

# **Transitioning towards Green Growth**

**A Framework for the African Development Bank**

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## Executive Summary

**The African Development Bank's Strategy for 2013 to 2022 seeks to promote high quality growth in Africa.** The Strategy focuses on two overarching objectives to improve the quality of growth across the African continent: inclusive growth, and the transition to green growth. It has five priority pillars which are intended to frame the Bank's country and regional integration strategies: improved infrastructure, governance, private sector development, skills and technology, and regional integration. And it has three areas of special emphasis: fragile states, agriculture and food security, and gender. Green growth contributes to all of these objectives.

**The purpose of this framework document is to provide Bank staff with a common foundation on the principles and practice of green growth** by describing the rationale and approach and providing orientation on strategic entry points for action, methodologies, financing and monitoring progress. As such the framework is intended as living document, which serves as a first common reference source and is complemented by sector guidance notes and thematic publications.<sup>1</sup>

### Context and Rationale for Green Growth in Africa

**The AfDB Strategy for 2013-2022 outlines the rationale for inclusive growth and the transition to green growth** within a broader context of rapid economic development, continued widespread poverty and a deteriorating natural asset base. It argues for a growth path that is not only rapid but which also leads to equality of treatment and opportunity, deep reductions in poverty and large increases in jobs. Green growth ensures that inclusive growth is sustainable, by managing responsibly the assets on which it is based, spurring job creation, innovation and development, and providing efficiency and welfare gains. Climate change has increased the urgency of following growth paths which manage land, water and energy wisely. Urbanization and shifting consumption patterns provide further opportunities for moving towards green growth. The Bank Group's 2012 report "Towards Green Growth in Africa" further elaborates the rationale for moving towards green growth and illustrates the costs of unsustainable growth paths.

### Guiding Principles for Transitioning to Green Growth

**Green growth policies are closely linked with sound overall growth policies.** The Bank defines green growth as *the promotion of economic growth through building resilience, managing natural assets efficiently and sustainably including enhanced agricultural productivity, and promoting sustainable infrastructure and urbanization, while minimizing pollution and waste.* By managing natural resources efficiently, building resilience and minimizing pollution and waste, green growth brings efficiency and competitiveness gains (e.g. from reduced postharvest losses due to better roads or access to electricity), productivity gains (e.g. from better managed land and water and reduced soil loss) and welfare gains (e.g. from a reduced burden of environmental diseases due to better water, sanitation and drainage).

**Green growth seeks to overcome the barriers to longer term growth, which includes addressing upfront costs or externalities, but also policy and behavioural constraints.** For example, investing in watershed management and sustainable agricultural intensification will bring longer-term productivity gains but may have higher short term costs than continuing with area expansion, extensive farming and natural asset depletion across a landscape. Green growth requires the right regulatory and incentive environment for efficient and equitable resource use, while recognising

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<sup>1</sup> "Facilitating Green Growth in Africa" African Development Bank (2012). "Towards Green Growth in Africa" African Development Report 2012 (ADR 2012), AfDB (2013); "Green Growth: Sector Guidance Notes" (AfDB, 2014).

political economy realities. It seeks to provide incentives for changing behaviour which will bring economic and welfare gains, as in road safety and road design, or explaining the need for a policy change and providing safety nets as needed. This often requires an approach which cuts across sectors and which combines various policy instruments, including economic, regulatory and social marketing initiatives.

### **Entry Points for Action**

**Integrating green growth into upstream development planning is the best entry point for promoting the transition.** Upstream diagnostics and stakeholder dialogue allow for the identification of growth strategies that maximize a country's economic, social and environmental assets. As such, more informed decisions about the sustainability of development pathways become possible. These diagnostics emphasize cross-sector linkages and can help assess the advantages and disadvantages of different approaches to achieving development goals, such as energy access. The Bank can provide upstream technical assistance to regional member countries in development planning, budget processes and institutional coordination, while emphasizing green growth principles.

