



# GREEN economy

## Building Inclusive Green Economies in Africa

Experience and Lessons Learned 2010-2015





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# Building Inclusive **Green Economies** in Africa

## Experience and Lessons Learned 2010-2015



At the request of governments and with the funding support from the European Union and the Government of the Netherlands, UNEP has been carrying out Green Economy Scoping Studies, Assessments and Sectoral Studies to examine the opportunities and challenges associated with a green economy transition. This summary highlights the key findings of this work carried out in Burkina Faso, Egypt, Ghana, Kenya, Mauritius, Rwanda, Senegal and South Africa, as well as progress made by other African countries. The document aims to assist policymakers better understand the diverse benefits of green economy investments (from employment, to poverty reduction to sustainable use and management of natural resources) by sharing good practices and policies of countries which have been actively taking initiative in the global transition to build greener and more inclusive economies.

This synthesis report provides an overview of where Africa, as a region, stands in terms of transitioning to an inclusive green economy. It draws on recent studies to summarise the prospective gains and challenges associated with investing in a green economy and outlines a way forward to prioritise policy reforms, with a specific section on how to turn strategies and practices challenges into opportunities. Collectively, this report highlights how a transition to a green economy may be achieved within a range of country conditions.



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## LIST OF ACRONYMS

AFRICEGE	Africa Centre for a Green Economy
AGEP	African Green Economy Partnership
AMCEN	African Ministerial Conference on Environment
BAU	Business-as-usual
BRIC	Brazil, Russia, India and China
CO <sub>2</sub> e	CO <sub>2</sub> equivalent
CRGE	Climate-Resilient Green Economy
DEA	Department of Environmental Affairs
ECA	Economic Commission for Africa
EDPRS	Economic Development and Poverty Reduction Strategy
ENCA	Ecosystem and Natural Capital Accounts
GDP	Gross Domestic Product
GE	Green Economy
GHG	Greenhouse gas
GSGDF	Ghana's Shared Growth and Development Agenda
ICT	Information and Communication Technology
ILO	International Labour Organization
IMF	International Monetary Fund
IPP	Independent Power Producer
MID	Maurice Île Durable
MSW	Municipal Solid Waste
Mt	Million tonnes
PAGE	Partnership for Action on Green Economy
PAYT	Pay-as-you-throw
PEI	Poverty and Environment Initiative
PES	Payments for Environmental Services
PROSOL	Tunisia's programme for solar thermal market development
R&D	Research and Development
SADC	Southern African Development Community
SEEA	System of Environmental-Economic Accounts
SNA	System of National Accounts
UN	United Nations
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Programme
UNSD	United Nations Statistical Division
YESDP	Youth Employment for Sustainable Development Project





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This synthesis is a compilation of numerous Green Economy Scoping Studies, Assessments and Sectoral studies which have been carried out since 2010 across eight countries in Africa (Burkina Faso, Egypt, Ghana, Kenya, Mauritius, Rwanda, Senegal and South Africa). Commissioned by the United Nations Environment Programme (UNEP) at the request of respective governments in partnership with national research institutes, the Millennium Institute (MI) and other partners, the studies were part of the “Green Economy and Social and Environmental Entrepreneurship Development in Africa” Project, which was managed by Joy Kim, Senior Economic Affairs Officer, under the overall guidance of Steven Stone, Chief of the Economics and Trade Branch, and Desta Mebratu, Deputy Director, Regional Office for Africa.

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# FOREWORD



There is growing evidence that Africa is seizing the opportunity to make a green economy transition, which is expected to generate sustainable economic growth, jobs and social benefits, as well as protect its vital natural resources.

Africa, early on, realized that continuing with business-as-usual models of development was not a practical option in a world of increasing environmental scarcities, economic uncertainty and widespread poverty. The African Green Economy Partnership (AGEP), adopted at the 14<sup>th</sup> African Ministerial Conference on the Environment (AMCEN), demonstrates a strong commitment on behalf of African leaders towards the Green Economy in Africa.

As a result, countries across the continent have been undertaking policy reforms and green investments aimed at addressing poverty and hunger, climate change and natural resource degradation, while simultaneously providing new and sustainable pathways to economic development and prosperity for all.

From promoting energy efficiency in Egypt and developing renewable energy export capacity in Ghana, to the financing of green initiatives in South Africa, the drive to create more sustainable growth through a mix of policy reforms and economic instruments is now being embedded at the national level.

This report summarizes the key findings of a series of assessment reports recently carried out by the Green Economy in Africa project supported by the European Union and led by the United Nations Environment Programme (UNEP) in close collaboration with national partners.

While each country is forging its own pathway, the report presents an array of examples that show how countries at the forefront of this transition recognize the potential of shifting to a green, low carbon and inclusive economy. Building on a strong endowment of natural resources, skills and cultures, Africa is well-poised to benefit from a global shift to more sustainable models of economic growth.

For example, the report shows that under green economy investment scenarios, the national real GDP in Kenya is projected to exceed a business-as-usual model by approximately 12 per cent by 2030. While in the energy sector, investments in expanding solar and wind capacity in Senegal, for instance, are projected to create up to 30,000 additional jobs by 2035.





With approximately 70 per cent of the population in Africa under the age of 30 and an estimated 11 million young people expected to join the labour market every year, green investment could not only alleviate poverty pressure, but also drive new industries and innovations.

The rise of leadership in Africa to advance the green economy transformation at the national level is a source of inspiration to UNEP, and we strongly encourage and support the sharing of national practices and policies contained in this report. Enabling conditions exist, and while implementation is not easy, a growing body of evidence suggests that a full incorporation of green economy principles in development planning is possible and is already happening.

Achim Steiner  
UN Under-Secretary-General and UNEP Executive Director





# EXECUTIVE SUMMARY



**African countries are among the global front runners leading the transition toward greener and more inclusive economies.** From Rwanda to Ghana, Morocco to South Africa, Senegal to Ethiopia, the level of innovation, drive and commitment to creating sustainable economic growth is remarkable. Leaders from this continent have recognized the potential value of leap-frogging technologies and practices that led to a “pollute first, clean up later” mentality, which has characterised development throughout much of the world. Building on a strong endowment of natural resources and skills, as well as a culture that increasingly values such attributes, Africa is well-positioned to be the epicentre of a global transition to more inclusive economies that produce growth without eroding the underlying stock of natural wealth.

**Many African governments already have implemented green economy policies across key sectors.** In South Africa and Ghana, green public procurement has supported developments of emerging markets in areas of sustainably produced food, renewable energy and energy efficiency (IISD, 2008; IISD, 2012). Sound fiscal reforms are being implemented in Ghana (UNEP, 2014i), Mauritius (UNEP, 2014a) and South Africa (UNEP, 2013a) to introduce environmental taxes, remove environmentally harmful subsidies and reallocate budget expenditure towards green sectors. Capacity-building programmes and institutions, such as the Kenya National Cleaner Production Centre and the Rwanda Resource Efficient and Cleaner Production Centre, have been created to develop skills and support access to new green job opportunities.

**Green economy studies are supporting African governments in the prioritisation of green economy policy interventions to maximise economic, social and environmental benefits, thereby providing a framework for mainstreaming green economy in national development planning.** In order to further their endeavours toward green economies, UNEP has been providing technical support to assess green economy opportunities and challenges in 10 African countries.<sup>1</sup> Green Economy Assessments<sup>2</sup> analyse comparative economic, environmental and social implications of green economy investment scenarios to business-as-usual (BAU) scenarios (at both sectoral and cross-sectoral levels). The assessments have involved multi-stakeholder consultations to maximise engagement and support for developing the policies that will drive the transition to a green economy.

Key results from green economy studies conducted in eight African countries include:

— **Investing in a green economy can be an effective way for African countries to achieve sustainable growth.** Evidence from a range of green economy assessments demonstrate that redirecting investments to energy and resource efficiency can drive growth and produce gains that are higher than a business-as-

usual (BAU) scenario. For example, gross domestic product (GDP) growth in Kenya is projected to be 12 per cent higher by 2030 under a green economy scenario compared to a BAU scenario (UNEP, 2014b).

- **A transition towards an inclusive green economy in Africa represents an opportunity to address poverty, create employment and improve the overall well-being of the population.** Almost half of the population of sub-Saharan Africa still lives with less than US\$1.25 a day (World Bank, 2014), and the average youth unemployment rate stands at over 12 per cent (ILO, 2013a). In Kenya, a shift in investment to green sectors lead to an additional 3.1 million people being lifted out of poverty by 2030. Recent studies from Burkina Faso (UNEP, 2014e), Kenya (UNEP, 2014b), Senegal (UNEP, 2014f) and South Africa demonstrate that green economy policies will be an important source of new jobs (UNEP, 2014b; UNEP, 2014f; UNEP, 2014e; UNEP, 2013a). Indeed, Ethiopia has targeted goals for climate resilience and an additional 60 million jobs in its green economy by 2035. Investments in the expansion of solar and wind capacity in Senegal are projected to create between 7,600 and 30,000 additional jobs by 2035 (ILO, 2013b). In Burkina Faso, 160,000 million more jobs are expected to be created under a green economy scenario than the corresponding BAU scenarios, reaching 27.6 to 27.7 million jobs by 2050.
- **“Green” investments preserve the natural capital and ecosystem services that support the lives of millions of people and economies in Africa.** Africa is a continent rich in natural wealth, and in many respects far ahead of other regions in terms of inclusive wealth. This tendency can be reinforced and strengthened by investing and stewarding the continent’s natural wealth. In South Africa, investments in natural resource management and particularly in land restoration, are projected to save up to 250 billion tons of water by 2030, thereby reducing the water stress index by 1.1 per cent compared to BAU (UNEP, 2013a). In Senegal, green investments in sustainable agriculture technologies and techniques can prevent soil depletion and lead to an increase in agricultural production (UNEP, 2014f).
- **The overall performance of key sectors is expected to improve under a green economy scenario.** Conventional wisdom assumes a trade-off between environmental sustainability and economic growth. However, the studies in this report demonstrate the opposite – weak sustainability will eventually hamper economic performance. For example, in Kenya, the average agricultural yield under the green economy scenario improves compared to BAU by about 15 per cent by 2030 (UNEP, 2014b). In Egypt, investing in household water saving devices for domestic use is estimated to result in annual water savings of 10-20 per cent. In Burkina Faso, investing in renewable energy is projected to increase total electricity supply by 140 per cent by 2050 and expected to increase electricity generation from renewables from 20 per cent in 2012 to 60 per cent in 2050 (UNEP, 2014e).
- **Policy environment is an important part of supporting a green economy transition.** When coupled with sound regulatory frameworks, appropriate pricing and incentives, green investments could accord sustainable benefits with more inclusivity. Effective regulations however are contingent upon rigorous monitoring



and enforcement mechanisms. Kenya has instituted several effective policies for monitoring and compliance including tax exemption on renewable energy, environmental regulations for biodiversity conservation, water quality and waste management. A carbon tax will be introduced in South Africa in 2016, at the rate of SAR 120 per tonne of CO<sub>2</sub> equivalent. If managed with careful consideration of potential side effects, the introduction of the carbon tax can help South Africa's ambitions to reduce CO<sub>2</sub> emissions, providing appropriate market signals to curb unnecessary or wasteful consumption. Shifting the tax system from primarily levying jobs and incomes towards environmentally damaging and unsustainable practices has been suggested as a mechanism for capturing environmental externalities. The design of incentives, however, is crucial given that green incentives may have an impact on trade competition. Exit strategies are critical to long-term planning.

