



FACILITATING GREEN GROWTH IN AFRICA:

PERSPECTIVES FROM THE AFRICAN DEVELOPMENT BANK

DISCUSSION
PAPER



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CONTENTS

LIST OF ABBREVIATIONS	2
INTRODUCTION: MEETING AFRICA'S DEVELOPMENT NEEDS TODAY AND ENSURING QUALITY OF GROWTH FOR TOMORROW	3
GREEN GROWTH IN AFRICA.....	5
WHAT IS GREEN GROWTH?	5
WHY GREEN GROWTH IN AFRICA?	5
HOW CAN AFRICAN COUNTRIES PROMOTE GREEN GROWTH?	7
WHERE SHOULD GREEN GROWTH BEGIN?	9
HOW IS THE AFRICAN DEVELOPMENT BANK INVOLVED IN GREEN GROWTH?	13
THE WAY FORWARD: BUILDING ON EXISTING EXPERIENCES	21
BIBLIOGRAPHY.....	22
TABLES	
TABLE 1. PROPOSED GREEN GROWTH FOCAL AREAS	9
TABLE 2. BUILDING ON EXISTING FOUNDATIONS: SELECTED FUNDING MECHANISMS RELEVANT TO GREEN GROWTH	18
PROJECT DESCRIPTIONS	
BOX 1: ALTERNATIVE PATHS TO ENERGY	6
BOX 2: STRENGTHENING PRODUCTIVITY AND FOOD SECURITY THROUGH SUSTAINABLE LAND AND WATER MANAGEMENT	7
BOX 3: THE TRANSPORT SECTOR IN AFDB - ENCOURAGING MODAL SHIFTS	10
BOX 4: CAPE VERDE WATERSHED MANAGEMENT PROJECT	11
BOX 5: CONGO BASIN FOREST PROGRAM	12
BOX 6: PREPARING FOR A CHANGING ENVIRONMENT	13
BOX 7: THE AFRICAN WATER FACILITY, AN INSTRUMENT PROMOTING GREEN GROWTH IN THE WATER SECTOR	15
BOX 8: PRIVATE SECTOR DEVELOPMENT WITH A GREEN PERSPECTIVE	17



LIST OF ABBREVIATIONS

AAF	African Agriculture Fund
ABSL	Addax Bioenergy Sierra Leone
AfDB	African Development Bank
AFFM	Africa Fertiliser Financing Mechanism
AMCOW	African Ministers' Council on Water
AUC	African Union Commission
AWF	African Water Facility
CBFF	Congo Basin Forest Fund
CCAP	Climate Change Action Plan
CDSF	ClimDev-Africa Special Fund
CIF	Climate Investment Funds
CRMA	Climate Risk Management and Adaptation Strategy
FAPA	Fund for African Private Sector Assistance
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GWh	Giga-Watt hour
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water Resources Management
NEPAD-IPPF	NEPAD Infrastructure Project Preparation Facility
OECD	Organization for Economic Cooperation and Development
RECs	Regional Economic Communities
REDD+	Reducing Emissions from Deforestation and Degradation
RMCs	Regional Member Countries
RWSSI	Rural Water Supply and Sanitation Initiative
SEFA	Sustainable Energy Fund for Africa
UN	United Nations
UNDP	United Nations Development Program
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Program





INTRODUCTION:

MEETING AFRICA'S DEVELOPMENT NEEDS TODAY AND ENSURING QUALITY OF GROWTH FOR TOMORROW

Africa has had some of the fastest economic growth rates in the world during the past decade. During this period, Sub-Saharan countries continued to grow at an average rate exceeding 5 percent (AfDB et al. 2012). During 2010 and 2011, Africa's GDP grew by 5 percent and 3.4 percent, respectively, despite the economic crisis in Europe, and while North Africa adjusted to new political circumstances. The economic outlook for the continent continues to be largely positive: sustained growth rates of 4.5 percent and above are expected in the coming years.

Economic growth is essential in Africa to alleviate poverty, build livelihoods and improve quality of life. In recent years, the continent has experienced improving macro-economic trends and increasing foreign direct investment. The recent economic growth has not, however, uniformly benefitted African livelihoods, nor is economic growth alone able to alleviate poverty. Often growth has been confined to specific sectors, particularly extractive industries and some agricultural commodities, and its benefits to those in or near poverty are often limited (AfDB 2012). Likewise, the benefits deriving from foreign direct investment have been unevenly distributed and have not led to the generation of equal economic opportunities for Africa's population (AfDB et al. 2012). Africa's poor, those earning less than US\$2 per day account for 60.8% of Africa's population and hold 36.5% of total income in Africa (AfDB 2012b).

There are several existing and emerging challenges that Africa needs to overcome if the recent economic momentum is to be sustained and is to benefit the African population at large.

Infrastructure Deficit: Inadequate infrastructure is holding back Africa's economic growth per capita and reducing private sector productivity (UNECA, 2009). Low energy access and high tariffs remain major challenges: an average rural electrification rate of 10 percent leaves far too many people without electricity (AfDB, 2012). Africa's rail network density ranges from 30 to 50 km per million people, compared to



Europe's 200 to 1000 km per million people (Foster and Briceño-Garmendia, 2010). Rapid urbanization poses challenges for public service delivery and transportation. Only 28 percent of Sub-Saharan Africa's population has access to improved sanitation facilities (AfDB, 2012). Education, health, business growth and home life are all inhibited by an infrastructure deficit. Additionally, this deficit, particularly poor irrigation and road networks, lack of storage and inadequate processing infrastructure, cause post-harvest losses and hinder Africa's essential agriculture industry, limiting economic growth.

