This could be done through: easing access to loans or tax concessions when green business proposals can bring about positive economic and environmental outcomes; and making training and capacity development opportunities available so the near-term green skills gaps can be more effectively bridged.
- *Governance – a review of existing Ethiopian holistic systems that manage to integrate poverty reduction and environmental goals on the ground* (*e.g.* ACORD, section 3.7) can provide insights on how to strengthen Ethiopian government, local government, business and community institutions. Traditional governance mechanisms often do not suffer the 'silos' of government bureaucracies
- *Sector models – one or two sectors could be selected as pilots where there is clear potential for green and inclusive innovations*. For example, Ethiopia's railway sector has already explored potentials for more inclusive approaches to transport, and is showing how environmental issues can be handled constructively, throughout the construction cycle and the railway's value chain. Agriculture also offers opportunities to bring together inclusive, profitable models that realise value from natural assets and also build climate resilience.

**Box 2. Railway construction and its green growth linkages**

Ethiopia's Growth and Transformation Plan (GTP) aims to lay lasting foundations for structural change, forging one well-integrated economic community across the country and region. The key sectors identified for this integrated approach is energy, transport and telecoms. And a major way in which transport will be transformed is through investing in a country-wide railway network project, which will ultimately cover 5000km. The Ethiopian Railway Corporation has the responsibility of realizing a railway network, and is adopting a green economy approach – optimising multifaceted economic, social, and environment benefits.

The first phase is constructing nearly 2,400 km of national railway network, plus 34 km of light railway network in Addis Ababa during the GTP period. To be run on electricity, over 90% of which is produced through non-polluting hydroelectric means, it will hugely reduce both the carbon intensity of bulk transport compared to trucks, and local air pollution. And the railway will be inclusive – offering transport and market access to growing numbers of people, with potential to grow trade in natural resource products, and to create business opportunities for many Ethiopian companies and employment opportunities for both skilled and unskilled workers in rural and urban areas. Finally, the railway sector has demonstrated wider linkages, upstream and downstream of its construction, and 'horizontally' across sectors and locations.

Economic assessment: Railway network construction and operation is, by and large, human- and capital-intensive. The construction involves over 40 companies in the design and construction stages, and over 20 local manufacturing companies will be involved in maintenance, through the production and supply of spare parts and providing metal engineering and electro-mechanical services (MoFED, 2010). The development of a national railway network will integrate and empower the economic activities of local communities, such as farmers, by providing affordable and efficient transportation. At both local and national levels, it will create the conditions necessary for developing local resources and generating employment, e.g. improved access to market for agricultural products and to social services, which will raise living standards in Ethiopia. At regional level, too, the railways project will contribute to regional integration and create regional markets for products and services of the Eastern Africa region. Rail freight will also decrease the country's dependence on fossil fuel imports, which will increase economic stability.

Environment assessment: The Ethiopian Railway project is expected to result in a very significant reduction of 8.9 MtCO2e per year by 2030 compared to road transportation, which is currently the norm for bulk transport. The railway will also reduce air pollutants, congestion, noise and accident levels compared to road transport. While there are potential negative environmental impacts of the railway, many mitigation measures have also been recommended, e.g . building contractors would be asked to use modern techniques to suppress dust at construction sites, and to sustainably manage waste including domestic garbage from work camps, construction refuse from work sites, and litter from passengers and residents at train stations.

Social assessment: Estimated job creation for 1st Phase Railway Construction is more than 350,000 permanent and provisional job opportunities (professional, semi-professional, semi-skilled, unskilled and informal sector). It has been recommended to include clauses that require contractors to give priority for local workers, both skilled and unskilled. The presence of these workforces will increase indirect opportunities, notably for women, e.g. to supply food and other consumables at worksites. Businesses in local towns will come to benefit in the longer term through providing various goods and services to rail users. Finally, the project is expected to enhance access to social services, including health care, potable water, education and administration by increasing the mobility of the people and resources required to run these services.

*Source:* Communication with Shewangizaw Kifle, Chief Officer, Infrastructure Asset Management Department, Ethiopian Railways Corporation

### *6.2.4 Embracing the learning curve and strengthening research capacity*

*Inclusive green growth will be a learning process, and Ethiopian monitoring and research capacity will need to improve.* If the first phase of the CRGE was characterised by producing an impressive document and basic commitment in a short time, the next phase will surely have to be about experimenting, learning, and continuous improvement systems. This is because inclusive green growth has not been fully established in any country to date. CRGE's proposals will, therefore, need to be treated as '*hypotheses to be kept under review'* and not as '*blueprints to be followed exactly'*. This is no more evident than in the CRGE's plans for changing the livestock sector: social, agricultural and climate sciences (not to mention the need for participatory methodologies and impact assessment) now need to be applied in assessing the feasibility of these plans, in developing the most practicable solutions for given social, cultural and ecological contexts, and in seeing what actually transpires.

Mobilisation of, and investment in, Ethiopia's own research capacity and data collection is urgently required. Ethiopian scientists who are well-connected with both field conditions and policy makers will be critical for identifying green and inclusive pathways that work properly in local contexts. Monitoring will be important, and it is encouraging that the CRGE will be building up a national data centre: this will need to cover the breadth of inclusive green growth criteria above. While a monitoring and statistical system that assesses linked human and ecosystem wellbeing may be missing and is far-off, Ethiopia's separate environment and development/poverty monitoring systems could now be encouraged to find areas of convergence.