**Integrating green growth principles into Country Strategy Papers (CSPs) and programs provides the implementation mechanism.** Strategies related to implementation of the five priority pillars of the AfDB have already gone a long way in green growth mainstreaming. As regards *infrastructure*, several of the pillars which will guide the Bank's interventions in the energy sector,<sup>2</sup> for example, are directly integrated with green growth principles. These include: (i) ensuring energy security and increasing access for all, promoting resilience and efficiency, (ii) moving towards a cleaner energy path, reducing pollution, (iii) enhancing governance at the national level, bringing efficiency and welfare gains, (vi) promoting social and environmental responsibility, ensuring inclusion and sustainability, (vii) and integrating a response to climate change, which builds resilience. The *governance* strategy<sup>3</sup> includes improved natural resource sector governance, price reforms and improved accountability, which are foundations for inclusive green growth. The *private sector development strategy*<sup>4</sup> argues for private sector involvement which is efficient, environmentally sustainable and supports low carbon growth (recognizing that reputable investors benefit from having a reputation for corporate social and environmental responsibility). The strategy also highlights efficiency gains from value chain development and commercialization in agriculture, together with rural infrastructure improvement. *Enhanced regional integration* brings efficiency gains from trade, cooperation and shared management of resources, while *higher education and skills development* supports the innovation and more productive, safer jobs and work environment that will bring about more resilient, efficient, less polluting economies. The Green Growth Framework highlights the key overarching principles and ideas that should be considered in diagnostic work supporting the development of CSPs. The GGF read in conjunction with the Country Strategy Toolkit<sup>5</sup> will provide Bank staff with cross-cutting information and resources focused on enabling economic transformation and promoting quality of growth.

**Green growth principles can also be mainstreamed into project design, helping to realize efficiency gains, reducing adverse environmental impacts and improving the resilience of development**

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<sup>2</sup> Energy Sector Policy of the AfDB Group 2013;

<sup>3</sup> Governance Strategic Direction and Action Plan GAP II, 2014-18 AfDB 2013

<sup>4</sup> Supporting the Transformation of the Private Sector in Africa: Private Sector Development Strategy 2013-17", AfDB 2013

<sup>5</sup> AfDB 2014. The Country Strategy Toolkit: Practical guidance to help AfDB country strategy papers promote inclusive growth and the transition to green growth. Internal Bank document, which will inform an intranet-based application to link various reference sources together and help inform the CSP formulation in light of the Bank's strategic objectives. The toolkit draws on the GGF and related knowledge material of the Green Growth Team as central resource documents.

**outcomes.** The 2012 Report “Facilitating Green growth in Africa” provides some examples. In transport AfDB has facilitated modal shift to rail in Morocco, and has supported efficient public transport systems in Lagos. It has invested more than US\$ 1 billion over the last 5 years in water resource management and storage projects, which enhance resilience and improve the reliability of supplies for irrigation, drinking water and electricity while protecting vital hydrological flows. Sector notes accompanying the Green Growth Framework provide some detailed guidance on how to facilitate mainstreaming, building on substantial experience within the Bank Group already. Key tools include resilience risk assessments, economic analyses which also evaluate the potential costs of environmental degradation and benefits of clean-up, and implementation of solid environmental and social management plans together with capacity building and strengthening of procurement documentation. Because of the “policy-heavy” nature of greening growth, there is scope for integrating green growth into development policy lending/budget support.

### **Information, Knowledge and Diagnostics**

**Improved information bases are key to articulating, implementing and evaluating development strategies in their capacity to facilitate the transition to green growth.** While the quality of information varies widely between countries, the Millennium Development Goals (MDGs) have provided an incentive for improving information in key social sectors over much of Africa. For most other sectors the data bases are poor, particularly for economic activities dominated by the informal sector, such as agriculture or small scale services, but also for geographical and hydro-meteorological information. Better information bases will provide the substance behind better diagnostics and policy articulation. Improving geographical data bases more broadly is a priority. Diagnostics on the costs of environmental degradation can help identify priorities. For example in Egypt air pollution and congestion have major costs, while in Ghana the costs are, rather, from poor water, drainage and sanitation, and land and forest degradation.<sup>6</sup>