Efficient Management of Natural Resources: The African continent is characterized by an abundance of renewable and non-renewable resources (Belward et al. 2011; WEC, 2010); however, they are unevenly distributed. African nations with natural resource-based economies are projected to grow more rapidly than those without significant natural resources (AfDB, 2012). Yet Africa's ecological footprint, the aggregate demand on natural resources, has increased by 240 percent between 1961 and 2008 (WWF and AfDB, 2012); thus managing and sustaining the continent's natural wealth will represent important challenges for Africa. Likewise, Africa's rate of deforestation is about twice the world rate, and the continent is losing more than 4 million hectares of forest cover every year. Deforestation and poor agricultural practices account for about 65% of Africa's carbon emissions. Policies and investments to sustain and enhance natural capital assets – the soils, forests and fisheries on which many poor communities depend for their livelihoods – can be instrumental.

Natural Disasters and Climate Change: The continent is among the regions of the world most vulnerable to climate change (IPCC 2007). The international development community has long recognized the threat of climate change in undermining progress towards and beyond the Millennium Development Goals (AfDB et al, 2003). The prevalence of weather- and climate-related disasters, such as the famine in the Horn of Africa in 2011 and extreme floods in Mozambique, illustrate the dangers already posed

by climatic variability and extremes. Climate change exacerbates existing vulnerabilities while introducing additional risks, especially for the following climate-sensitive sectors: agriculture, forestry, water, human health, infrastructure and energy.

Food-Security: Despite its huge agriculture potential, Africa still imports roughly \$30 billion in foodstuffs annually and large segments of Africa's population still suffer from chronic hunger. The region is lagging behind reductions in chronic hunger made in other regions in recent years, such as in Southeast Asia (AfDB et al., 2011). Rising food prices pose a significant challenge for Africa's poor, who have to spend most of their income on food (e.g. AfDB 2012). Low productivity arising from low-input use, land degradation, and lack of water storage capacities, among other issues, ultimately lead to declining rural incomes and affect the ability of rural households to feed themselves. Poor infrastructure and climate change exacerbate these challenges.

These challenges will be compounded by population growth. Africa's population is projected to grow from about one billion people today



to over 1.6 billion by 2030 (UN DESA/Population Division, 2012). It is estimated that by 2050, for example, agricultural food production will need to increase by 70 percent to meet the demand from urban populations alone for food, feed, fuel and fiber. Each of the urgent development challenges described above needs to be addressed, and in a manner that does not undermine Africa's ability to sustain progress. Successful advancement will be defined by the quality of growth and by ensuring that progress is sustainable, reconciling short-term and long-term needs. To overcome such challenges, the continent's development processes would benefit from more resource efficiency and growth resilience, entailing a shift towards a greener, more sustainable and inclusive development model.

This paper explores the value of green growth from the perspective of sustainable development practitioners. First, it provides a brief definition of green growth, and why the concept is relevant for meeting Africa's challenges. It then discusses how green growth can be achieved, highlighting some of the primary tools for achieving it, and then discussing focal areas that we believe will have the greatest impacts by spurring growth sustainably. Finally, it discusses how the AfDB has promoted green growth through its own initiatives. Boxes throughout the paper provide examples of the AfDB's promotion of green growth in its project portfolio.

GREEN GROWTH IN AFRICA

WHAT IS GREEN GROWTH?

Economic growth can be achieved through a range of economic activities. By choosing certain activities, economic growth can be decoupled from environmental harms. In some cases, environmentally superior choices may also enhance economic productivity (e.g., through efficiency gains) or human welfare (e.g., through goods and services provided by natural environments). Green growth is the selection of economic activities that, at best, promote environmental and social development and, at a minimum, do not harm the environment or human welfare. This is achieved through rigorous analysis of economic alternatives and their related environmental and social impacts.

The international development community has generally converged on a definition of green growth consisting of job creation or economic growth that is either compatible with or driven by reduced emissions, improved efficiencies in the use of natural resources, and protection of ecosystems (e.g. OECD 2011, World Bank 2012, see also UNEP 2011 for the related concept of a "green economy").

In Africa, green growth will mean pursuing inclusive economic growth through policies, programs and projects that invest in sustainable infrastructure, better manage natural resources, build resilience to natural disasters, and enhance food security.

WHY GREEN GROWTH IN AFRICA?

Green growth is compatible with Africa's priorities. It emphasizes reasonable economic growth targets as the central driver of development. It then acknowledges that identifying more environmentally and socially sound development options is essential to meet Africa's biggest challenges and to sustain development gains. Green growth emphasizes the process through which targeted high growth rates are achieved, aiming to improve the quality of growth.

Africa can use its infrastructure deficit to leapfrog to greener investments by using environmentally sound technologies and innovations that are currently available. Favoring unsustainable infrastructures or sectors now creates the risk that they will be prohibitively expensive to replace later on with environmentally sound alternatives. Decoupling economic growth and environmental harms requires the creation of different forms of infrastructure and the promotion of new economic sectors. By leapfrogging to modern, more sustainable modes of infrastructure, African countries can promote and benefit from more efficient and



economically productive infrastructure that is also green. Opting for sustainable infrastructure solutions will also help African countries in their efforts to mobilize increased resources to bridge the infrastructure gap by attracting new and additional sources of funding.

Green growth can be instrumental in the sound management of Africa's natural assets. Many of Africa's economies are heavily dependent on natural resource exploitation. Much of Africa's population also relies directly on natural systems for its immediate health and livelihoods. This reliance makes African populations particularly vulnerable to overexploitation of the continent's natural assets and destruction of its natural systems. Improved natural asset management will mitigate these acute threats on the environment and economic growth, while reaping the benefits of Africa's abundance.

Climate change is a major motivation for green growth, for Africa, as with other regions, but the role of climate change in Africa differs. Africa has contributed less than other regions to climate change and other global environmental changes, but the region's economies and populations are expected to suffer disproportionately from the negative effects.

In order to address its development needs, Africa's economic growth will likely increase total and per capita emissions in the short term. These emissions will still remain substantially lower than those of industrialized countries. In order to stabilize global warming at safe levels, reaching GHG stabilization targets that limit global warming to 2 °C or less (see Meinshausen et al. 2009 for detail), industrialized countries urgently need to deliver substantial mitigation efforts. To maintain target levels, lower income countries can contribute to the global effort by choosing more carbon-efficient pathways over time. Box 1 provides examples of the AfDB's efforts to help countries in the region identify low-carbon energy options.