- **Fiscal policy reform can open new space for growth, investment and social protection – hallmarks of an inclusive green economy.** The removal of harmful subsidies can create fiscal space for new investments in green sectors and the provision of essential services. The Government of Ghana, for example, removed fossil fuel subsidies in June 2013, freeing up public resources (about US\$1 billion per year) that will be used to implement inclusive green economy policies (UNEP, 2014i). According to IMF (2013), reforming fossil fuel subsidies in Africa would free public resources amounting to 1.4 per cent of the region's GDP – resources that can be used to finance social protection and investments in education and health. Revenues raised by the new tax could also be used to invest in green sectors' research and development to stimulate innovation, reduce waste and the cost in production processes.
- **For a successful global transition, national development planning processes should be reframed in the context of green economy.** Many countries that have participated in these assessments have used the findings as a catalyst for action on their own national green economy initiatives. In Kenya, the Green Economy Assessment has contributed to the country's Green Economy Strategy and Implementation Plan, which has become an integral part of the Medium-Term Plan for 2013-2017. In addition, several countries, such as Ghana, Kenya, Mauritius, Mozambique and South Africa, are developing national strategies and action plans. For a green economy strategy to be effectively implemented and generate the results expected, it is important to integrate green economy considerations in the development planning cycle and subsequent financing.
- **There is a need for finance planning and policy.** Green economy investments often require upfront payments over extended periods. Financing, however, is often costly or unavailable. Possible policy tools for financing green economy activities may include soft loan programmes, credit systems, social venture capital, conditional grants, carbon credits, sovereign wealth funds and microfinance. Several countries, notably Ethiopia, Mozambique and Rwanda, have established, or are exploring, special national funds to finance the implementation of their respective green economy strategies. The Government of South Africa has set up a Green Fund (SAR



800 million) to provide catalytic finance to facilitate investment in green initiatives. This includes funding green economy project initiation and development, research and development, and capacity-building initiatives.

**Recognizing that the green economy is a means to achieve Africa's objectives of sustainable development, employment creation, economic growth and poverty reduction, African ministers made a strong commitment on green economy at the African Ministerial Conference on the Environment (AMCEN).**

During 14<sup>th</sup> AMCEN session, decision on Africa's Post Rio+20 Strategy for Sustainable Development established mechanisms that provide coordinated support to Member States for the promotion of the green economy in Africa, including the development of partnerships and national strategies, the promotion of regional and international cooperation, including South-South cooperation, and the transfer of resource-efficient and green technologies and know-how. It also adopted a compendium of other decisions and programmes aiming to advance the sustainable development agenda in Africa that include an African Green Economy Partnership (AGEP) to facilitate coordinated support for Member States and contribute to the implementation of the global Partnership for Action on Green Economy (PAGE)<sup>3</sup>; review the African 10-Year Framework on Sustainable Consumption and Production (10YFP on SCP) and to strengthen and consolidate commitments to promote sustainable development. Building on these green economy initiatives in Africa, UNEP will continue to support forthcoming efforts through PAGE cross fertilising with AGEP. In Africa, Burkina Faso, Ghana, Mauritius and Senegal are the first countries that will be supported through this partnership.

*The move to embrace green growth has been tremendous across Africa over the last five years. Many African countries have indeed developed their National Green Growth Strategies to harness emerging opportunities. The same was done at regional and continental levels.*

Hon. Stanislas Kamanzi  
Minister of Natural Resources, Rwanda  
49<sup>th</sup> African Development Bank Annual Meeting  
20 May 2014  
Kigali, Rwanda

# 1 GREEN ECONOMY IN AFRICA

**Across Africa, recent studies show that “green” investments can not only lead to higher economic growth than investments, but represent a valuable opportunity for Africa to conserve the natural basis on which the economy and livelihoods depend.** Between 2002 and 2011, Africa’s real GDP increased an average of 5.1 per cent a year, considerably higher than in the previous decade. However, social and economic challenges remain: 48.5 per cent of Sub-Saharan Africans live in extreme poverty (World Bank, 2013). Seventy-six per cent of households are not connected to the grid and 70 per cent do not have access to improved sanitation (UNICEF, 2013). The much-needed economic growth though should not come at the cost of the environment, as socio-economic development and natural capital are closely tied in Africa.

**The stage is set for Africa to meet ambitious development goals, in particular by leveraging momentum and potential in Africa’s young and vibrant workforce, in renewable energy, and opportunities for green economy transition and technological innovation.** The goals for economic development in Africa are high. For example, Ethiopia’s and Ghana’s goal to reach middle-income status by 2025 and 2015 respectively is a shift which requires growth rates averaging 10 per cent per year. Although unsustainable macroeconomic trends (e.g. the raising public debt and annual deficit in Ghana) might challenge the achievement of economic growth objectives in some cases, rapid growth rates seem feasible, especially when considering the sheer momentum in the number of young Africans entering the workforce; 70 per cent of Africa’s population is under the age of 30, with 11 million young Africans expected

## What is a Green Economy?

The United Nations Environment Programme (UNEP) describes a green economy as “an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP, 2011). It is also an economy whose growth in income and employment is driven by reallocation from unsustainable industries to ones that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent losses of biodiversity and ecosystem services. Actions can refer to sectors (e.g. energy), topics (e.g. pollution), principles (e.g. polluter pays), policies (e.g. taxes or regulations) or an effort to mainstream certain principles (Appendix A) over time. Green economy integrates economic, social welfare and environmental policies, and focuses on new opportunities for economic growth that reduce pressure on the quality and quantity of natural capital systems (UNEP, 2011).

### No country can do everything, but every country can do something

Green economy in Africa is already underway with initiatives in an increasing number of countries. Each country presents unique social, economic and environmental contexts. Green economy efforts thus reflect a great diversity in approach. These are based on differences in current levels of development, national priorities, socio-economic and environmental contexts and existing legislation. Whether focused on 'quick-wins' (such as increased resources savings or waste reduction) or 'long-run strategies' (market development over time or structural transformation), this report demonstrates that effective and meaningful green economy actions can be taken by every country, which in turn can improve its development trajectory.

to join the labour market every year. Indeed, Ethiopia has targeted goals for climate-resilience and an additional 60 million jobs in its green economy by 2035.

**Elsewhere, Burkina Faso, Kenya, South Africa and Tunisia, among others, have already shown that green economy policies are an important source of new jobs.** In Kenya, the government and ILO contributed to the creation of around 800 green jobs in horticulture, manufacturing, retails and service industries through capacity building activities conducted in the framework of the Youth Employment for Sustainable Development Project (YESDP).<sup>4</sup> The Green Economy Modelling Report of South Africa showed that investing in the restoration of water ecosystem services and utilisation of biomass for energy has the potential to create up to 737,000 new jobs, 30 per cent more than in a BAU scenario (UNEP, 2013a). In Tunisia, the programme for solar thermal market development (PROSOL) has led to the creation of employment as 42 technology suppliers and 1,000 installation companies were registered in the country after the implementation of the incentive policy.<sup>5</sup>

**Enormous sustainable and untapped resources exist in Africa's renewable energy market.** Africa receives 325 days per year of sunlight (at more than 2000 KW/h per square meter) and is using less than 7 per cent of its hydroelectric potential; less than 2 per cent of its geothermal potential and wind power is being tapped. Various African countries have already implemented green economy policies that encourage renewable energy deployment. The introduction of feed-in tariffs for renewable energy in Kenya has contributed to the development of the sector, in particular the exploitation of biomass-based co-generation potential.<sup>6</sup> In Rwanda, investments in the expansion of grid-connected renewable energy supply could provide the potential to replace diesel generators that were put in place as emergency backup in 2004 (UNEP, 2013b).

**Additional up-front investments for a green economy transition may be considerable, but so is the potential reward.** Evidence from a range of green economy assessments demonstrate that a transition towards an inclusive green



## Countries with Specific Green Economy Strategies/ Action Plan at the National Level (including those whose Action Plan is underway)





### Burkina Faso

In 2013, the National Investment Plan for Environment and Sustainable Development was approved aiming to promote a green economy through increased funding for pro-poor environmental sustainability, by a target of US\$100 million. In the same year, Burkina Faso implemented its Green Economy Strategy to facilitate development in a variety of sectors with recommendations for moving forward. Under PEI (Poverty and Environment Initiative), the country is also establishing an Environment Intervention Fund, with initial resources of US\$10 million.

### Egypt

The Green Egypt: A Vision for Tomorrow explicitly states that the Egyptian National Competitiveness Council will incorporate Green Transformation into its on-going strategies. Additionally, the National Committee for Sustainable Development prepared its National Framework for Sustainable Development with the objective to promote economic growth, reduce pressure on the environment and enhance social justice.

### Ethiopia

Ethiopia's Climate Resilience Green Economy Strategy aims to transform Ethiopia into a carbon neutral middle income country before 2025. According to the OECD, as well as substantial internal domestic buy-in for the programme, donors gave considerable financial support to the strategy. For example the CRGE (Climate-Resilient Green Economy) facility was established, with Norway committing US\$60 million, whilst the United Kingdom has given significant funds to the CRGE through the Strategic Climate Institutions Programme.

### Ghana

Ghana's Shared Growth and Development Agenda II (GSGDA II): 2014-2017 focuses on socioeconomic transformation through inclusive, sustainable growth coupled with job development. One of the strategies under GSGDA II is to promote the adoption of the green economy principles in national development planning. Specifically the Government's policy will focus on enhancing the capacity of the relevant agencies to adapt to climate change impact, mitigate the impact of climate variability and promote a green economy. In addition, Ghana's Medium-Term National Development Policy Framework currently integrates components of green economy with targets to enhance per capita income to at least US\$3,000 by 2020. The move forward is anticipated with the on-going development of a Green Economy Action Plan and implementation of green businesses through the Switch Africa Green project.

### Kenya

The Medium-Term Plan (2013-2017) endorsed the development of a national green economy strategy. The plan explicitly focuses on green growth opportunities through renewable exploitation, carbon credits, resource efficiency promotion and clean production systems. The plan has integrated a "Green Jobs Approach" which will map current and future opportunities in green job creation, such as in the fields of organic farming, renewable energy, forestry, planning, waste management, etc. As a result of this plan, the development of a Kenya National Green Economy Strategy and Implementation Plan is currently being drafted.

### Mauritius

The MID (Maurice Île Durable) strategy aims to deliver sustainable growth, with a vision for Mauritius to become a model of sustainable development. While originally born as the government's response to the global energy crisis of 2007, MID now aims to facilitate economic growth that respects the limitations of natural resources; a growth that is delivered by an empowered population, able to grasp the new opportunities of a green economy; and to distribute wealth equitably. The MID strategy has resulted in a number of initiatives. For example, a massive increase in solar water heater use, paid for from the MID fund, with some 40,000 families receiving grants to install solar water heater. Mauritius is now developing a Green Economy Action Plan, which will feed into the first national development plan, the Blueprint 2020 (High Income, Inclusive and Sustainable Economy).