### **Financing the transition to Green Growth**

**Transitioning to green growth can lead to efficiency gains and productivity gains, and the overall costs of green growth paths may often not be higher than conventional growth paths.** However, adoption of more efficient technologies and practices may require upfront investment costs. Frequently, there are challenges in accessing long term finance. In addition, costs may be incurred in one geographical area while benefits accrue in another. There are also often political economy constraints. Much of the financing for green growth will come through the usual Bank financing instruments as well as from country budgets and private sector investments. The Bank can also help countries to access innovative financing instruments including existing and future climate and environmental financing mechanisms. The launch of Green Bonds by AfDB represents an additional avenue for raising capital. The Green Climate Fund will provide further resources for transformational, climate smart development. Building readiness of RMCs to access these additional resources should be an important consideration for the Bank.

### **Monitoring Progress**

**The Bank Group has developed The One Bank Results Measurement Framework 2013-2016 which provides the framework for tracking progress at a number of levels.** These include indicators at “level 1” which track progress with meeting the broad goals of inclusive and green growth at country level; at “level 2” which are directly linked to Bank interventions. Level 3 and 4 indicators measure organizational effectiveness and efficiency.

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<sup>6</sup> “Towards Inclusive Green Growth: the Pathway to Sustainable Development” World Bank World Development Report 2012.

**The Green Growth indicators are linked to the three pillars for AfDB green growth engagement.** Identifying simple indicators was challenging in a data-scarce environment. But consensus was reached around six “level 1” indicators. For *resilience-building*, the indicators chosen are increased food security and resilience to water shocks. For managing natural resources efficiently and sustainably, they are institutional capacity for environmental management and agricultural productivity. For *promoting sustainable infrastructure and reducing waste and pollution* two indicators both linked to energy were chosen: production efficiency as measured by CO<sub>2</sub> emissions as a share of GDP, and renewable energy as a percentage of total energy produced. Inclusive growth has a larger number of indicators, including some directly relevant to green growth such as access to water, sanitation, electricity and improved road access, illustrating again the cross-cutting nature of the Bank’s two core objectives. There is scope also for developing indicators adapted to different countries. The Sustainable Development Goals, on which UN member country consensus should be reached in 2015, should provide further guidance.

**The Bank can engage with member countries in developing and applying green growth indicators to assess development progress and quality.** Improved metrics and data are key (see earlier paragraph above). Some countries (e.g. Botswana and Madagascar) are working on incorporating natural wealth in their GDP accounting systems through the WAVES (Wealth and Valuation of Ecosystems Accounting Services) initiative. The Bank can work with partner organizations to reduce transaction costs for developing baselines and monitoring, harmonize indicators and share data bases. The Bank can also assist member countries over the coming years on tracking the quality of growth at a country-specific level.

**Level 2 indicators are more detailed and adapted to particular program interventions.** The Results Framework provides some, including improvements in infrastructure access and people benefiting from agricultural land under improved management. The Green Growth Sector Guidance notes<sup>7</sup> provide guidance on incorporating green growth in a number of sectors, including water, energy, agriculture, forestry and fisheries, and human development. It must be emphasized that program design indicators need to be adapted to specific interventions and country circumstances; simplicity is essential in data poor environments.

## **Moving Forward**

**The Bank group approach to inclusive green growth will evolve over the coming years as it learns from experience and continues to build its reputation as a *Knowledge Bank*.** In moving forward, the Bank should place further emphasis on cross-sectoral collaboration, diagnostics and applied analytics for informing investment decisions. It should also promote a more systematic use of the available innovative financing instruments. Strategic partnerships should be sought out to facilitate and coordinate upstream planning on green growth in regional member countries and advancing international policy and funding support. The progressive engagement of the private sector and the role of the Bank in working with financial intermediaries will be of importance in up-scaling green growth initiatives on the African continent. Finally, the Green Growth Framework should be viewed a living document to which emerging lessons learned on specific issues can be added as complementary thematic papers over time.