At the same time, development activities must plan for climatic changes that are no longer avoidable (SEG, 2007). Economies must adapt and be made resilient to unavoidable climate threats, or the benefits that growth creates will not be sustained.

Greener infrastructure can also address food insecurity through enhanced climate resilience and wiser land and water management. Box 2 provides an example of the Bank's assistance to countries to better manage their natural assets for improved food security, economic growth and sustainability.

There are examples in the region showing that green growth can constitute a national choice to reconcile growth and environment. Ethiopia has been among the top three fastest-growing economies in Africa during the recent past, and high annual growth rates are expected for the coming years (AfDB, 2012). Ethiopia has, at the same time, committed to an economy-wide green growth strategy through which it aims to achieve middle-income status by 2025 (Federal Democratic Republic of Ethiopia, 2011). Similarly, Rwanda, which has also displayed remarkable growth in recent years, has committed itself to a long-term green growth strategy (Republic of Rwanda, 2011). Both countries share great economic aspirations as well

Box 1: Alternative paths to energy security

In Kenya, where only 5 percent of the rural population has access to electricity, the Menengai geothermal energy project will enable a 26 percent increase in production capacity by 2018. This additional reliable, clean and inexpensive electricity will meet the needs of 500,000 new households and 300,000 small businesses and will provide 1,000GWh to industries.

The AfDB's support for South Africa's national electricity utility, Eskom, in implementing a \$1.3 billion renewable energy project is introducing concentrated solar power to sub-Saharan Africa and the first utility-scale wind power plant to South Africa (100MW each).

Source: AfDB Staff



Box 2: Strengthening productivity and food security through sustainable land and water management

Changes in climatic conditions in the Gambia have led to drier agro-ecological land and declining productivity in arable areas where major food crops, particularly rice, Gambia's staple, are grown. By investing in a system for improved soil and water management (PIWAMP), the AfDB has contributed to a six-fold increase in total crop production in the project area—from 4,000 to 25,000 metric tons a year between 2006-2010.

Source: AfDB Staff

as the conviction that the status quo is inadequate for achieving long-term development targets. Instead, the countries emphasize green growth, recognizing the benefits of improved natural resource management and scaling up renewable energy to improve environmental health and increase energy security in the long-term.

HOW CAN AFRICAN COUNTRIES PROMOTE GREEN GROWTH?

A green economy cannot be created overnight, nor is there a one-size-fits-all approach. However, most approaches to policy transformation include certain key elements, including those summarized below. The AfDB, together with the OECD, the UN and World Bank, explores policy tools for promoting green growth in greater detail in their forthcoming submission to the G20 Development Working Group, A Toolkit of Policy Options to Support Inclusive Green Growth.

Vision/Buy-in: Green growth requires strong political commitment and leadership at the highest level of government. It requires dealing with fiscal and economic issues, as well as buy-in from sector-specific agencies or ministries. Interventions also need a broad base of support within and outside the government. This is not just because buy-in and participation are good policy making; green growth-related policy changes can have materially redistributive consequences. Implementation must take into account the



transition costs of policy changes, and plan to manage the expectations of and consequences on stakeholders affected by such changes.

Valuing What Matters: Economic development focuses on GDP because it is a useful indicator of whether the economy is growing to meet human needs. Its limits as a measure of true prosperity and the consequences of economic activity on human welfare has long been recognized (see e.g., Nordhaus and Tobin, 1972). A green growth approach begins by ensuring that decision-making applies measures of success that adequately value the environmental benefits of policies and investments. Tools like the Environmental Sustainability Index and biocapacity metrics can help economies identify gaps. National accounting exercises that value natural resources as capital assets—as “natural capital”—can be an effective start to better resource management. Even classic environmental safeguard tools, such as environmental and social impact assessments, can help if used as a cost-benefit tool rather than a risk mitigation tool alone. The clearest step along the green growth pathway is beginning with the right analytics.

Planning for the Future: Creating an enabling environment for green growth in Africa is largely about sequencing and trajectory. African governments can avoid lock-in to a dated development pathway and plan for the unavoidable consequences of current decisions and future challenges. The risk of lock-in is not only about physical challenges or the direct costs of retooling infrastructure in the future. Favoring less environmentally-sustainable economic activities through can entrench political economies in ways that are difficult to change, inhibiting a country’s future transition toward a greener economy. This type of long-term planning requires that green growth considerations be brought into national policy reform agendas and national development plans, rather than being addressed as stand-alone issues. Green growth policy-making requires consideration of sufficiently long time horizons, the political economic effects of different policy options and integration into larger national agendas to be effective.

Sending the Right Signals to the Private Sector: The private sector unquestionably plays a crucial role in inclusive green growth and building a green economy. Ultimately, private sector actors’ actions often collectively have the widest-spread environmental consequences. For economy-wide green growth to become a reality, all enterprises, whether public or private, must grow greenly as well. Even the freest economies, however, are shaped by policy incentives, whether in the form of central bank interest rates, the price effects of pollution regulation, or tax incentives. From a green growth policy-making perspective, national governments can do a tremendous amount to unleash the power of the private sector to green the economy. Nearly every market has environmental consequences that are undervalued through distorting subsidies, lax regulatory environments, or other actions or omissions that distort the true cost of that activity. Promoting the right regulatory environment can remove market distortions that favor less environmentally sustainable activities and incentivize sectors that would otherwise fail to capture the value of green activities.