### Mozambique

Mozambique released a Green Economy Roadmap in 2012 with an associated budget. The country commits to spending US\$8 million through the inception phase to map natural capital, assess externalities, increase awareness, and prepare a new Green Growth Plan, among other initiatives.

### Rwanda

Rwanda's Green Growth and Climate Resilience – National Strategy for Climate Change and Low Carbon Development (2011) highlights its momentum towards a green transition. In order for the country to achieve its goal of development and climate resilience by 2050 the strategy seeks to guide national policy and planning, mainstream climate change into all sectors of the economy and to position Rwanda to access international funding. Rwanda has identified its intention to achieve sustainable land use and water management, alongside preservation biodiversity and ecosystem services. The Second Economic Development and Poverty Reduction Strategy (EDPRS) is also paving the way for the countries' vision to achieve middle-income status by 2020.

### Senegal

Senegal's National Strategy for Economic and Social Development (2013-2017) specifically mentioned 'promoting green economy' as one of the strategic objectives to achieve sustainable growth.

### Sierra Leone

The Sierra Leonean authorities are currently mainstreaming inclusive growth into their forthcoming development strategy. This development strategy will seek to integrate green growth into the country's Agenda for Prosperity. Through its Agenda for Change and the Agenda for Prosperity, Sierra Leone is aligned with elements of a green growth approach.

### South Africa

In 2011, South African government, business and labour groups signed a new Green Economy Accord, which highlights 12 commitments relevant to the Green Economy. The accord is geared to create 300,000 green jobs by 2020, while the National Development Plan and National Strategy for Sustainable Development Action also showcase South Africa's Green Economy transition. Between 2009 and 2013, the Green Economy Accord has been showing progress. US\$86 billion has been invested in infrastructure projects, with US\$80 million allocated to a newly developed Green Fund. The Fund is meant to finance high impact projects, thus reinforcing climate policy objectives, building evidence base to expand the green economy and attracting additional resources to support the Green Economy.

### Uganda

Uganda's National Report on the implementation of the Rio+20 commitments on sustainable development has reported on Green Economy Progress in terms of low carbon and inclusive growth, as well as resource efficiency. Moreover, relevant targets are set for 2040.

### Tunisia

Tunisian National Report on Sustainable Development has integrated the promotion of green economy, poverty eradication and enhanced environmental institutionalisation within their report. To date, Tunisia is demonstrating progress towards its green economy transition: The Tunisian economy generated an estimated 102,000 green jobs as of 2010, with the largest shares being in water and waste, agriculture and services. GIZ reports that 2,500 direct jobs were created in the renewable energy and energy efficiency sectors alone from 2005-2010, out of which 60% were generated by one specific initiative: the PROSOL programme for solar heaters.

### Zambia

In 2012, Zambia announced commitment to integrate green economy into the national agenda. While a recent stock taking exercise highlights that progress is still limited, many opportunities exist to accelerate green growth. For example, there are institutional structures in place for a green growth strategy in Zambia. Further, Zambia currently has a National Climate Change Response Strategy and Environmental Impact Assessment legislation. The Zambian government recently announced to develop an operational Zambian Inclusive Green Growth Strategy.



economy in Africa represents an opportunity to address poverty, create employment and improve the overall well-being of the population. The overall economic performance of key sectors is also expected to improve. Green investments preserve natural capital and ecosystem services, which support the lives and livelihoods of millions of people and economics in Africa.

This synthesis provides examples and insights for countries transitioning to a green economy. Through specific and relevant examples, it builds on documents and reports that contribute to an ever-increasing body of knowledge about green economy. Using illustrations from recent studies, it aims to enhance understanding about the implications of the green economy paradigm for Africa's transformation. This portfolio of active, effective and diverse efforts and policy initiatives from across the continent can help communities of practice build on existing experience. Policy and implementation can both focus on a development path that eases pressure on valuable natural assets, while better managing environmental, social and economic risks.



Local women preparing Marula oil for their own consumption (Photo: Ralph Bäcker, BSLM)



## 2 LEARNING FROM GREEN ECONOMY ASSESSMENTS

### 2.1 SYSTEMIC APPROACHES; DYNAMIC IMPACTS

In any society, the economic, social and environmental systems are constantly interacting with an impact on each other. For this reason, the benefits from green economy interventions are often most apparent when viewed from a systems standpoint (considering system dynamics and interconnections as a whole, versus sole focus on individual parts) (UNEP, 2011). While a systems perspective is reflected throughout this synthesis, it is worth highlighting a few key characteristics of system dynamics.

**Systems approaches (such as dynamic models) reveal valuable information because the benefits of green investments tend to cut across social, environmental and economic spheres and be realised over the medium-to-long term.** In Kenya for example, results from the assessment report indicate that from an economy-wide perspective, positive economic returns are expected approximately seven to 10 years after green economy policy interventions (UNEP, 2014b). In South Africa, green economy investments across sectors are expected to increase total employment by about 2 per cent by 2030 at the same time reducing CO<sub>2</sub> emissions by 3.4 per cent, as compared to BAU (UNEP, 2013a). Reaching ambitious development goals can require a long-term planning, and thus require long-term investment and planning. Increasing farm acreage under irrigation may result in a faster, short-run impact on national output than afforestation and reforestation. However, afforestation and reforestation increases long-term potential output, although benefits may be more difficult to account for during the first eight years of tree growth (UNEP, 2014c).

**Green economy actions are most catalytic when they address the interconnectedness of systems.** In several cases, the studies examined and highlighted implications of policy measures and investments within and across economic sectors. Water, energy and agriculture were a common focus of the assessment reports. Creating visibility for links between sectors helps to illustrate how improvements in one sector can affect others. In Senegal, investments in sustainable agriculture are being directed toward irrigation networks. The resulting organic agriculture systems employ techniques and land treatment that prevents desertification and salt intrusion. Agriculture production and crop yields are projected to increase over the anticipated BAU levels. Sector resilience can be raised by integrating capabilities in natural resource management, proactively looking for opportunities to adapt to and mitigate climate shifts, and establishing links between the sectors and the ecosystems upon which they depend (UNEP, 2014f).



**Small, triggering events can cause large changes in complex systems, when actions are directed at the right 'leverage point'.** For instance, potential decentralised renewable energy solutions, such as solar energy, can yield a range of development outcomes. This is particularly notable when considering the dispersion of African households across vast landscapes, and 76 per cent – or 600 million people – are yet to be connected to the electric grid. Game changing innovations do not have to be expensive to have a significant impact. One small solar LED lamp can save a family more than US\$1/week on kerosene (in Kenya, families spend on average 13 per cent of income on kerosene) – a substantial savings for many and an investment which can pay for itself after 12 weeks. Such a small household lamp can provide valuable evening hours for a child to complete his or her school work. In sub-Saharan Africa, where 25 million children (81 per cent of boys, 77 per cent of girls for 2005-2009) are not able to attend school, small enabling factors can influence broad development and economic trajectories.<sup>7</sup> The availability of lighting at night is particularly important for commerce, leading to multiple long-term benefits from new technologies. In Rwanda, local communities have been increasing production of high-quality products made from materials sustainably harvested from wetlands. This programme more than tripled the value added and accrued to local communities from the selling of products such as woven baskets, while stronger management practices are contributing to the preservation of wetland ecosystems.<sup>8</sup>

**Despite diversity in individual country conditions, policies, capacities and economic sectors, a number of common underlying principles and policy directions are shared as nations shift towards green economies.** For example, recognising the value of natural capital, gradually removing harmful subsidies, developing appropriate regulatory frameworks and monitoring, and engaging all key stakeholders are important features. Guiding principles that draw from lessons learned elsewhere can be referenced when new policies, new indicators and models, and new collaboration between actors and regions, are being developed.

### Green Economy studies in African countries

Ten countries in Africa have undertaken various green economy policy studies encompassing:

- Green Economy Scoping Studies, qualitative studies designed to determine a country's potential for greening various economic sectors and ultimately achieving a green economy transformation.
- Sector Analyses, a combination of qualitative and quantitative analysis to support national initiatives at a sectoral level. These studies focus on identifying best practice for greening a specific sector including identifying impacts for other sectors and employment.
- Green Economy Assessments, comprehensive studies that include quantitative analyses, using dynamic modelling to test the feasibility and effectiveness of proposed interventions, to examine investment and policy scenarios for short- and long-term economic, social and environmental impacts. Green Economy Assessments help provide a strong analytical basis for the development of green economy action plans.



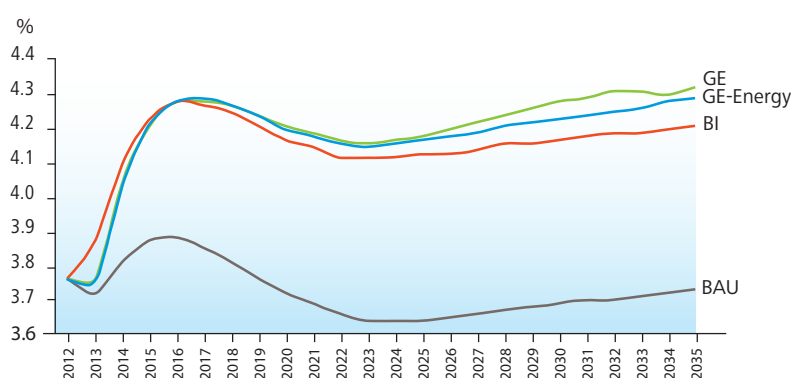
## 2.2 LINKING RESEARCH AND POLICY

### 2.2.1 Green Economy as a cornerstone of national development

**Investing in green economy has positive implications for economic growth.**

Green economy investment is one way to achieve high and sustained economic growth, as illustrated in this example from Senegal (Figure 1) (UNEP, 2014f). From increasing capacity of renewable energy, investing in cleaner public transport or transitioning to greener agricultural practices, countries are creating jobs, export opportunities and eradicating poverty. In studies of eight African countries, shifting investment to green initiatives resulted not only in increased long-run GDP growth, but more importantly overall measures of inclusive wealth was higher.

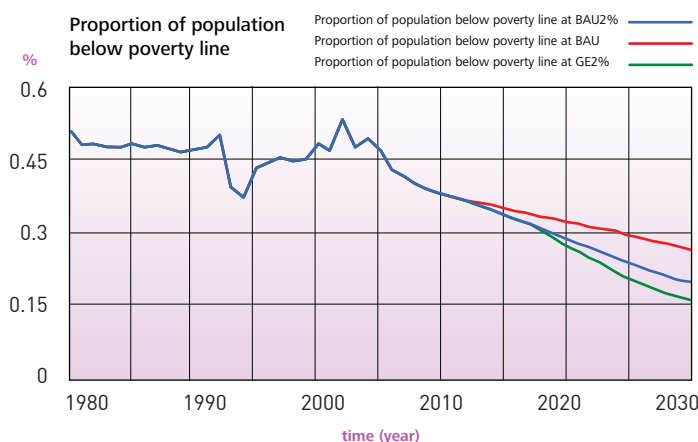
Figure 1. Senegal: Real GDP Growth Rate 2012 – 2035 under Green Economy and BAU scenarios (UNEP, 2014f)



**Green economy investments often result in positive social impacts, particularly poverty eradication.**

When compared to traditional investments, green sectors frequently benefit the poorest in society, who rely on natural resources for their well-being (e.g. rural employment stimulated from renewable energy development projects; improved food security from higher agricultural productivity; reduced household expenditure from energy efficiency improvements). In Kenya, a shift in investment to green sectors would lead to an additional 3.1 million people being lifted out of poverty by 2030 (Figure 2) (UNEP, 2014b).