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<sup>7</sup> “Green Growth Sector Guidance Notes” African Development Bank 2013

## List of Acronyms

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AAA	Analytical and Advisory Activities
ADF	African Development Fund
AfDB	African Development Bank
AWF	African Water Facility
CBFF	Congo Basin Forest Fund
CBOs	Community Based Organizations
CDSF	Clim-Dev Africa Special Fund
CIF	Climate Investment Funds
CSP	Country Strategy Paper
CTF	Clean Technology Fund
EFR	Environmental Fiscal Reform
ERR	Economic Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESW	Economic & Sector Work
FDI	Foreign Direct Investments
FIP	Forest Investment Programme
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GGF	Green Growth Framework
GHG	Greenhouse Gas
GG	Green Growth
GGKP	Green Growth Knowledge Platform
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
ISS	Integrated Safeguard System
IWRM	Integrated Water Resource Management
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
LTS	Long Term Strategy
MACC	Marginal Abatement Cost Curve
MDBs	Multilateral Development Banks
MDGs	Millennium Development Goals
MEA	Millennium Ecosystem Assessment
MENA	Middle East and North Africa
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
PCR	Project Completion Report
PEER	Public Environmental Expenditure Review
PPCR	Pilot Programme for Climate Resilience
PPP	Private Public Partnerships
PRSP	Poverty Reduction Strategy Paper
RBOs	River Basin Organizations
RE	Renewable Energy
RECs	Regional Economic Committees
REOs	Regional Economic Organizations
RMC	Regional Member Country
SCCF	Special Climate Change Fund
SEA	Strategic Environmental Assessment
SEEA	System for Environmental and Economic Accounts
SEFA	Sustainable Energy Fund for Africa
SREP	Scaling-up Renewable Energy Programme
TA	Technical Assistance
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WWF	World Wide Fund for Nature



# 1 Introduction and Definition of Green Growth

## *Introduction*

**African economies have recently experienced prolonged, high rates of economic growth and the continent has become the fastest growing region in the world.** The Strategy of the African Development Bank (AfDB or the Bank) for 2013-2022 responds to aspirations for a dynamic Africa and seeks to place the institution at the centre of the continent's economic transformation and to improve the quality of Africa's growth. The strategy has overarching objectives both linked to the quality of growth: promoting inclusive growth and enabling the transition to green growth.

**This Green Growth Framework<sup>8</sup> (GGF) is intended to support Bank staff as they work with member countries to facilitate the transition to green growth.** After defining green growth within the African development context, the document explains the rationale and guiding principles for green growth, strategic entry points within the country dialogue, country partnership and program development cycle. It is intended first and foremost a living document, which serves as common reference for Bank staff, providing a first, broad level orientation and guidance on this important agenda and entry points for action. As central resource document source on green growth also for the AfDB's Country Strategy Toolkit, the GGF hence complements the focus on inclusive growth and informs staff about key elements to consider for enabling high quality growth in Africa by managing and developing environmental capital and addressing risks to sustainability.

## *Definition*

The Bank defines green growth as *"the promotion and maximization of opportunities from economic growth through building resilience, managing natural assets efficiently and sustainably, including enhancing agricultural productivity, and promoting sustainable infrastructure."*<sup>9</sup>

Green growth is closely related to the concept of a green economy, spearheaded by United Nations Environment Programme (UNEP) and framed as: *"An economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."*<sup>10</sup> Both concepts focus on the improvement of human welfare and economic conditions, while recognizing the importance of building a more comprehensive development model which also manages sustainably the natural capital upon which human activities depend. A green economy can be viewed as a state and green growth as the process that leads to this state. However, the synergies of the underlying rationale and approaches are so large that in practice these terms can largely be used inter-changeable. They both seek to enhance momentum and mechanisms for achieving sustainable development in a time of tremendous socio-economic and environmental change.

A green growth agenda for African countries represents an iterative process and will likely be different in scope from green growth agenda for industrialized countries, where the emphasis is largely on shifting to a low carbon economy. For Africa the priority is sustaining rapid growth and poverty alleviation while at the same time avoiding costly environmental damage that will threaten growth over time. This requires investment, growth and jobs, as well as life-sustaining goods and services such as food, access to safe water and sanitation, and energy. Harnessing recent economic

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<sup>8</sup> This framework is the work of the Bank's cross-departmental green growth team. It build on additional reference publications produced by the team and Bank staff, including the Rio+20 discussion paper *Facilitating Green Growth in Africa* (2012), and the *African Development Report 2012: Towards Green Growth* (2013). Sector guidance notes developed by the green growth departmental focal points complement the framework.