Financing Green Growth: Principal in the minds of African decision makers is the cost of green growth, and rightfully so. Africa’s economic development challenges seem daunting enough without additional layers of cost and complexity. One of the most compelling aspects of green growth is that many interventions are actually zero-cost or result in cost savings when viewed with an adequately long time horizon. By one estimate, for example, a global investment of US\$90 billion in the energy efficiency of developing countries could net US\$600 billion in savings (McKinsey, 2010). This is counter-intuitive because the assumption is that, if environmental choices were cheaper, they would be selected. There are several reasons why more environmentally sound choices are not selected, including: (i) lack of knowledge about the options or expertise in how to quantify their impacts; (ii) higher upfront capital costs of environmentally superior choices; (iii) undervaluation of human welfare benefit of natural systems; and (iv) price distortions. These factors can cause both policy makers and private sector actors to choose environmentally unsustainable options over green ones.



The application of investment analysis tools such as marginal abatement cost curves for national economies and business enterprises have repeatedly revealed productivity gains that can be unlocked through improved efficiency and upfront investment. However, even cost-saving alternatives are not without their own challenges. While these options are sometimes not chosen due to lack of information, they are also avoided due to high upfront costs. Often, technologies are chosen on the basis of providing the lowest upfront investment, even though they are less efficient or more costly in the long-term. This is a critical place for financial institutions to participate in green growth, as their support is integral for countries and firms seeking long term and/or upfront financing.

Not all green growth options are lower cost for a given country or firm. Where the benefits or harms of a given intervention spill over across borders or off of a business’s balance sheet, it can make environmentally unsustainable options seem more affordable. However, biodiversity conservation, forest carbon sequestration and other ecosystem services have true global value in excess of their national benefits. For Africa to afford interventions in these areas, the continent will need increased contributions from the international community. From an integrated green economy perspective, international financing for such interventions should be understood as a payment for the value of environmental services provided where natural systems are still functioning.



WHERE SHOULD GREEN GROWTH BEGIN?

Green growth is both promising and daunting. In order to maximize synergies and minimize tradeoffs between development objectives, the AfDB is exploring a cross-sectoral approach to green growth, which rests on the thematic focal areas identified in Table 1. The AfDB believes green growth can yield the greatest impact on Africa’s most pressing challenges within these focal areas. The first two respond to the challenges outlined in the beginning of the paper related to food insecurity, infrastructure deficit, and natural asset management while the third area responds to climatic and economic shocks.

Table 1. Proposed green growth focal areas

I. Promoting sustainable infrastructure	II. Efficient/sustainable management of natural assets	III. Building resilience of livelihoods
Access to renewable/low-carbon energy and energy efficiency	Land (agriculture, forests, and other land-uses)	Physical/climate
Sustainable transport	Water (freshwater, marine)	Economic
Sustainable cities	Minerals	Social

Box 3: The transport sector in AfDB - encouraging modal shifts

The AfDB seeks to encourage responsible use of the continent's vast areas of navigable inland waters. The Shire - Zambezi waterway was used more than 100 years ago as an inland transport waterway from the coast of the Indian Ocean in Mozambique to the District of Nsanje in Malawi, a distance of 380km. The AfDB is currently financing a study, in cooperation with Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA), on the feasibility of re-opening the Shire - Zambezi Waterway. The project would contribute to a significant modal shift from road transport to river transport.

Another example of AfDB's promotion of greener modal shifts is in Morocco, where the AfDB approved the financing of the Tangiers-Marrakech Railroad Capacity Increase Project in 2010, which aims to improve rail transportation competitiveness on the main Tangiers-Marrakesh railway line. The project will improve rail traffic fluidity and increase frequency of shuttle, mainline, and freight trains, which in turn will lead to increased population mobility and reduce the use of road transport.

Source: AfDB Staff



Focal Area 1: Promoting Sustainable Infrastructure

Promoting Sustainable Infrastructure recognizes the urgent need to scale up Africa's urban and rural infrastructure to improve access to energy and markets and stimulate economic activities, while also seeking to address energy efficiency and resource intensity. The focal area include three major sub-focal areas: promoting access to greener energy, building sustainable transport, and planning sustainable cities.

When addressing Africa's infrastructure deficit, one of the key priorities will have to be improving energy infrastructure and services. Africa has a wealth of renewable energy sources (solar, wind, biomass and hydropower) and this can help improve the standard of living, given that nearly 600 million Africans are without access to electricity and a huge gap between urban and rural electrification remains (Belward et al, 2011). Though the global total new investment in clean energy increased to \$260 billion, nearly fivefold, from 2004 to 2011, investments in Africa's renewable energy are small in comparison to other regions (Liebreich, 2012). Improving access to these energy sources will strengthen energy security by diversifying energy sources. Box 1 provides examples of projects from the AfDB's renewable energy portfolio.

Sustainable transport, concentrating on improving transport systems in Africa that are compatible with environmental and human health concerns, is also a crucial focus area for green growth on the continent. Greening transport development encourages mass transit transport systems compatible with environmental and social concerns, and encourages a modal shift towards increased use of public transport and railways. The development of sustainable transport in Africa requires policy dialogue that anticipates infrastructure effects and needs over the long term, promoting quantitative and cross-sectoral analysis where feasible. It must be accompanied by capacity development at the planning and implementation level geared towards increased development of sustainable transport solutions. Box 4 provides examples of the AfDB's current activities promoting sustainable transport.

The rapid increase in urbanization can help advance economic growth in Africa if countries promote sustainable urban development. A focus on sustainable cities recognizes the important role of urbanization in advancing economic growth in Africa, and seeks to promote urban planning solutions that minimize disaster risk, improve the provision of basic services such as electricity, water and waste management, and reduce pollution.



Box 4: Cape Verde watershed management project

The Republic of Cape Verde is an archipelago of 10 volcanic islands (nine of which are inhabited), situated about 500km off the coast of Senegal in the Atlantic Ocean. Only one-tenth of the land is arable. The climate is arid and the rainfall pattern is unpredictable. The environment of the country is characterized by: (i) extreme fragility of the ecosystems related to the lack of water and erosion due to steep slopes, irregular and torrential rains and violent winds; (ii) unsuitability of crops to soils; and (iii) lack of water harnessing and retention infrastructure. The low infiltration and retention of surface water have resulted in insufficient underground water. Improper farming practices such as bush clearing, weeding, and cropping on steep slopes contribute to the degradation of soils. It is in this particular environmental context that Cape Verde requested Bank support to restore the watersheds, to ecologically rehabilitate more agricultural lands and to retain more water for both agriculture and household use.