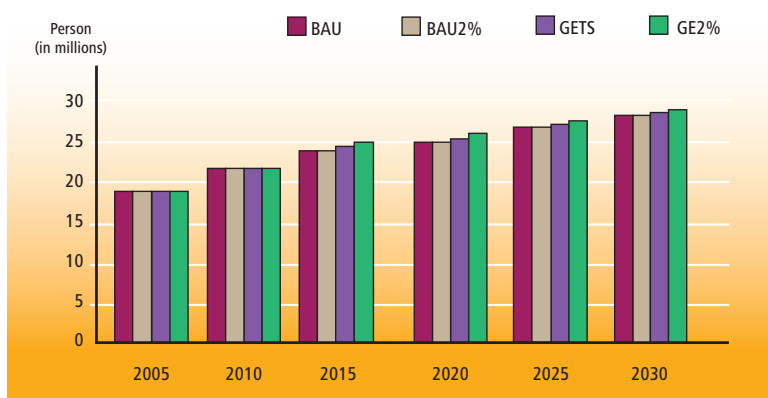
Figure 2. Kenya: Poverty headcount under Green Economy and BAU scenarios (UNEP, 2014b)





**Investing in green sectors has positive impacts on employment.** Job creation is a particular challenge in Africa. Approximately 70 per cent of the population is under 30,<sup>9</sup> and an estimated 11 million young Africans are expected to join the labour market every year (World Bank, 2014). Millions of decent jobs will need to be created in order to meet this growing and youthful population.<sup>10</sup> Given that green sectors, such as organic agriculture, are often more labour intensive than resource intensive, sustainable investments can lead to an increase in jobs. In Mauritius, a green economy scenario results in over 25 per cent more employment compared to a conventional growth scenario (ILO, 2013c). Since 1995, an estimated 486,000 work opportunities were created in South Africa in environmental rehabilitation programmes for sustainable forest management and reduction of invasive species. Thus, a green economy transition can help countries manage environmental challenges as well as provide meaningful social and employment solutions. Figure 3 shows the impact on jobs in South Africa resulting from green economy investments.

Figure 3. South Africa: job creation under Green Economy and BAU scenarios (UNEP, 2013a)

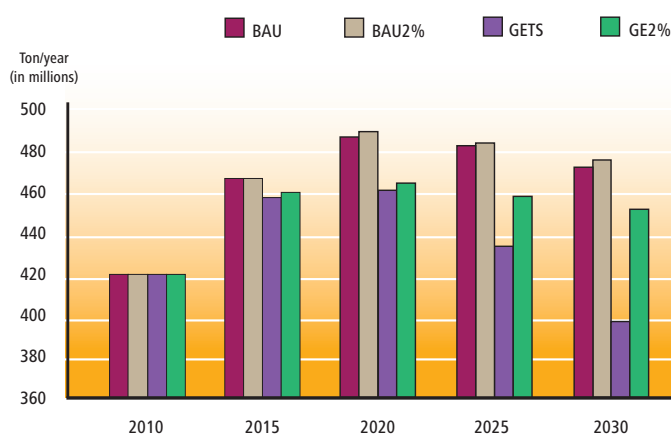


**Green Economy initiatives can create multiple environmental benefits and enhance natural resource management.** In Senegal, green investments help drive reductions in air pollution, improved agricultural yields and increased forest cover. Though African countries are not major greenhouse gas (GHG) emitters compared to the OECD and BRIC (Brazil, Russia, India and China) countries, green economy investments are anticipated to result in lower GHG emissions across the continent. When comparing among the same level of projected investments in Senegal, emissions are anticipated to be approximately 9 per cent lower by green economy scenarios than a BAU case (26.7 million tons). In Ethiopia, the government's Climate Resilient Green Economy strategy anticipates around 250 Mt CO<sub>2</sub>e less than the estimated amount under a BAU development path. As a result of green economy investments, CO<sub>2</sub> emissions are projected to be 9 per cent lower than the BAU 2 per cent case by 2030 in Kenya and 13 per cent lower than BAU in South Africa (Figure 4).

As demonstrated across a number of countries, transitioning to a greener and more inclusive economy – while not without its challenges – can have enormously positive economic and social benefits in the long term. Perhaps not coincidentally, African countries leading on green economy are innovating rapidly toward ambitious social and economic development objectives.



Figure 4. CO<sub>2</sub> emissions in South Africa under Green Economy and BAU scenarios (UNEP, 2014 a; UNEP, 2013a)



## 2.2.2 Green Economy improving sectoral performance: agriculture, energy, water

This section reviews joint benefits from agriculture, energy, water and addressing conservation across social, economic and environmental indicators.

### Agriculture

**In the agricultural sector, green investments result in positive agricultural yields and revenue.** Agriculture remains the dominant sector of the African economy, accounting for 32 per cent of Africa's GDP (World Bank, 2011) and supporting the livelihoods of 80 per cent of the African population (AFDB, 2010). However, food security remains a critical issue in many African countries. Conventional investments under BAU have been directed towards greater use of chemical fertilisers and pesticides in order to close the food production gap. While chemical inputs are projected to increase yields in the short run, they have a negative impact on soil quality in the medium to long-term, thereby threatening the sustainability of agricultural production.

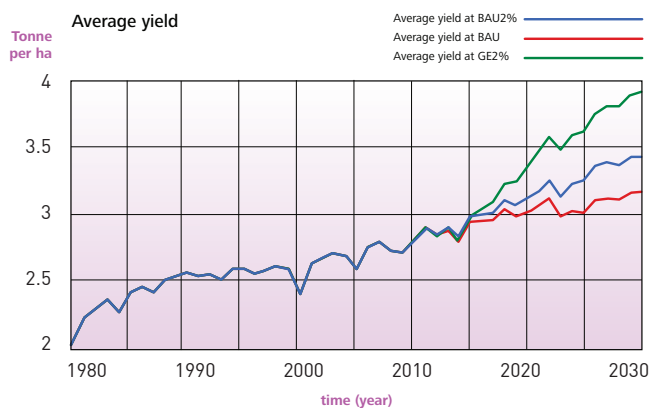
In contrast, the Kenya Green Economy Assessment results show that the reallocation of investments from chemical to organic inputs would result in sustained higher productivity. In particular, average agricultural yield under the green economy scenario would exceed the same under the BAU investment scenario by approximately 15 per cent by 2030 (Figure 5) (UNEP, 2014b). Furthermore, green agriculture can support increased export opportunities in higher value-added activities, such as organic produce, offering the potential for further growth. In Kenya, where agriculture

#### South Africa's Working for Water programme

An example of green public investment policy 'at work' is South Africa's Working for Water (WfW) (1995) programme, which restored more than 1.6 million hectares of land and created 30,000 jobs between 1995 and 2008. In addition, the harvested plant biomass was used to generate electricity, thereby reducing carbon dioxide emissions from fossil fuels.



Figure 5. Kenya: average agricultural yield under Green Economy and BAU scenarios (UNEP, 2014b)



accounts for one quarter of national GDP and 65 per cent of total exports, emerging markets and product innovation are critical to maintaining long-term growth and maximising green agriculture opportunities.

In South Africa, investments allocated to the adoption of ecological agriculture practices (such as organic fertilizer use) provide a sustained increase (5.5 per cent increase if the Green Economy Accord strategy is implemented) of the yield per hectare, as opposed to the short-term gains from conventional fertilisers. Green agricultural practices can add value to the selling price, as well as opening up export opportunities. In Uganda, for example, certified organic exports increased from US\$3.7 million in 2003/2004 to US\$22.8 million in 2007/2008, with organic products being sold at prices up to three times higher than conventional products (UNEP, 2009). The increasing demand for organic and sustainably farmed agriculture suggests strong trajectories for those products and the African farmers who produce them. The global market for organic food and beverages is projected to grow to US\$105 billion by 2015, from the total value of US\$62.9 billion in 2011 (UNEP, 2013b).

Green agricultural practices also allow farmers to reduce production costs due to efficiency gains and potentially to avoid additional costs that may arise as a consequence of climate change or unsustainable practices. For example, in Burkina Faso, the agriculture sector is highly vulnerable to the impact of potential climate change. Changes in rainfall patterns and temperatures could affect up to 30 per cent of agricultural production if no interventions are made. On the other hand, the

### Green agriculture

Green agriculture involves a multitude of different practices and changes of behaviour. It is characterised by shifting both commercial and subsistence farming towards ecologically-sound farming practices, such as efficient use of water, extensive use of organic and natural soil nutrients, optimal tillage, integrated pest control and many other processes that reduce the environmental impact of farming (UNEP, 2011).

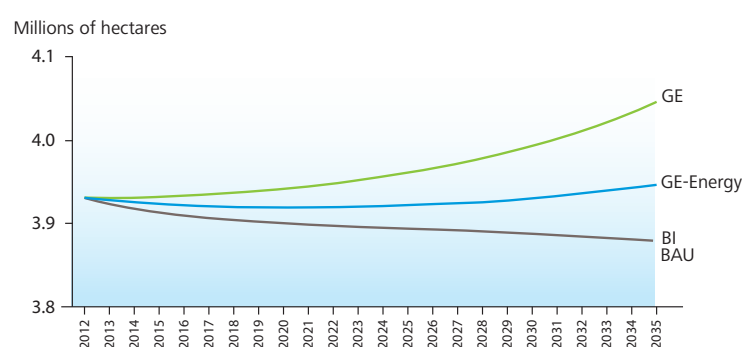




Burkina Faso modelling study showed that green economy investment scenarios mitigate some effects of climate change via investments in sustainable agriculture and climate resilient cultivation practices (UNEP, 2014e). In Egypt, on-farm agriculture water losses resulting from obsolete irrigation systems and practices can reach up to 40 per cent, thereby raising costs of production and, consequently, food prices. Green economy investments in water efficiency, such as replacement of faulty pipelines and introduction of drip irrigation, would contribute to water cost savings, thereby improving overall sectoral performance (UNEP, 2014d).

The assessments show that sustainable management of natural resources under a green economy is expected to reduce soil erosion and depletion, thereby maintaining available agriculture land for food production in African countries. In Senegal, it is estimated that green investments in sustainable agriculture technologies and techniques will facilitate the increase in arable land. On the contrary, total available agriculture land is projected to decrease in Senegal if no green investments are made (Figure 6).