<sup>9</sup> Green Growth Team and African Development Bank (2013). *African Development Report 2012: Towards Green Growth in Africa*.

<sup>10</sup> UNEP, 2011. *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*.

momentum requires balancing near- and long-term risks to development, strengthening the resilience of growth processes to exogenous shocks, and ensuring the efficient use of natural resources in the face of population growth and climate change. Africa's green growth agenda recognizes that the contexts for development are changing and development processes need to be adapted to manage these changes.

## 2 The Rationale for Transitioning to Green Growth in Africa

### *Development Pathways*

**The African Development Report 2012-Towards Green Growth (ADR 2012) discusses the challenges of current growth paths in Africa.**<sup>11</sup> It argues that while economic growth rates in Africa have been impressive over the last decade, in many countries this growth has not been widely shared or inclusive, and that poverty and inequality remain key development concerns. Furthermore, and linked to this challenge, Africa's economic growth has often been accompanied by increased exploitation of renewable natural resources, thus undermining capacity of countries to sustain growth. At the same time the burden of environmental diseases linked often to unsafe water, air pollution or use of "dirty" cooking fuels poses a threat to welfare and economic development. In cities traffic congestion imposes increasing costs while poor storm drainage and inadequate solid waste management increase vulnerability to floods and reduce resilience. The pattern and costs of environmental degradation vary widely. Analysis<sup>12</sup> suggests that for Ghana the costs are equivalent to 9% of GDP, mostly from land and forest degradation and from poor quality water. For Egypt, a middle income country, the costs are 6% of GDP, mostly from air pollution and congestion. Africa's population is expected to double by 2050. As living standards and education improve, Africa, like other regions, is likely to experience a demographic transition towards smaller families.<sup>13</sup> But over the coming decades growing populations in Africa, but also globally, will increase the imperative for improved management of increasingly scarce natural resources, such as water and fertile land.<sup>14</sup>

**At the same time the growth imperative remains.** The cost of the infrastructure deficit has been well analysed,<sup>15</sup> with only 30% of Africa's population having access to electricity, and poor connectivity and transport infrastructure still constraining growth, welfare and competitiveness. Land degradation and low agricultural productivity are also linked to poverty and lack of access to the technologies, infrastructure, energy and finance that can promote sustainable intensification, broader landscape management, reduced postharvest losses, value chain addition and competitive marketing.

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<sup>11</sup> "Towards Green Growth in Africa" African Development Report 2012 (ADR 2012), AfDB (2013)

<sup>12</sup> "Inclusive Green Growth: the Pathway to Sustainable Development" WDR, World Bank 2012

<sup>13</sup> In Latin America in the 1960s, for example, when incomes were similar to those in Africa today, most families had five children. Today they have two. Similar reductions in fertility, as social indicators and access to maternal/child health services improve, are being experienced in countries like Indonesia and the Philippines.

<sup>14</sup> Kenya, for example, with a population of 40 million in 2010, has only 525 m<sup>3</sup> of internally renewable water resources annually; countries are regarded as water stressed if they have less than 1000m<sup>3</sup>. Yet at current population growth rates of 2.6% annually, by 2040 Kenya's population will be 80 million, and renewable freshwater resources will be only 260 m<sup>3</sup> per capita, requiring very careful management and conservation to meet welfare and development needs. (Source: World Development Indicators 2012)

<sup>15</sup> "Africa Infrastructure Development Index" African Development Bank, 2013, "Africa's Infrastructure: a Time for Transformation" Africa Development Forum, World Bank 2009,

**Global developments raise additional challenges and opportunities.** Africa's vulnerability to extreme climate events is closely linked to its development deficit, but evidence of more frequent and intense periods of extreme heat, floods and droughts linked due to global warming raises the urgency of improving resilience and disaster risk management. Africa contributes only about 3% of greenhouse gas emissions, while its emissions per unit of GDP are higher than those of other continents. But there are opportunities for it to embark on climate resilient, lower carbon emission growth pathways, as both Ethiopia and Rwanda are demonstrating.<sup>16</sup> The opportunities arising from improved forest and agricultural land management are well known. But as regards fossil fuels, transport also presents great opportunities. The ADR 2012 shows the transport development pathways of a number of large cities depending on how they manage traffic, including private and public transport. There is a contrast between European and US cities. But the analysis also compares Abidjan (overly dependent on private cars) with Dakar, where there is more public transport. The AfDB's support to public transport in Lagos brings efficiency, competitiveness, welfare and reduced GHG emissions gains. It supports green growth.