The main project deliverables were: (i) construction of 20 dams, 22 wells, 4 underground culverts; 950 ha of vegetated corridors and 90 km from raised platforms; (ii) planting 1,733 ha degraded lands; (iii) planting of 88,700 woody trees and 467,600 fruit trees, (iv) improvement of 349 hectares of pastureland, (v) construction of 11 km of piped water supply; construction of 40 water reservoirs and 109 dams to control torrential flows; (vi) rehabilitation of 7 km of irrigation canals; (vii) development of 200 ha of irrigated crops; (viii) construction of 200 production units and 200 family breeding water tanks, (ix) awareness campaign reaching 20,000 inhabitants in community organization; (x) training of 270 people in technical and vocational training, 1,300 people in soil conservation techniques, and 450 people in new techniques/ farming practices as well as conservation and processing of agricultural produce; and, (xi) establishment of a micro-credit scheme. The project was completed in December 2010 after six years of implementation.

Source: AfDB Staff

Focal Area 2: Efficient and sustainable management of natural assets

This focal area is concerned with harnessing Africa's natural resource wealth in a sustainable manner. The first two sub-focal areas, land and water, address the use of Africa's renewable natural resources with the aim of maintaining biodiversity, ecosystem goods and services, upon which many African livelihoods and economies depend. The last sub-focal area – minerals – is concerned with the social and environmental sustainability of the extraction of non-renewable mineral resources.

While on average, Africa is still within the biocapacity of its land, decisions on development pathways taken today will determine whether this will remain the case, particularly considering progressive land-use change and environmental degradation (WWF and AfDB, 2012). Agricultural activities remain a primary sector for formal and informal employment in Africa (WWF and AfDB, 2012), and the sector can drive deforestation, leading to the loss of biodiversity and ecosystem services, such as water filtration, carbon sequestration and climate regulation. Increasing the productivity of agricultural activities, if integrated as part of a broader effort to manage land use sustainably, can result in improved livelihoods and food security and protection of natural systems. Box 4 provides an example of the AfDB's work to help countries improve productivity and sustainability through better natural resource management.

Promoting green growth through the management of natural assets entails valuing all the benefits of natural assets, including ecosystem services provided by natural systems and the benefits of these systems to the poor. Where natural assets are exploited, it requires improving efficiency and minimizing waste and pollution. Integrated approaches to land and water management are essential for maximizing the economic and environmental benefits of development activities. The sustainable use of Africa's natural assets should be guided by suitable environmental, economic and social policies that ensure Africa's ownership of the development process, enhanced governance systems, stronger institutional capacities, access to appropriate technologies, and full integration of the natural resources sector into national development frameworks.



Box 5: Congo Basin Forest program



The AfDB has invested substantially in preserving Africa's forests, and contributed substantially to reducing greenhouse gas emissions, particularly in the Congo Basin Forests. AfDB hosts and manages the Congo Basin Forest Fund. In February 2008, the AfDB, in partnership with the Central Africa Forests Commission (COMIFAC) and the United Kingdom Department for International Development (DFID), held an international conference in Tunis on Funding for Sustainable Management of the Congo Basin Forests Ecosystems. Participants agreed to reinforce their coordination and dialogue efforts through the Congo Basin Forest Partnership (CBFP) and to support COMIFAC and its sub-regional partner institutions by establishing the Congo Basin Forest Fund (CBFF). The Fund mobilizes resources to finance activities and projects that promote the equitable and sustainable use, conservation and management of the Congo Basin forests and ecosystems for poverty alleviation, sustainable social-economic development, regional cooperation and environmental conservation. Around 80 million inhabitants of the Congo Basin, in particular vulnerable groups (women and indigenous peoples) are the Fund's primary beneficiaries. Key CBFF activities include: (i) forest management and sustainable practice; (ii) livelihoods and economic development; (iii) monitoring, assessment and verification; (iv) benefits from carbon markets and payment for ecosystem services; and (v) capacity building in REDD, in monitoring, assessment and verification and sustainable forest management.

The CBFF also assists eligible institutions, including the Regional Member Countries of the AfDB, their central and local government institutions or agencies, and regional agencies or institutions concerned with Congo Basin forest conservation and management issues. Eligibility is extended to non-governmental organizations at the national or regional level; civil society organizations; community-based organizations; research and training institutions; regional, sub-regional and sectoral organizations; and private sector institutions.

Source: AfDB Staff

Focal Area 3: Building resilience of livelihoods

The first sub-focal area (physical/climate resilience) emphasizes the identification of strategic climate risk management and adaptation measures that help to avoid the loss of lives and/or loss of productive assets and income. It also includes building resilience to additional effects of climate change on the environment (e.g. shifts in vector borne diseases) as well as other environmental hazards. The second and third sub-focal areas (social and economic resilience) recognize that Africa's engagement with globalization exposes it risks to which Africa's economies must build resilience. Growth can help strengthen resilience, but it is not sufficient (World Bank, 2010). Africa's populations and economies must become more resilient in the face of shocks, whether triggered by environmental or socio-economic events.

Identifying strategic climate risk management and adaptation measures that help to avoid the loss of lives, incomes and productive assets are critical to building resilience. Africa's natural resource-



dependent sectors, food security and economic prospects generally are threatened by climate change (see IPCC 2007). These effects may be compounded by environmental resource degradation. Interventions include climate-proofing infrastructure, strengthening disaster risk management plans, and developing stronger insurance schemes against crop losses

The interconnectedness of markets may further expose Africa's economies to exogenous shocks. Increased international trade brings many opportunities, but it is also necessary to remain cognizant of the associated risks. For example, increased exposure to trade and fluctuating global food prices may compound the effects of local climatic and environmental changes on food security. Strengthening the capacity to manage risk and exogenous shocks should become a central element of growth strategies. Interventions include measures such as managing risk to counter increased price volatility. Box 6 provides examples of how the AfDB is integrating such risk assessment into its projects.