Figure 6. Senegal: Availability of arable land under Green Economy and BAU scenarios (UNEP, 2014f)

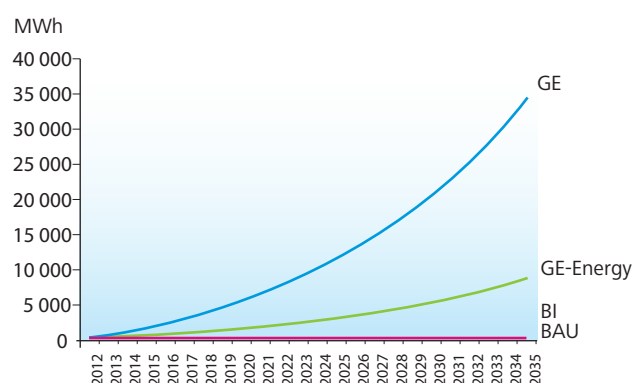


## Energy

**Green economy investments and policies in the energy sector can increase clean energy access, enhance efficiency and reduce costs while creating new employment opportunities.** African countries are net importers of fossil fuels. Even countries that are endowed with abundant fossil fuel reserves, such as Ghana, are forced to import refined oil due to limited refinery capacity. On the other hand, the renewable energy potential in Africa is enough to power the population many times over, with 93 per cent of natural and renewable energy resources remaining untapped (IRENA, 2012). Renewable energy has the potential to reduce Africa's dependence on foreign energy sources, increase employment and in many places reduce the use of wood fuel as an energy source for households. In Burkina Faso, renewable energy investment scenarios are projected to save up to 100,000 hectares of forest area by 2050, corresponding to a reduction of about 16,000 tonnes of CO<sub>2</sub>. Investments in the expansion of solar and wind capacity in Senegal are projected to create between 7,600 and 30,000 additional jobs by 2035.

**Green energy investments can help meet Africa's increasing need for electricity.** Africa is expected to add 250GW of electricity capacity by 2030, a 150 per cent rise compared to current capacity (IRENA, 2012). A shift to green energy presents an economic opportunity, potentially adding economic benefits while reducing energy costs across sectors. In Burkina Faso, electricity generation from renewables is projected to rise from 20 per cent in 2012 to 60 per cent in 2050-raising the total electricity supply by 140 per cent by 2050. This represents an increase of about 180 per cent compared to the BAU investment scenario (UNEP, 2014e). In Rwanda, investments in off-grid hydropower plants are expected to considerably increase electricity access in rural areas. The current installed capacity of off-grid hydro is 1.54 MW and the government planned an increase in total capacity of 15 MW at 70 sites through Private Public Partnerships (UNEP, 2013b). Figure 7 shows the potential increase in solar and wind power generation in Senegal under different investment scenarios (UNEP, 2014h).

Figure 7. Senegal: Additional solar and wind power generation under different investment scenarios (UNEP, 2014f)



**Investments in renewable energy and energy efficiency are expected to improve energy security, creating the enabling conditions for sustained economic growth in key sectors.** By producing energy from locally available renewable sources, African countries would reduce their dependency on fossil fuel imports and ensure the stability of energy prices. This is anticipated to reduce risks for key economic sectors - such as industry, tourism, agriculture – whose value added is heavily dependent on energy costs. Energy efficiency improvements in South Africa for instance, are expected to reduce electricity demand by about 5 per cent in 2030, as compared to BAU scenarios. In turn, reduced electricity demand would improve energy security and reduce the energy bill (UNEP, 2013a).

### Energy efficiency improvement in Rwanda's Sulpho Industries

Public support of energy efficiency investments can stimulate similar gains in private sectors. Rwanda's Sulpho Industries is a leading example of energy efficiency. Following strategic changes to their energy policy, Sulpho Industries reduced consumption by 50 per cent with the introduction of machinery that uses a mere 8 kWh.

## Water

Green interventions seek to reduce natural resource waste and costs through investments in efficient technologies, increasing sustainable production practices and addressing consumption. In particular, green economy policies and investments can be directed to water efficiency improvements and investments in unconventional water sources (e.g. desalination, wastewater re-use, rain harvesting). This approach could ensure sufficient water for present and future generations, especially in drought-prone areas. In South Africa, investments in natural resource management, particularly land restoration, would save billions of tonnes of water (UNEP, 2013a). In Egypt, investing in household water saving devices for domestic use is estimated to result in annual water savings of 10 to 20 per cent, while similar investments across the agricultural sector as a whole could save as much as 40 per cent or about 23 billion m<sup>3</sup> of water annually (UNEP, 2014d).

**Green economy transformations require a mix of policy, incentives, enforcement mechanisms, education and provision of information.** The establishment of sound policies and regulatory frameworks can create incentives, remove barriers, support innovation and regulate the most harmful forms of unsustainable behaviour (e.g. by creating minimum standards or prohibiting certain activities entirely). Effective governance, supported by national and international laws, can improve transparency, ensure development options and promote inclusivity. Education and capacity building are necessary to raise awareness and strengthen institutional capacity and train a workforce with new skills relevant to green jobs. Also, dedicated institutional frameworks for cross-sectoral planning are key to supporting green economy in policymaking. For example, Kenya and Senegal have set up inter-ministerial green economy committees to coordinate efforts toward a green economy transition.

Table 1 presents the main enabling conditions identified in UNEP's Green Economy Report (2011) for the key sectors that could drive a green economy in Africa. Section 3 reviews these enabling conditions in more detail, taking into account the context of Africa and presenting results of Green Economy Assessments.

*Green Economy driven by resource efficiency is the basis for sustainable development and poverty eradication. A green economy revolution is already taking place in Kenya, where the harvesting of geothermal energy from the East African Rift is just one of the many renewable energy projects underway across the country.*

Professor Judi Wakhungu  
Cabinet Secretary of the Kenyan Ministry of Environment, Water and Natural Resources  
Launch of the Kenya Green Economy Assessment Report



Table 1. Enabling conditions for a green economy transition

SECTOR	ENABLING CONDITIONS		
	Investment	Fiscal policies	Capacity building
Agriculture	<ul style="list-style-type: none"> <li>– Resource efficient technologies</li> <li>– Ecological farming practices</li> <li>– Post-harvest storage</li> <li>– Research and development</li> </ul>	<ul style="list-style-type: none"> <li>– Market price premium</li> <li>– Elimination of perverse subsidies</li> <li>– Organic agriculture incentives</li> </ul>	<ul style="list-style-type: none"> <li>– Training programmes on green farming practices</li> <li>– ICT</li> <li>– Public awareness and educational initiatives</li> </ul>
Water and Sanitation	<ul style="list-style-type: none"> <li>– Water efficient infrastructure</li> <li>– Non-traditional sources of water (e.g. desalination)</li> <li>– Small local water supply systems</li> </ul>	<ul style="list-style-type: none"> <li>– Removal of harmful subsidies</li> <li>– Fiscal measures (e.g. tax revenues, tariffs, etc.) to finance water infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>– Education and information programmes</li> </ul>
Forests	<ul style="list-style-type: none"> <li>– Protected areas</li> <li>– Forest certification</li> <li>– Planted forests</li> <li>– Agroforestry</li> </ul>	<ul style="list-style-type: none"> <li>– Payments for environmental services (PES)</li> <li>– Incentives for certified activities</li> </ul>	<ul style="list-style-type: none"> <li>– Improved information on forest stocks, flows and cost-benefit distribution</li> <li>– Research on ecosystem services</li> </ul>
Fisheries	<ul style="list-style-type: none"> <li>– Adjust fishing capacity</li> <li>– Establish protected areas</li> <li>– Scientific research</li> </ul>	<ul style="list-style-type: none"> <li>– Environmental fiscal reform</li> <li>– Redirection of harmful subsidies to green activities</li> </ul>	<ul style="list-style-type: none"> <li>– Awareness programmes on fish consumption</li> <li>– Re-training programmes</li> <li>– Best practices</li> </ul>
Renewable Energy	<ul style="list-style-type: none"> <li>– Renewable energy assets</li> <li>– R&amp;D and production</li> <li>– Clean development mechanism</li> </ul>	<ul style="list-style-type: none"> <li>– Phasing out of harmful subsidies</li> <li>– Carbon tax and feed-in tariffs</li> <li>– Public Financing mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>– Demonstration projects</li> <li>– Knowledge spillovers from R&amp;D in renewable energy technologies</li> </ul>
Buildings	<ul style="list-style-type: none"> <li>– New technologies</li> <li>– Sustainable building materials</li> <li>– Design and engineering expertise</li> </ul>	<ul style="list-style-type: none"> <li>– Energy or carbon taxes</li> <li>– Property tax exemptions</li> <li>– Grants and rebates</li> <li>– Subsidised loans</li> </ul>	<ul style="list-style-type: none"> <li>– Building codes and standards, green building design, energy auditing, labelling and certification</li> </ul>
Manufacturing	<ul style="list-style-type: none"> <li>– Closed-cycle manufacturing</li> <li>– Energy and water efficient technology</li> </ul>	<ul style="list-style-type: none"> <li>– Removal of harmful subsidies</li> <li>– Taxation on waste emissions and/or materials extraction</li> <li>– Incentives for green technologies</li> </ul>	<ul style="list-style-type: none"> <li>– Consumer awareness</li> <li>– Environmental impact assessments</li> <li>– Retraining of workers</li> </ul>
Waste	<ul style="list-style-type: none"> <li>– Collection services</li> <li>– MSW management</li> <li>– Reclaiming contaminated sites</li> </ul>	<ul style="list-style-type: none"> <li>– Volumetric landfill taxes</li> <li>– Pay-as-you-throw (PAYT)</li> <li>– Recycling credit</li> <li>– Deposit refund</li> </ul>	<ul style="list-style-type: none"> <li>– National certification programmes</li> <li>– Creative reuse of wastes</li> <li>– Training for waste workers</li> </ul>
Transport	<ul style="list-style-type: none"> <li>– Public transport infrastructure</li> <li>– Green vehicles and fuels</li> <li>– Remote work</li> </ul>	<ul style="list-style-type: none"> <li>– Taxes on fossil fuels</li> <li>– Congestion charges</li> <li>– Subsidies for low carbon vehicles and transport modes</li> </ul>	<ul style="list-style-type: none"> <li>– Public information</li> <li>– Mobility management and driver education</li> <li>– Best practices</li> </ul>
Tourism	<ul style="list-style-type: none"> <li>– Infrastructure</li> <li>– Environmental conservation</li> <li>– Technology improvements</li> </ul>	<ul style="list-style-type: none"> <li>– Tax reduction and subsidies</li> <li>– Payment for environmental services (PES)</li> </ul>	<ul style="list-style-type: none"> <li>– Labour force skills</li> <li>– Public awareness campaigns on sustainable tourism</li> </ul>
Cities	<ul style="list-style-type: none"> <li>– Public transport infrastructure</li> <li>– New smart monitoring and metering devices</li> </ul>	<ul style="list-style-type: none"> <li>– Tax incentives and removal of harmful incentives</li> <li>– Land and licence plate auctioning</li> </ul>	<ul style="list-style-type: none"> <li>– Green education into school curriculums</li> <li>– Demonstration projects</li> </ul>

Source: UNEP (2011)



# 3 ENABLING CONDITIONS FOR A GREEN ECONOMY TRANSITION

## 3.1 POLICY ENVIRONMENT

**Stimulating green economy investments can build sustainable benefits, with more inclusivity, when coupled with sound regulatory frameworks, appropriate incentives, market mechanisms, infrastructure and research and development.** Policy environments are an important part of supporting a green economy transition. These include accounting for and halting the erosion of natural capital stocks (including limiting government financing of activities that liquidate natural capital stocks or create environmental damages), addressing environmental externalities through full-cost pricing and aligning government and private sector spending with agreed directions for advancing a green economy.