### ***The Economic Case for Growing Green***

**Stakeholders sometimes voice concern that green growth may come at a substantial cost.** This concern rests on a set of assumptions. First, it assumes that the current economy operates efficiently and that introducing concepts of green growth would come at an additional cost. Second, it takes for granted that a "grow first, clean up later" approach does not carry a substantial price tag itself.

**There is growing evidence that these assumptions are incorrect.** Our current economic system is not optimal, as decisions are often based on inadequate knowledge and asymmetric information. Ecosystem goods and services are often provided for free and hence the cost and impact of their depletion on economic activities is not adequately priced into decision making. Pollution and its consequences for health, environmental degradation and climate change are examples of the costly environmental damages resulting from these economic externalities. The impact of land degradation and erosion on soil fertility and agricultural productivity is another.

**A number of global, regional and national studies evidence that building inclusive, green economies is possible, efficient, affordable and cost-effective,** for example:

- US\$ 900 billion to US\$ 1,700 billion of green investments in land, water, and energy could yield economic returns of between US\$ 3 trillion to US\$ 3.7 trillion per year;<sup>17</sup>
- Globally \$1 spent on energy efficiency saves US\$ 2 of required investments in new energy supply, with the savings even greater in developing countries;<sup>18</sup>
- Investing two per cent of global GDP in greening ten key economic sectors can deliver economic growth by 2050 that is at least as high as an optimistic business as usual case, while creating employment, reducing poverty and significantly avoiding ecological risks and scarcities linked to the effects of climate change (such as greater water scarcity and loss of ecosystem services);<sup>19</sup>

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<sup>16</sup> "Ethiopia's Climate Resilient, Green Economy Strategy: The Pathway to Sustainable Development" Federal Government of Ethiopia 2011, "Green Growth and Climate Resilience" National Strategy for Climate Change and Low Carbon Development, Government of Rwanda 2011

<sup>17</sup> Assuming that carbon is priced at \$30 per ton and no energy, agricultural, or water subsidies are in place - McKinsey and Company, 2011

<sup>18</sup> World Bank, 2012

<sup>19</sup> UNEP (2011), *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. A synthesis for policy makers*

- In Sub-Saharan Africa, reducing the sulfur content of fuels used for transport could save up to US\$ 980 million per year in health and related economic costs;<sup>20</sup>
- There is growing evidence of the net positive impact of green growth on employment. It is estimated that, on average, employment will increase between 0.5% and 2%, which would translate into 15-60 million jobs.

**Conversely, there may be a significant cost associated with continuing with “grow now clean up later”.**

- The current resource-intensive development model will lead to rising costs, loss of productivity and a disruption of economic activity. The ILO Global Economic Linkages (GEL) model estimates that in a business-as-usual scenario, productivity levels in 2030 will be 2.4 per cent lower than today and 7.2 per cent lower by 2050;<sup>21</sup>
- Climate change will have negative on yields, with the latest estimates projecting that cereal yields will decline globally by 2% per decade while demand will increase by 14% per decade. However the impacts will be much more severe over much of Africa, including Southern and North-Western Africa, and the eastern Sahel, with yields in some areas declining by as much as 50% by 2050 without adaptive measures<sup>22</sup>
- A study of countries that together comprise 40 per cent of the developing world’s population estimates that, on average, environmental degradation costs around 8% of their GDP;<sup>23</sup>
- Findings show that climate change – through its impact on disease vectors – could expose an additional 400 million people globally to the risk of malaria before the end of the century. Also as many as 2 million premature deaths each year are caused by indoor air pollution due to the burning of biomass, coal and kerosene.<sup>24</sup>

**The challenge for African economies lies in building prosperity while mitigating near- and long-term risks to development.** The global economic crisis has underscored that Africa’s success is interconnected with the rest of the world. This is as true for short-term economic volatility as it is for long-term challenges like climate change, long recognized as a threat for achieving the Millennium Development Goals.<sup>25</sup> Consequently, Africa should improve its resilience to environmental and socioeconomic shocks, manage its natural capital, and minimize pollution. At the same time, the continent’s success will also depend on international efforts to address climate change and other issues of global magnitude.