Box 6: Preparing for a changing environment

In developing its infrastructure program for Africa, the transport department is shifting focus to emphasize greener modes of transport such as rapid urban mass bus systems and building climate resilience into existing and planned projects. For example, up to 90 percent of road projects likely to be affected by climate change will have mitigation measures incorporated into their design.

Over the last five years, the AfDB has invested more than \$1 billion in water projects that equip African economies with the infrastructure they need to better manage decreasing or more variable rainfall. This includes irrigation, improved water management and storage facilities across 28 African countries.

Source: AfDB Staff

Cross-cutting issues When developing strategic approaches to green growth, we recognize that several issues span all thematic areas. Economic growth has to be a core focus in all activities; it is the basis of a successful green growth strategy. The private sector must be engaged to bring a green economy to a transformational level. Several of the challenges and opportunities can best be resolved through improved regional integration and collaboration, such as energy security (within Focal Area 1), water resource management (see Box 6) (within Focal Area 2), and migration as a response to climate change (within Focal Area 3). Gender issues and the protection and empowerment of children, youth and women also play important cross-cutting roles in finding sustainable solutions for using and managing resources.

HOW IS THE AFRICAN DEVELOPMENT BANK INVOLVED IN GREEN GROWTH?

Over the years, the African Development Bank has developed policy frameworks that can function as building blocks for green growth development pathways, covering several of the focal areas proposed in Table 1. For example, the Climate Risk Management and Adaptation Strategy (CRMA), the Climate Change Action Plan (CCAP), and the forthcoming Energy Sector Policy and Private Sector Policy demonstrate the AfDB's pursuit of climate-friendly operations to promote growth and social advancement in the Regional Member Countries (RMCs) and enhance resilience to climatic change. The AfDB can also build on a range of innovative funding instruments for addressing emerging development challenges and environmental issues (see Table 2 for an overview). Concurrently, the AfDB is prioritizing green growth into the Long Term Strategy currently being developed.

In its operational activities, the AfDB has engaged in a range of initiatives that focus on multi-sectoral approaches to reconcile economic and environmental concerns.



The AfDB's energy and infrastructure departments have been active in greening their portfolios. While the AfDB has predominantly engaged and continues to engage in the development of Africa's road infrastructure, it realizes the continent's vast opportunities in developing "greener" transport links, and is seeking not only to ensure more inclusive economic growth and social integration but also environmental sustainability. In the energy sector, AfDB's forthcoming Energy Sector Policy has sought to expand the development of renewable energy as part of the bank's overall portfolio. The AfDB has participated in over 630 MW of clean energy projects in 2011 and is on track to double this amount in 2012.

The AfDB places a high priority on supporting the water sector as part of its effort to promote better natural resource management given the increasing water scarcity that is exacerbated by climate change, environmental degradation, rapid population growth, and urbanization. Adequate water supply is essential for sustaining the agricultural sector's productive capacity and its ability to feed the continent's population. The AfDB interventions on sustainable water resource development and management across Africa include drinking water supply, water resource management, sanitation and hygiene, capacity building, and policy reform programs. The AfDB's experience with Integrated Water Resources Management (IWRM) represents an important knowledge foundation. Through the African Water Facility (AWF) and the Rural Water Supply and Sanitation Initiative (RWSSI), the AfDB has gained important insights into identifying solutions that range from small-scale infrastructure investments to cross-boundary water resource management. Box 7 highlights some of the Bank's activities in the water sector that promote a more integrated, greener approach.

In addition to improving water resource management, scaling up efforts that are focused on sustainable land management will be critical for ensuring food security and the efficient use of Africa's natural resources. The AfDB has emphasized improving agricultural productivity. Structural solutions, such as financing storage facilities and processing plants and supporting irrigation systems, are primary focuses. In light of climate change and population growth, climate information, early warning systems and land management practices will become increasingly important. In these areas, the Bank can expand on its engagement with partners through multi-stakeholder knowledge platforms such as the TerrAfrica platform for sustainable



Box 7: The African Water Facility, an instrument promoting green growth in the water sector

The African Water Facility (AWF), a key instrument created to implement the Africa Water Vision 2025 and hosted by the AfDB, supports the African countries in their shift toward a green growth pathway. AWF provides support for Water Sector project preparation, development and implementation of IWRM plans, piloting innovative technologies, improvement in water management practices and better information on surface water and groundwater resources.

To date, the Facility has leveraged approximately EUR 420 million in investment funds as a result of its project/program preparation activities. The AWF portfolio (EUR 80 million) is well-aligned with pillars II (Sustainable Management of Natural Assets) and III (Building resilience) of the green growth framework:

Transboundary Water Resources Management and related project preparation interventions address water security issues and consequently strengthen adaptation. They are aimed at using water resources and other river basin natural assets in a cooperative and sustainable manner, and often include a project or program preparation component. AWF supported six such regional projects (in the Volta or Lake Chad basins), and three regional program preparation projects in the Lake Victoria, Malawi/Tanzania, and the SADC region.

National Water Resources Management projects and activities support the development of strategies and action plans to achieve, inter alia, water security. This contributes to better understanding of the impact of climate change and variability and the development of mitigation and adaptation actions. Ten such national IWRM projects are ongoing or completed (in Burundi or Namibia). Other projects are designed to improve adaptation to climate change, such as water conservation and catchment management in Kenya and the recharge of natural aquifers in Morocco.

The facility also funds the development of Water Resources Information Management systems that allow the elaboration of national and regional plans as well as project designs with significant contribution to climate change resilience (six regional projects and four national projects).