### 3.1.1 Accounting for natural capital

**Transparency in accounting can be an important enabling condition that promotes equity across stakeholders in terms of equitable access to social services and natural capital.** Degradation of natural capital over time represents a massive and often irreversible loss that is seldom accounted for in national accounting systems. A great deal of work has gone into the development of environmental accounting methodologies that go beyond traditional indicators such as GDP. In Mauritius, the Ecosystem and Natural Capital Accounts (ENCA) initiative aims to

#### Accounting and values of natural capital

As of 2005, Africa's biologically-rich terrestrial areas shrank by more than half due to cultivation, degradation or urbanisation. This represents an enormous loss of potential income. The valuation and accounting of ecosystem services is essential to stimulate the conservation of natural capital and can be put into effect through the adoption of new regulations and incentives (e.g. payments for ecosystem services – PES). Accounting for environment in economic decisions makes sense on a number of levels related to health, security, well-being and economic sustainability. The Mau Forest complex in Kenya provides goods and services worth US\$1.5 billion a year through water for hydroelectricity, agriculture, tourism and urban and industrial use, as well as erosion control and carbon sequestration (UNEP, 2012b). Yet Kenya's deforestation losses were estimated at over US\$68 million in 2010 – a figure many times higher than the value of the country's forestry revenue in that year. Environmental accounting has helped motivate the government of Kenya to invest in rehabilitating the area and its vital ecological services.



provide a coherent framework for the integration of natural wealth into the System of National Accounts (SNA) through the use of the System of Environmental-Economic Accounts (SEEA), an international standard adopted by the UN Statistical Division (UNSD) in 2012. Quantifying the state of natural capital stocks – to ensure monitoring over time – is an important step to aligning market prices to account for externalities.

### 3.1.2 Addressing market failures

**Full-cost pricing can reduce undesirable impacts and trends for society and environment, while offering incentives for economic development.** Market conditions that fail to account for negative externalities constitute a form of subsidy. Under-pricing of scarce resources can allow environmentally harmful business practices to thrive, or result in inefficient allocation or utilisation of natural resources. Taxes on fossil fuel use and harmful subsidy removal can incorporate environmental impacts into prices, provided that costs are equitably distributed across actors to promote both sustainable and inclusive growth. However, given the potential social impact on low-income groups, these changes need to be carefully managed and phased-in over time, with clear public information on how savings will be reallocated.

**Fiscal policies (taxes, tariffs and harmful subsidy removal) that discourage undesired social or environmental impacts can also create revenue streams that can be used to encourage desired development.** In Senegal, almost 10 per cent of the municipal budget is spent on waste collection services and the revenues from the garbage collection tax are currently insufficient to cover such expenses. Consequently, the government is giving priority to waste reduction, regulations on packaging, waste sorting and landfilling, as well as economic instruments to encourage waste reduction, reuse and recycling (e.g. taxes on waste production and incentives to recycling) (UNEP, 2014f).

More broadly, environmental measures that enhance or foster sustainability can be a driver to create 'fiscal space'. For example, fossil fuel subsidy reform can reduce the use of polluting energy sources and also improve the government's fiscal balance. The government of Ghana removed fossil fuel subsidies in June 2013, freeing up public resources (about US\$1 billion per year) that will be used to implement inclusive green economy policies (UNEP, 2014i). According to the IMF, the fiscal cost of fuel subsidies, taking into account direct subsidies and foregone taxes, amounted to 1.4 per cent of the region's GDP in 2012 (IMF, 2013). In Ghana, for example, tax on timber products has been proposed to reduce deforestation, with the revenues to be ploughed into reforestation and afforestation activities. Improving fiscal outcomes in general is an important goal in countries where tax revenues are generally low, but warrant attention as high social welfare needs can quickly turn government accounts to deficit.



### 3.1.3 Green procurement and efficiency for public and private sectors

**When directed toward green products and investments, government spending can assist a nation's transition to a green economy.** Promoting green technologies through green procurement can encourage public and private sector alike to reduce costs, invest in green industries and encourage sustainable consumption. In South Africa, public institution procurement programmes have supported emerging markets, notably sustainably produced food, renewable energy and energy efficiency. As part of a National Programme on Sustainable Consumption and Production for Ghana (2011-2016), the Ghanaian government is finalising a policy and action plan that includes environmental and social standards as prerequisites for the public purchase of goods and services.

### 3.1.4 Access to finance

**Green financing is a critical stimulus for policy and technology adoption.** As several green economy assessment reports have suggested, the many advantages outlined in green economy proposals will be impossible to reach without access to affordable financing. These policies may include the introduction of soft loan programmes, credit systems, social venture capital conditional grants, carbon credits, sovereign wealth funds and microfinance. Mozambique, for example, is in the process of building a sovereign wealth fund that could be used to finance green economy actions and initiatives.

Private investments in green economy sectors can receive critical support as policies lower up-front capital costs. The Renewable Energy Law, introduced in Ghana in 2011, established the Renewable Energy Fund, which provides financial resources for the promotion, development and utilisation of renewable energy sources. Similarly, in order to nurture green entrepreneurship, the Africa Centre for a Green Economy (Afrigece) established an innovation hub in South Africa, seeking to provide financial and in-kind support to green, innovative entrepreneurial ideas.<sup>11</sup> The size and scope of enterprises supported by green economy policies should be appropriate for the

#### The South African Green Fund

The Government of South Africa through the Department of Environmental Affairs (DEA) has set up a Green Fund to support the transition to a low carbon, resource efficient and climate resilient development path delivering. High impact economic, environmental and social benefits are anticipated from the initial allocation of SAR 800 million available in the Fund. The aim of the Fund is to provide catalytic finance to facilitate investment in green initiatives, such as project initiation, research and development and capacity building. Ethiopia and Rwanda are also exploring to establish a special national fund to finance their respective national green economy strategies.



economy in question. In Egypt, the vast majority of companies are small and medium sized enterprises. The flexibility of these comparatively smaller companies represents a force for innovation and makes them good candidates for focused financial initiatives.

### 3.1.5 Incentives and disincentives

**Phasing out of subsidies that cause undesired consequences is an important part of creating signals that guide green economy.** Subsidies and incentives that encourage fossil fuel consumption, pesticides and the purchase of private vehicles are some examples. Often, misplaced subsidies in Africa have contributed to delays in the development of renewable energy infrastructure and sustainable agriculture technologies, and are often of questionable benefit to the poor. In the South Africa study, fossil fuel subsidies were identified as a barrier to a green economy transition, totalling US\$1.38 billion in 2011 (UNEP, 2013a). Phasing out these subsidies, while still protecting low-income households from raising energy prices, is crucial for South Africa and, as mentioned above, will form part of an important fiscal reform in 2015. In Ghana, there is opportunity to divert fossil-fuel subsidies toward social development. In particular, fuel subsidies were the main cause of the growth in public expenditure between 2011 and 2012 where a total amount of about US\$267 million was spent on utility and fuel subsidies in 2012 (UNEP, 2014i). However, the Ghanaian authorities have recently announced their intention to phase out fuel subsidies, at the same time reallocating the expenditure towards the promotion of efficient and renewable energies.

Investments in green economy can be stimulated by incentives for low carbon technology, resource efficiency and environmental preservation. Similarly, so-called brown investments (those that are environmentally damaging) can be modified to take externalities into account and provide incentives for ensuring more efficient use of natural resources. Shifting the tax system from primarily levying on jobs and incomes and instead imposing on environmentally damaging and unsustainable practices can be a mechanism for capturing environmental externalities, while reducing tax burdens. In particular, operationalising the polluter-pays principle as a means to reflect the full cost of natural resources and internalise environmental and social externalities, can be considered. Ultimately, the design of incentives is crucial. Green incentives are much debated due to trade competition. They are also perceived as fiscal burdens. Hence, exit strategies are critical to long-term planning.

#### Feed-in tariff in Ghana

Ghana introduced a feed-in tariff in August 2013. This incentive encourages investments in renewable energy by guaranteeing the sale of electricity generated from renewable sources. Since the introduction of the feed-in tariff, the interest of independent power producers (IPP) in investing in renewable energy plants has increased. For example, a 155 MW solar plant is being developed by Blue Energy, a UK-based renewable energy investment company. Also, several other solar plants with more than 100 MW of capacity are being developed by IPPs.





### 3.1.6 Establishing a sound regulatory framework

Regulations can be used to impose penalties, set limits on resource use, improve environmental management and establish mandatory standards and targets. An adequate level of scientific, administrative and law-enforcement capacities is required to support sound regulatory frameworks that guide the green economy transition. A case of policy in action is Namibia's regulated access to its biodiversity resources, which prevents their unlawful exploitation. Having such safeguards in place will reduce uncertainties for the biotechnology industry and other users of biological or genetic resources, thus facilitating private investments and research in Namibia (UNEP, 2012c). But the regulations on their own – however well designed – are not enough. Effective regulations are contingent upon rigorous monitoring and enforcement mechanisms. Kenya, for instance, has instituted several effective programmes for monitoring and compliance, including tax exemption on renewable energy, environmental regulations for biodiversity conservation, water quality and waste management.

Strong standards can support certification programmes, which help support emerging markets for green products. One example is the green certification for the brand Farm Assured Namibian (FAN), which allows the traceability of Namibian meat "from the farm to the fork". This guarantees certification at all stages of the production chain. The programme allows Namibian producers to balance animal health policies with European standards, thereby considerably increasing export opportunities to foreign markets (UNEP, 2012c). Consistency is key, however. The case of Egypt cautions though that the introduction of green standards, certifications and codes will be less effective if local standards are not reconciled with global and regional ones to avoid inefficiency, redundancy and conflict of interest (UNEP, 2014d).

### 3.1.7 Investing in key infrastructure

Green investment in public infrastructure, such as roads, schools, sewage and electricity networks, is a strategic way to promote inclusiveness and ensure the longevity of green economy investments. Green investment in infrastructure is important for addressing large up-front costs, preventing unintended consequences, examining inclusivity and access considerations and understanding the impact on ecological footprint considerations. However, careful, forward-looking analysis is key given that one of the most important elements of infrastructure development is its 'lock-in' effect. If not designed properly, infrastructure can have a long-lasting ecological footprint.

### 3.1.8 Research and development

Research and development investments help provide incentive and support for young and entrepreneurial members of emerging fields. Enhancing national capacities and skillsets can result in innovations that lead to new products and technologies for the domestic and export market. This in turn can seed new industries and increase employment. For this reason, the Egyptian Green Economy Scoping Study identifies a number of sectors for innovative research and development. The water sector in particular highlights research in desalination and wastewater treatment technologies, water saving irrigation equipment and water saving construction equipment and



appliances (UNEP, 2014d). The Green Economy Assessment study on Senegal shows that investments in research and development in the agriculture sector (e.g. improved irrigation systems, technologies for reducing salinisation) would increase agricultural production by 1.25 per cent compared to BAU, thereby improving food security and creating new job opportunities in new technology fields (UNEP, 2014f).