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<sup>20</sup> ICF International 2009, Sub-Saharan Africa Refinery Project – Final Report

<sup>21</sup> ILO-UNEP, 2012. Working towards Sustainable Development

<sup>22</sup> “Achieving Food Security in a Changing Climate” Report by Commission on Sustainable Agriculture and Climate Change, CGIAR 2011, Beddington et al

<sup>23</sup> Data refer to a sample of countries accounting for 40 percent of the population of developing countries. Additional data available in: McKinsey and Company. 2011. “Resource Revolution: Meeting the World’s Energy, Materials, Food, and Water Needs.” McKinsey Global Institute

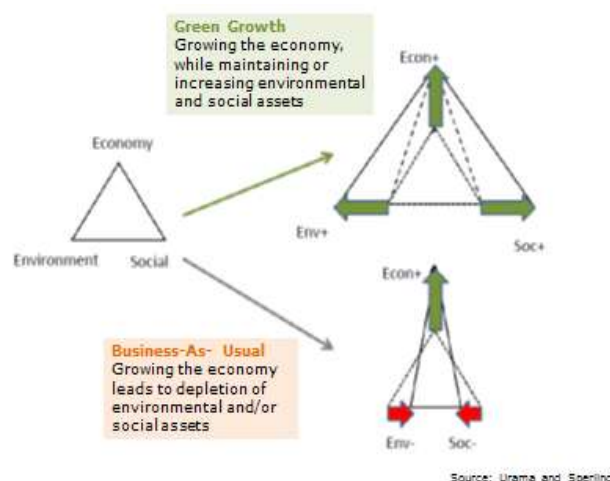
<sup>24</sup> ILO-UNEP, 2012. Working towards Sustainable Development

<sup>25</sup> AfDB et al. (2003). Poverty and Climate Change: Reducing the Vulnerability of the Poor through Adaptation. Drawing on a review of the state of the climate science at the time, this ten-agency report was one of the first documents endorsed by heads of agency level, which argued that without remedial measures, climate change threatens to undermine progress towards and beyond the MDGs. It highlights the importance of mainstreaming climate change adaptation into development practice as essential complementary measure to climate change mitigation.

### 3 How to Approach Green Growth

#### *Towards Inclusive Green Growth*

Current models of economic growth rarely account for the many social and environmental externalities that exacerbate poverty in developing countries in Africa. Consequently, green growth seeks to put Africa's development on a more robust and sustainable foundation. It recognizes the need to grow and develop the economy, but it seeks to do so while maintaining, increasing or restoring environmental and social assets (Figure 1).



**Figure 1. Towards a Green Growth Model.** Sustainable development recognizes, that the economic, social development, and environmental dimensions of development are equally important pillars for ensuring human welfare and sustainability. The traditional economic model has predominantly focused on growing the economy, which at times has led to depletion of social (Soc-) and/or environmental (Env-) assets (e.g. water stress, pollution, land degradation, biodiversity loss and climate change are prominent examples). A green growth model seeks to grow the economy, while maintaining or increasing critical environmental (Env+) and social (Soc+) assets, thereby placing the economy on a more robust foundation.