Finally, the part of the portfolio based on innovative small infrastructure projects in Water Supply and Sanitation or Irrigation also participates in reducing greenhouse gas emission or enhancing resilience capacity. These include piloting technologies such as the use of renewable energies for water pumping in Ethiopia, the recovery and reuse of methane emissions from sewerage treatment plants in Ghana or improving the use of on-farm water resources in Botswana, watershed protection in Kenya, or piloting of rainwater harvesting for multi-purpose uses in Djibouti, and Rwanda.

Source: AfDB staff

land management in Sub-Saharan Africa. ClimDev represents an important funding platform for addressing climate information and application gaps in Africa (see Table 2).

The AfDB's agricultural activities have also sought to integrate green growth approaches. The Agricultural Sector Strategy (2010-2014) has as one of its pillars the aim of improving the resilience of Africa's natural resource base. It focuses on forestry, sustainable land and water management, and climate change mitigation and adaptation. The strategy is aligned to the Bank's Medium Term Strategy (2008-2012). The AfDB is also a member of the Land Policy Initiative (LPI) consortium, which includes the African Union Commission and UNECA. The consortium aims to develop a framework and guidelines on land



policy in Africa to, among other issues, address the problem of large-scale, land-based foreign investments (“land grab”).

With carbon becoming an asset of increasing global importance, the AfDB is also helping RMCs catalyze new resources that are becoming available for the sustainable management of natural resources. This includes performance-based payments, such as REDD+ (referring to policies and measures aimed at Reducing Emissions from Deforestation and Degradation). The AfDB is helping develop carbon as an asset through enhancement of carbon stocks and promotion of sustainable forest management. Through facilities and instruments such as the Congo Basin Forest Fund (CBFF), hosted by the AfDB, the Forest Investment Program (FIP) of the Climate Investment Funds (CIFs), and the proposed Copenhagen Forest Fund, the AfDB is helping to leverage resources to RMCs for the implementation of REDD+. There is also opportunity for the AfDB to expand its support to projects that aim at reducing fugitive GHG emissions, such as methane from landfills and agricultural activities, and consequently earn carbon finance through these projects.

The aforementioned funding mechanisms and operational activities provide an important knowledge foundation for the AfDB. The next step lies in moving further toward integrative solutions, to complement a project-based approach with programmatic solutions that catalyze the scale of resources and effort needed to address Africa’s development challenges, promote growth, while promoting sustainable resource management and resilience to environmental changes.

Building partnerships and enhancing communication are crucial to the successful implementation of the green growth framework. The AfDB will continue to strengthen its partnership with UNECA, the AUC and Regional Economic Communities (RECs) to support continental initiatives and bolster regional operations. The AfDB will also seek to deliver the green growth framework through sustained partnerships with a range of other specialized regional and international multilateral institutions, bilateral development institutions and civil-society organizations that are involved in low carbon development, climate risk management strategies, environment programs, and sustainable development. The AfDB has already started working with the World Bank, UNEP and OECD on producing an Inclusive Green Growth Toolkit based on a request from the G20 Development Working Group.



Box 8: Private sector development with a green perspective

The AfDB has invested heavily in private sector development and supported initiatives relevant to promoting greener growth within multiple industries. In addition to increased production of food, energy, and resources, financing will increase livelihoods and the capacity of local stakeholders for enhanced sustainability.

For example, a €25-million senior loan from the AfDB provides a portion of the long-term financing for the Addax Bioenergy Sierra Leone (ABSL) project, which includes the development of a 10,000 hectare Greenfield sugarcane plantation, the construction of an integrated bio-energy facility and a 32 megawatt biomass co-generation power plant. As a result, more than 960,000 tons of sugarcane will be produced annually, which will be used in the production of 83,000 cubic meters (83 million liters) of anhydrous ethanol for export and possibly domestic consumption and 165 gigawatt-hour (GWh) of electricity. Additionally, the farmer development and farmer training programs will increase employment opportunities, incomes, local economic growth, access to markets, skills, agricultural productivity and food production and security locally. The UN Food and Agriculture Organization (FAO) and International Institute of Tropical Agriculture support these components of the project. Environmental benefits include the creation of ecological corridors and buffer zones for conservation purposes and an estimated 200,000-ton reduction in greenhouse gas emissions per year.

Additionally, the construction, operation and maintenance of the 1.9 km-long Henri Konan Bédié Toll Bridge over the Ébrié lagoon in Abidjan, Cote d'Ivoire is made possible with a €58 million loan from the AfDB, structured as a public-private partnership with a group comprising development finance institutions, commercial banks, an infrastructure fund, the sponsor, and the government. The AfDB is structuring and negotiating the transaction as the lead arranger through a syndicated lending platform with other financiers. The project is expected to enable significant improvements to basic infrastructure and concurrently will reduce carbon emissions by relieving traffic congestion.

The AfDB has also made a USD 20 million equity investment in the Global Environment Fund Africa Forestry Fund, which protects global forest areas through a private sector approach. Investors, employees and surrounding communities receive profit through activities such as forest products processing and manufacturing, biomass co-generation facilities and natural resource management.

Finally, the African Agriculture Fund (AAF) received a USD 40 million equity investment from the AfDB. The AAF is a private equity fund designed to invest in projects that respond to the food crisis that severely impacted the continent in 2008 in the wake of escalating food prices and staple export bans. Funding helps to prevent the crisis from reversing decades of progress, growth, and investment in Africa, primarily focusing on African agribusiness companies operating in food production, processing, packaging, cold storage, distribution, and marketing. The increased support to AAF, whose total target size is USD 300 million, is part of a coordinated response involving the French development agency, the International Fund for Agricultural Development and the West African Development Bank.

Source: AfDB Staff

Working with national governments, the AfDB will emphasize strengthening the enabling environment for private sector engagement and fostering a culture of innovative African entrepreneurship in green growth. Box 8 provides examples of AfDB's private sector work with a green perspective.