### 3.1.9 Education, skills development and capacity building

Awareness and information dissemination help governments discern, communicate and coordinate the benefits of Green Economy. With respect to Green Economy, the impact of the whole is greater than the sum of the impact of the various parts. Capacity can be built among policymakers, academia, schools, the private sector and NGOs, in order to form skills and entrepreneurship that are required for implementation. In Rwanda, capacity is being built in the energy sector at the governmental level, through exchanges on best practices between Rwandan government officials and Kenyan geothermal technology developers and, at the technical level, through the training of technicians within the National Domestic Biogas Programme. Also, the Rwanda Resource Efficient and Cleaner Production Centre as well as the Kenya National Cleaner Production Centre have achieved much progress in building local capacity on cleaner production methods. The South Africa study identifies education and training of smallholder farmers as a priority for improving productivity and sustainability of agriculture and increasing market access (UNEP, 2013a). Overall, credibility, accessibility and transparency are important signals citizens use to build trust in an evolving system.

### 3.1.10 Stakeholder engagement

In order to make green economy transitions work, a strong governance system that promotes transparency, accountability and stakeholder participation is essential. The participatory process is a necessary prerequisite for a strong and efficient governance structure. Adopting a participatory approach in the design and implementation of green economic strategies provides that the different interests of community stakeholders are taken into account. In particular, since an inclusive, equitable green growth path requires the maximisation of benefits from natural resources while minimising social and environmental costs and risks, local communities also need to be involved in the policy process. In particular, equitable participation and representation from women is a crucial component of inclusivity and may not occur without specific focused efforts. Multi-stakeholder processes have been conducted for the elaboration of UNEP's green economy assessment studies in all 10 countries. In these cases, several stakeholder consultations were carried out in order to identify key sectors and gather different perspectives on green economy challenges and opportunities.

## 3.2 INCLUSIVENESS

A green economy transition may cause some short-term challenges. Select stakeholders who lose out in the transition may need to be compensated. Any economic transition requires adjustment and planning at multiple scales. A certain segment of population however, may be disproportionately affected if they have less access to information about future conditions, or pay high up-front costs, or if they have fewer



opportunities to network, learn from and collaborate with emerging innovators. In short, green economy investments need to be reconciled with adjustment costs for such population. Green policies can lead to short-run changes in prices of final goods and services. Costs of operations and technology choices may create different welfare costs and benefits for different segments of the population. Those areas that rely on resource-intensive or carbon intensive production for their livelihood (e.g. mining, extraction) may not benefit in the short run from a green economy transition. This section covers several strategies to mitigate impacts, as well as reducing the cost-of-entry to priority programmes.

### 3.2.1 Reducing upfront costs

In the short-run, up-front costs such as energy investments may require specific, direct support. It is clear from green economy assessment that investments in energy efficiency and renewable energy in the long term would result in increased energy independence and lower marginal costs. In South Africa, savings that could be achieved through energy efficiency improvements are comparable to the generation capacity of the large coal power stations that are currently under construction (UNEP, 2013a). Energy efficiency measures in Egypt are expected to save 30 per cent of energy consumption, estimated at 33 billion kW (UNEP, 2014d). However, the up-front cost of renewable energy is high, despite recent declines in price. Governments therefore may consider direct finance streams to incentivise shifts and create employment. The newly-founded Green Climate Fund is one example of large-scale international financial support to clean energy investments. At the national level, the Ghana Renewable Energy Fund is a successful example of resource mobilisation for the promotion of renewable energy sources. This initiative is essential to encourage private investments in the renewable energy sector by lowering upfront capital investment costs.

### 3.2.2 Ensuring just transitions for all

Governments may need to mitigate the impacts of certain green economy policies on under-served communities. While green economy policies in general have positive pro-poor benefits, certain underprivileged communities may be affected negatively. Fuel subsidy reforms may increase living costs for some of the poorest communities who use fossil fuels. Therefore, when designing policies, governments need to provide adequate compensation and new employment opportunities for those adversely affected by green economy reforms. In Ghana, the progressive removal of fossil fuel subsidies is being associated with social protection initiatives that aim to reduce the negative impact of fuel price increase on the vulnerable sections of society (UNEP, 2014i). In Mauritius, the government is attempting to reduce or eliminate perverse subsidies to fossil fuels, including by reviewing the LPG gas subsidy offered to low-income households and replacing it with incentives and support for lowering these households' energy costs (UNEP, 2014a).

The difficulty of reforming subsidies is practical and political: careful policy design and implementation is needed to offset undesired secondary impacts, as well as a combination of strong political will and compensatory policies, may be necessary to overcome opposition from vested interests.



### 3.2.3 Connecting through off-grid technologies

Currently, 76 per cent of Africa's population is not connected to the grid (World Bank, 2013). Often power is supplied by non-renewable biomass or on expensive portable fossil fuels, such as kerosene. Off-grid technologies, such as mini-solar grids and small-scale hydroelectric plants, have the potential to rapidly increase connectivity. In Rwanda, it was noted that off-grid energy programmes, such as solar and biogas, can contribute to increased energy access, less wood reliance and reduced poverty among rural populations (UNEP, 2014h).

African countries are creating the enabling conditions for a transition to a green economy. Political leaders across the continent have developed strategic documents aimed at integrating green economy principles and policies into national development visions and plans. Many concrete actions have been taken to stimulate green investments, develop innovative technologies, create new jobs, strengthen skills in emerging sectors and reallocate public expenditure from unsustainable activities to socially inclusive, pro-poor and environmentally friendly interventions. The commitment of African leaders to the achievement of sustainable development objectives was reaffirmed in occasion of the ECA Conference of African Ministers of Finance, held in Abuja in March 2014. In a joint statement, the Ministers affirmed that "the goal of making growth inclusive and sustainable requires a clear vision, committed leadership, coherent strategies and long-term planning frameworks. It also calls for robust institutions and accountable governance structures to enable optimal interaction between State and non-State actors, most notably the private sector" (UNECA, 2014).

*Significant policy and institutional efforts are already underway to integrate the economic, social and environment pillars of sustainable development. In fact Ghana is regarded as a model in the West African region for pioneering the greening of its national development plans.*

Hon. Sherry Ayittey, President of Ghana  
UN Conference on Sustainable Development (Rio+20)





Wind turbine farm, Tunisia. Photo: © Dana Smillie/World Bank

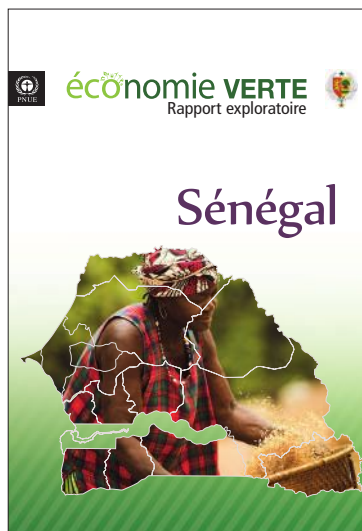
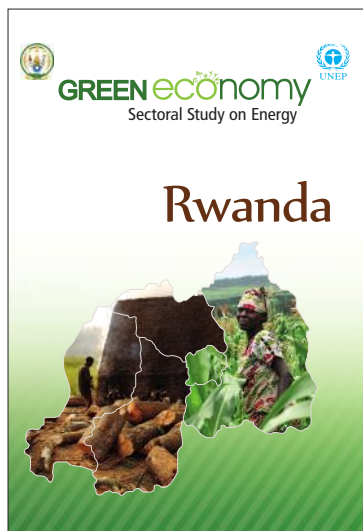
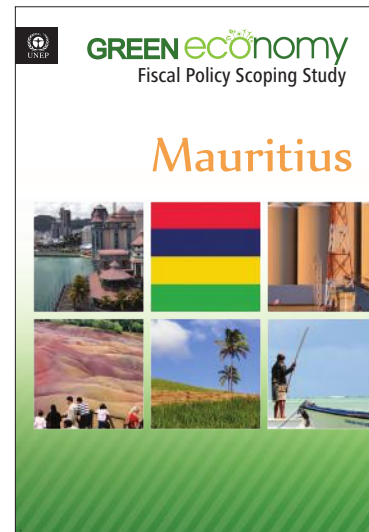
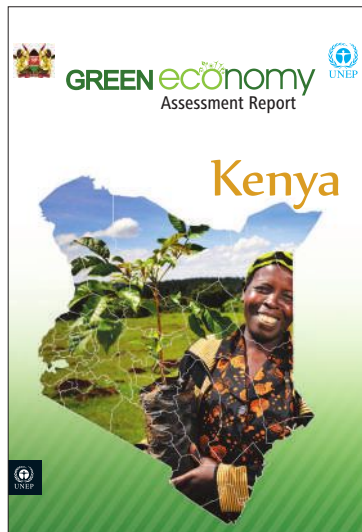
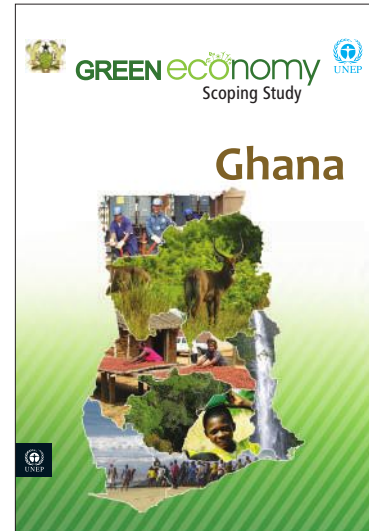
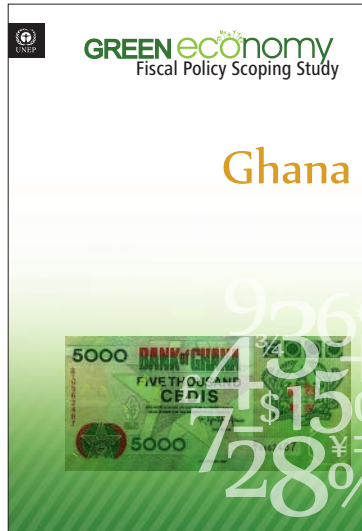
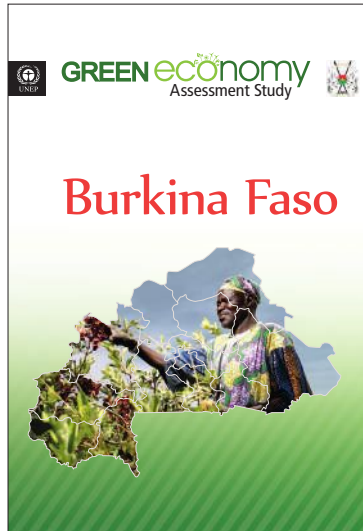




## Countries that UNEP has supported for their green economy transformation



## Publications from GEI Africa





## 4 REFRAMING LONG-TERM NATIONAL DEVELOPMENT PLANNING AROUND GREEN ECONOMY

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The green economy revolution is already underway in Africa. Across the continent, governments are formulating strategies to initiate growth in the green economy. Ethiopia, Ghana, Kenya, Mauritius, Mozambique, Rwanda and South Africa and many other African governments have developed, or are developing, green economy strategies and action plans. Green Economy Assessments conducted in close collaboration with governments and national policy institutions have been instrumental in formulating green economy national strategies and action plans; and have encouraged the integration of green economy principles in national planning documents.