### *6.2.5 Linking domestic green strategy to international green processes*

*Ethiopia can benefit from the strong international 'green' positioning that it has already created.* The CRGE's international strategy is aimed at attracting international climate finance and support from development partners. This calls for considerable capacity for GHG abatement project business planning, management and monitoring, reporting and verification (MRV), all of which is anticipated by the CRGE. However, international climate finance regimes face uncertainties on the part of too many countries and companies. Therefore, Ethiopia will do well to bear in mind other international possibilities, notably in regional markets for the goods and services produced by a green Ethiopian economy, in wider international environmental markets, and in global collective action. In this sense, the current focus on a national 'project shopping list' could open up more to regional and global opportunities. A stronger capacity for green growth market intelligence, engagement and 'green Ethiopia branding' will be key; as will safeguard capacities that can reliably meet international standards in ESIA (for investment projects) and SEA (for policy change).

*Aid projects can be a useful catalyst for installing the infrastructure, technologies and capacities needed for inclusive green growth*. Moreover, the signs are that some changing aid modalities may also support green growth outcomes. For example, Ethiopia can expect to face new aid models where 'payments on delivery' are made depending upon the exact quantity of GHGs reduced and biodiversity protected. This model allows least-cost and locally-suited solutions to be used to achieve given performance levels, fosters innovation, and creates real incentives for action. As this modality is already dominant in some environmental markets, its use also helps to build local capacity and readiness for such markets, and for negotiating deals that work well for Ethiopia.

### *6.2.6 Networking with like-minded countries*

*An international network, forum or alliance of countries committed to inclusive green growth could be invaluable.* Within a few recent months, missions from Mali, Nigeria, Tanzania – and now the OECD – have visited Ethiopia to learn about its emerging approaches to green growth. This interest is likely to grow. A short case study like the present one offers a means for Ethiopia to share a snapshot of lessons and ideas to date. However, Ethiopia has much more to gain from international networking. The October 2012 workshop concluded that the OECD's facilitation of this brief reflection was valuable, that similar OECD support to other countries would be welcomed, and that several such exercises would form a very good foundation for a network, forum or even alliance of several countries aiming for green growth in their own diverse ways. Such a network could organise:

- learning events on particular issues, technologies, and policy instruments
- policy processes to tighten international positions, notably for global collective action
- bilateral exchanges within the network, to match the particular needs of one country with the experience and skills of another

For Ethiopia, engaging in a network of developing countries could be a good complement to the particular international links that have already been established *e.g.* with the Global Green Growth Institute

and external consultants. UNEP's Partnership for a Green Economy (PAGE) initiative, multi-stakeholder fora such as the Green Economy Coalition, as well as regional development banks' various plans for green growth country activities all offer real potentials, but none of these is driven by, and for, developing countries.

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## ANNEX 1:

## CONSULTATIONS CONDUCTED IN PRODUCING THIS COUNTRY CASE STUDY

The findings and recommendations of this case study reflect a broad consensus amongst participants at the EPA/OECD workshop held in Addis Ababa on 23-24 October 2012. They also draw on the information kindly provided by individuals interviewed separately in the same week. However, workshop participants and interviewees acted in their personal capacity, and the case study does not necessarily reflect the views of any one individual or their organisation.

**Participants at the Ethiopia Inclusive Green Growth Workshop October 2012:**

| | |
|---|---|
| Nadew Tadele | Ministry of Water and Energy |
| Semere Beyene | Ministry of Water and Energy |
| Belaynesh Birru | Ministry of Water and Energy |
| Betlhem Mekonnen | Ministry of Water and Energy |
| Tesfaye Abebe | Ministry of Water and Energy |
| Abebe Workagegnehu | Ministry of Water and Energy |
| Tadesse Sore | Ministry of Agriculture |
| Esayas Ayele | Ministry of Transport |
| Robel Meseret | Ministry of Transport |
| Amha Bekele | Ministry of Industry |
| Wondwossen Sintayehu | Environmental Protection Authority |
| Hannah Melkamu | Environmental Protection Authority |
| Selamawit Desta | Environmental Protection Authority |
| Shimeles Sima | Environmental Protection Authority |
| Moges Shiferaw | ACORD |
| Timnit Wolde-Giorgis | IDRI |
| Shewangizaw Kifle | Ethiopian Railways Co. |
| Kemen Austin | World Resources Institute |
| Juliya Hilless | University of Bayreada |
| Hailemariam Mesfin | PANOS ETHIOPIA |
| Solomon Desalegn | PFE |
| Hiwot Dessalegn | Echnoserve |
| Bayu Nebsu | Echnoserve |
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| *Shannon Wang ** | *OECD* |
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** Authors of this paper and facilitators of the workshop*

**Supplementary interviews conducted by Bass, Ferede, Fikreyessus and Wang:**

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- Katrine Vestbøstad, Regional counsellor/Climate Change, Environment and Clean Energy, Norwegian Embassy
- Sisay Nune, National Programme Officer, Norwegian Embassy
- Alemu Mekonnen, EDRI / University of Addis Ababa
- Emma Williams, Climate Change Advisor, UK Department of International Development (DFID)
- Kerry Conway, Private Sector Development Advisor, DFID
- Admasu Taye, CRGE Funding Facility Director, Ministry of Finance and Development Planning (MoFED)
- Temesgen Walelign, Director of Development Planning and Research, MoFED
- Budget Director, MoFED
- Manuel Flury, Director of Cooperation, Swiss Agency for Development and Cooperation
- Senait Regassa, National Programme Officer, Swiss Agency for Development and Cooperation

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