Table 2. Building on existing foundations - selected funding mechanisms relevant to green growth

Fund	Background
Adaptation Fund	The Adaptation Fund was established to finance concrete adaptation projects and programs in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change. The share of proceeds on the clean development mechanism project activities and other sources finance the Adaptation Fund. The AfDB is credited as a Multilateral Implementing Entity.
Africa Fertiliser Financing Mechanism (AFFM)	The AFFM was established in March 2007 to increase the use and availability of affordable fertilizers for African farmers to promote good agricultural practices, such as integrated soil fertility and plant nutrient management, that safeguard the environment. The AFFM is one of several instruments that will serve the Comprehensive Africa Agriculture Development Program of the New Partnership for Africa's Development. The Secretariat of the AFFM is hosted at the African Development Bank.
African Water Facility (AWF)	The African Water Facility was instituted in May 2004, following a formal request from the African Ministers' Council on Water (AMCOW) to establish a fund to mobilize and apply resources to finance water infrastructure and investment facilitating activities. The Facility responds to the principal constraints on achieving the Africa Water Vision 2025: lack of investment, governing capacity, and knowledge uptake. The African Development Bank (AfDB) hosts the Facility. (See also Box)
Climate Investment Funds (CIF)	The CIFs are a set of financing instruments designed to initiate transformation to low-carbon and climate-resilient development through scaled-up financing channeled through the Multilateral Development Banks (MDBs), including the Bank. The AfDB will channel up to USD 900 million (UA 581 million) of the Climate Investment Funds. Already, the AfDB has helped ten countries and one region complete their investment plans and receive approval on them between 2009 and 2011: Egypt, Morocco, Nigeria, South Africa, Mozambique, Niger, Zambia, Burkina Faso, the Democratic Republic of Congo, Kenya and the Middle East and North Africa region.



Fund	Background
ClimDev-Africa Special Fund (CDSF)	<p>The CDSF's main objective is to support operations in the following three main areas: 1) Generation and wide dissemination of reliable and high quality information on climatic situation in Africa; 2) Capacity enhancement of policy makers and policy support institutions to integrate information on climate change into development programs; and 3) Implementation of pilot adaptation practices that demonstrate the value of mainstreaming climate information into development. CDSF is a joint initiative of the African Development Bank, the African Union Commission (AUC) and the United Nations Economic Commission for Africa (UNECA).</p>
Congo Basin Forest Fund (CBFF)	<p>The CBFF was launched in June 2008 to develop the capacity of the people and institutions of the Congo Basin to preserve and manage their forests. The Congo Basin Forest Fund accepts proposals from NGOs and governments for projects that transform the way people live in and earn a living from the Congo Basin forests and how governments protect and preserve them, continually prioritizing methods that reduce climate change. The Secretariat of the CBFF is hosted at the African Development Bank.</p>
Fund for African Private Sector Assistance (FAPA)	<p>The Fund for African Private Sector Assistance (FAPA) provides grants for technical assistance and capacity building to governments, regional economic communities, business associations, regulatory institutions, business development service providers, business training and research institutions and public/private enterprises. FAPA resources focus on creating an enabling environment, strengthening financial systems, building competitive infrastructure, promoting medium, small and micro enterprises (MSME) development and trade in alignment with the Bank's Private Sector Development Strategy. The AfDB Board approved FAPA in October 2005 as a bilateral facility supported by Japan and converted into a multi-donor thematic fund in September 2010 with the accession of Austria.</p>
NEPAD Infrastructure Project Preparation Facility (NEPAD-IPPF)	<p>The NEPAD Infrastructure Project Preparation Facility Special Fund assists African countries, Regional Economic Communities (RECs), specialized agencies and related institutions through grants for high quality and viable regional/continental infrastructure projects. The Fund seeks to mobilize financing from public and private sources, develop a consensus and partnership for project implementation, and promote infrastructure projects and programs aimed at enhancing regional integration and trade. Project sectors include transport, energy, ICT, and water resources management.</p>



Fund	Background
Rural Water Supply and Sanitation Initiative (RWSSI)	<p>Within the rural water and sanitation subsector, the Bank plans to direct financing for interventions that target at least 65 percent of a country's population and where accessibility to water and sanitation services is lowest. In 2003, the Bank developed the Rural Water Supply and Sanitation Initiative (RWSSI), with the complementary RWSSI Trust Fund (RWSSI Trust Fund) established in 2006. The RWSSI aims to ensure that 80 percent of the rural population in Africa has access to safe drinking water supply and sanitation by 2015 using sustainable, environmentally-friendly methods. Focuses include water supply, sanitation, hygiene promotion, sector policy and strategy, capacity building and funds mobilization for the rural water and sanitation sub-sector.</p>
Sustainable Energy Fund for Africa (SEFA)	<p>The Sustainable Energy Fund for Africa was designed to provide know-how and investment capital to small and medium clean energy enterprises, increasing access to clean energy and employment. SEFA was established in 2011 with a commitment of USD 56 million (UA 36 million) from the Government of Denmark.</p>

Source: AfDB Staff





THE WAY FORWARD: BUILDING ON EXISTING EXPERIENCES

Green growth builds on existing policies and measures. It is not a departure from sustainable development, as it reinforces the need to address the social, economic and environmental dimensions of development. Green growth places further emphasis on growth as a central driver of development, but seeks to focus on the most environmentally sustainable options that promote growth.

It requires sustained political commitment, better valuation of natural and social assets in decision-making processes, and removing market distortions that lead to environmental degradation, pollution and climate change. Sometimes green growth has significant additional costs, but equally, it sometimes presents the best opportunities to improve growth in a more environmentally sustainable manner.

By using the tools highlighted in this report to bring about green growth within the three priority focal areas, Africa can achieve sustained growth without sacrificing the environment, and perhaps sometimes even enhancing it.

The AfDB can play a crucial role in greening growth, helping governments and the private sector overcome hurdles to growing green. It can help promote greener projects in Africa, and help African decision-makers step back and assess how economy-wide transformations can be more cognizant of the environment. While not every puzzle piece in a country's economic picture can be green, over time the pieces can come together to create a green picture. The AfDB has already taken firm steps to help create this picture of greener growth, and will continue to support its RMCs in doing so.



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