In several African countries, national development plans anchor the notion that development pathways should embrace key principles of a shift towards a green economy. This is the case of Ghana's Shared Growth and Development Agenda (GSGDA) II (2014-2017); Senegal's National Strategy for Economic and Social Development (2013-2017); and Kenya's Medium-Term Plan (2013-2017). Table 2 outlines a selection of green economy strategies underway in Africa.

Various national studies demonstrate that an inclusive green economy can deliver at multiple levels. Its core strengths lie in the use of a systemic approach, where win-win strategies can be found and side effects reduced and mitigated with complementary interventions. On the other hand, for a GE strategy to be effectively implemented to generate the results expected, it is important to integrate GE considerations in the development planning cycle. In fact, what matters the most is that the use of GE principles can help to guide policy outcomes across dimensions (social, economic and environmental), sectors and actors, at all levels of planning.

The GE assessments presented in this report show that the returns on investment of green economy interventions are positive (with gains being larger than costs). On the other hand, care should be taken in designing policy interventions, as some of them will only lead to positive economic outcomes in the medium and longer term, and may reveal additional benefits as indirect outcomes.

The sooner green economy policies and actions can be pursued, the easier and more affordable the transition will be. The cost of intervention will only increase as ecosystems are damaged; and the cost of inaction is not negligible, especially for the millions of people in the lowest income classes that are most directly dependent upon natural resources for their livelihoods. As one Minister has described, "the Green Economy is our life, it is our survival."<sup>12</sup> It will include investment in technology to improve agricultural and industrial productivity, as well as for increasing energy and water availability in rural and urban areas. But it is not simply about harnessing new technology, inviting and promising as it is.



Table 2. Green Economy Strategies in Planning

COUNTRY	GREEN ECONOMY STRATEGY OR PLANS
Ethiopia	Climate Resilient Green Economy Initiative (CRGE) (2011–2025) seeks to achieve middle income status by 2025 in a climate-resilient green economy. The CRGE Initiative promotes socio-economic targets such as rural development, health, creation of employment in high value-added production, local production of efficient stoves, and rural employment such as afforestation/reforestation, forest management, and livestock/poultry.
Ghana	Ghana's Shared Growth and Development Agenda (GSGDA) II: 2014-2017 focuses on socio-economic transformation through inclusive, sustainable growth coupled with job development. One of the strategies under GSGDA II is to promote the adoption of the principles of green economy in national development planning. Specifically the Government's policy will focus on enhancing the capacity of the relevant agencies to adapt to climate change impact, mitigate the impact of climate variability and promote a green economy. In addition, Ghana's Medium Term National Development Policy Framework currently integrates components of green economy with targets to enhance per capita income to at least US\$3,000 by 2020. Movement forward is anticipated with the on-going development of a Green Economy Action Plan and implementation of green businesses through the Switch Africa Green project.
Kenya	Kenya's Medium-Term Plan (2013-2017) endorsed the development of a national green economy strategy. The plan explicitly focuses on green growth opportunities through renewable exploitation, carbon credits, resource efficiency promotion and clean production systems. The plan has integrated a "Green Jobs Approach" which will map out current and future opportunities in green job creation, such as in the fields of organic farming, renewable energy, forestry, planning, waste management, etc. The development of a Kenya National Green Economy Strategy and Implementation Plan is currently being drafted.
Mozambique	Mozambique's Green Economy Roadmap (2012) sets the objective to gradually bring an integrated economic growth model that is more favourable for human development, environmental resilience and sustainability by 2030.
Rwanda	Rwanda's Green Growth and Climate Resilience – National Strategy for Climate Change and Low Carbon Development (2011) highlights its momentum towards a green transition. In order for the country to achieve its goal of development and climate resilience by 2050, the strategy seeks to guide national policy and planning, mainstream climate change into all sectors of the economy and to position Rwanda to access international funding. Rwanda has declared its intention to achieve sustainable land use and water management, alongside preservation biodiversity and ecosystem services.
Senegal	Senegal's National Strategy for Economic and Social Development (2013-2017) specifically mentioned 'promoting green economy' as one of the strategic objectives to achieve sustainable growth.
South Africa	The Green Economy Accord (2011), adopted under South Africa's New Growth Path, was signed by representatives of the South African Government, business representatives, organised labour and the community constituency at the Parliament of South Africa in November 2011.

Source: Authors.

The green economy must be built from the cultural traditions and roots in Africa that are deeply tied to environmental stewardship; it must be inclusive and engage women, youth and the spirit of future generations to be truly transformative.

Across Africa, recent experience and studies demonstrate that green investments can drive economic growth higher than business-as-usual investments, generating income and employment while reducing pressure on the environment. The benefits of green investments tend to be felt over the medium term, as the state of the environment improves, making it essential to plan effectively for commonly desired development paths. Enabling conditions exist and while implementation is not easy, a growing amount of evidence is showing that an African approach to GE principles in development planning is possible and is already happening. In a continent rich in natural wealth and cultural heritage, the future DNA of a green and inclusive economy is being built, one country at a time.

The Nineteenth Session of the African Union Summit held in July 2012 called upon the African Ministerial Conference on the Environment (AMCEN) to conduct a substantive analysis of the outcomes of Rio+20 and develop a roadmap for the effective implementation of the outcomes in Africa. In response to this, the 14<sup>th</sup> Session of



AMCEN, decided to develop and implement Regional Flagship Programmes (RFPs) as a means to ensure the effective implementation of the Rio+20 outcome. In addition, ten areas that need to be considered for the development of the flagship programmes were identified, including the Africa Green Economy Programme (AGEP). The green economy activities undertaken in the various countries as highlighted in this report will support green economy flagship programmes in line with the AMCEN decisions on green economy, now and into the future.



## 5 NOTES

<sup>1</sup>This includes Burkina Faso, Ghana, Egypt, Kenya, Mauritius, Morocco, Mozambique, Rwanda, Senegal and South Africa.

<sup>2</sup>This comprises of three different types of analysis: Green Economy scoping study; Green Economy sectoral study; and Green Economy Assessment report.

<sup>3</sup>The Partnership of Action for Green Economy (PAGE) is a joint initiative by UNEP, ILO, UNDP, UNIDO and UNITAR to support countries' efforts for a green economy transition.

<sup>4</sup><http://www.africa-eu-partnership.org/success-stories/creation-decent-and-sustainable-jobs-youth-poor-and-marginalized-communities>

<sup>5</sup><http://www.unep.org/greeneconomy/SuccessStories/SolarenergyinTunisia/tabid/29871/Default.aspx>

<sup>6</sup><http://www.unep.org/greeneconomy/SuccessStories/FeedintariffsinKenya/tabid/29864/Default.aspx>

<sup>7</sup>UNESCO Institute for Statistics – UIS. Consulted in July 2014 and available at: <http://www.uis.unesco.org/Education/Pages/default.aspx>

<sup>8</sup><http://www.unep.org/greeneconomy/SuccessStories/EcosystemRestorationinRwanda/tabid/29889/Default.aspx>

<sup>9</sup><http://blog.euromonitor.com/2013/04/global-population-under-the-age-of-30-centered-in-emerging-markets.html>

<sup>10</sup><http://www.worldbank.org/en/region/afr/publication/new-report-outlines-priorities-to-address-africa-s-youth-employment-challenge>

<sup>11</sup><http://www.greeneconomycoalition.org/know-how/introducing-south-africas-green-entrepreneurship-hub>

<sup>12</sup>Minister of Environment from Uganda, speaking at UNEP Governing Council 2013.

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# APPENDIX A CHECKLIST FOR GREEN ECONOMY OPPORTUNITIES

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These principles and goals were distilled from the Green Economy Country reports, in particular Egypt's. The principles place focus on mid- to long-term development and equity, needs to investment in institutional and human capacity and effective implementation. Paired with vision and capacity, this checklist can serve as a reminder of the various facets from which any new green economy initiative can be considered.

## Goals and Principles

- Intra and inter-generational equity: measures that prevent passing of costs on to future generation and actions which distribute benefits of improved economic and social development and environmental conservation.
- Equity and inclusiveness: equitable distribution of wealth, providing equal opportunities for the different segments of the population while promoting social justice and cohesion.
- Job creation and economic diversification: supporting the growth of sustainable economic sectors that have a high potential for job creation, particularly for the poorer segments of the population.
- Environmental integrity: ensuring environmental and ecosystem integrity for long-term sustainability and economic resilience.

## Capacity

- Good governance: transparency, accountability and public participation throughout policy formulation, implementation, monitoring and assessment.
- Human resource development: institutions and equitable access to education and information to support inclusive green economy strategies.

## Policy

- Revitalisation and diversification of the economy: incentives and disincentives to level the arena to encourage the reallocation of public spending and private investment to green economy activities.
- Competitiveness and market access: ensure enhanced competitiveness and market access for locally produced products and services, particularly those that improve the sustainability of systems via infrastructure.
- Efficiency: promote the efficient use of resources, to lower costs and increase self-sufficiency and resilience while creating jobs and economic opportunities.
- Research and development: environmentally sound innovative technologies and practices as enablers of green and sustainable development.

## Tools

- Integrated policymaking: integrated environmental, social and economic considerations throughout the planning process.
- Inter-ministerial coordination and multi-stakeholder process: elimination of redundancy, conflict of interests and overlap between different sectors and actors.
- Sustainable development indicators: use integrated environmental and economic accounting to measure progress, increase transparency and inform policy formulation and assessment.

# APPENDIX B SUMMARY OF REGIONAL GREEN ECONOMY INITIATIVES

## Regional Initiatives

The Southern African Development Community (SADC) is currently drafting a "Regional Green Growth Strategy and Action Plan for Sustainable Development." The Green Growth Strategy and Action Plan can be considered as a framework to guide exchanges on integration, economic development and poverty eradication, for a more sustainable future in the SADC region. The increasing interest to move towards green growth and build a green economy in the SADC region presents an unprecedented opportunity to mobilise governments and other stakeholders to assess and reframe their policies and build new sustainable pathways for growth, contributing to green investments, job creation, poverty eradication, resource efficiency and to the overarching goal of sustainable development.

At the 5<sup>th</sup> special session of African Ministerial Conference on the Environment (AMCEN) held in October 2013, African ministers endorsed the African Green Economy Partnership (AGEP) as one of five regional flagship programmes to be promoted for the implementation of the outcomes of the Rio+20 Conference in Africa. AGEP is expected to facilitate synergy and cooperation between national and regional actors and organisations that provide support to African countries.

# APPENDIX C SUMMARY OF GREEN ECONOMY COUNTRY STUDIES

COUNTRY	GE SCOPING STUDY	GE ASSESSMENT	GE SECTORAL STUDY	FISCAL STUDY FOR GE
Burkina Faso	√	√	√ (Agriculture; Energy)	
Egypt	√			
Ghana	√	√		√
Kenya	√	√	√ Agriculture	√
Mauritius		√		√
Morocco			√ (Energy)	
Mozambique		√		√
Rwanda			√ Energy	
Senegal	√	√	√ Water	
South Africa	√	√	√ (Energy; Natural Resources Management)	







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