**For Africa, promoting green growth in the region means addressing existing and emerging development challenges.** This includes sustaining rapid growth and ensuring economic prosperity, reducing poverty and inequality, and closing the huge infrastructure and energy gaps – *without* locking into development pathways that deplete Africa's natural capital. It is about *a more holistic vision of development that integrates economic, social and environmental perspectives for improving human welfare.*

#### **Key Principles for Green Growth**

By transitioning to green growth, African economies seek to realize development objectives and growth targets, while:

- (i) **Maximizing natural resource use efficiency;**
- (ii) **Minimizing waste and pollution;** and
- (iii) **Building resilience of livelihoods and economic sectors.**

The systematic application of these principles by Bank staff in policy dialogue with regional member countries (RMCs) and other stakeholders, and in project design and implementation, will help identify more sustainable development pathways. It will also contribute to enhancing the quality of growth of African economies. This will require a progressive shift (a) to focusing on

upstream development planning, (b) from sector to cross-sector approaches, and (c) towards project quality over throughput to harness synergies and reduce trade-offs between social, economic and environmental development.

**Overcoming Africa’s infrastructure deficit and harnessing the continent’s natural resource wealth are central areas to which these green growth principles should be applied (Table 1).** As an outcome, livelihoods and economies should become more efficient and hence competitive in the marketplace while pursuing a sustainable development pathway.

**Table 1.** Focal Areas for Inclusive Green Growth

<b>Sustainable Infrastructure</b>	<b>Efficient/Sustainable Use of Natural Assets</b>	<b>Resilient Livelihoods and Economic Sectors</b>
Maximizing efficiency, minimizing pollution and waste, e.g: <ul style="list-style-type: none"> <li>• Energy efficiency</li> <li>• Mass transport</li> <li>• Sustainable urban development</li> <li>• Water security</li> <li>• Multi-purpose solutions</li> </ul>	Sustaining renewable resources: <ul style="list-style-type: none"> <li>• Land (agriculture, forests and other land-use)</li> <li>• Water (freshwater and marine)</li> </ul> Maximizing resource rent, minimizing ecological footprint when utilizing non-renewable resources: <ul style="list-style-type: none"> <li>• Minerals</li> </ul>	Strengthening disaster risk management and adaptive capacities to: <ul style="list-style-type: none"> <li>• Physical/environmental shocks (natural hazards, weather and climate extremes, climatic change)</li> </ul> Improving social and economic safety nets to buffer against: <ul style="list-style-type: none"> <li>• Socio-economic shocks (e.g. commodity risks)</li> </ul>
<b>Inclusiveness of Green Growth</b>		
<ul style="list-style-type: none"> <li>• Green Jobs</li> <li>• Innovation and Economic Diversification</li> </ul>		<ul style="list-style-type: none"> <li>• Improved Safety and Health Conditions</li> <li>• Gender</li> </ul>

**Policy instruments for Green Growth include economic incentives, regulations and social marketing to encourage behavioural changes.** Economic incentives include price policy reforms, tax incentives and “smart subsidies” and public investments. Generally a mix of all three instruments is needed, and instruments need to be adapted to the relevant political economy environment. Fossil fuel energy subsidies, for example, are generally neither efficient nor green nor inclusive, since the better off consume more energy, but reforms need to be carefully designed and combined with careful communications strategies and programs to protect vulnerable people. The experience in Nigeria in late 2012, for example, where riots ensued following sudden subsidy removals, may be contrasted with the policy adopted in Morocco, which included a phased subsidy reduction as part of a broader package of inclusive green growth measures, accompanied by social marketing<sup>26</sup>. But public expenditure support for improved seed and for adoption of sustainable land and water management practices, combined with adequate information campaigns and regulatory reforms regarding secure access to land and land use, is likely to provide the right mix of incentives for sustainable intensification practices in agriculture. Regulations generally only work when there is broad understanding and social acceptance of their advantages, as well as sufficient institutional capacity for consistent, transparent enforcement.

<sup>26</sup> Morocco Green Growth Development Policy Loan, World Bank Appraisal Document 2013, The experience of Nigeria is referenced in several recent documents, including the 2012 African Development Report, which emphasizes the close links between the subsidy (and its removal) and broader trust in government to deliver benefits to citizens through other means.

## 4 Entry Points for Action

### *Overview*

**Interventions at both the programmatic and project level need to be considered for promoting green growth and enabling the transition to greener economies.** The best lever for transformation is the progressive mainstreaming of green growth into upstream development planning. This will guide a country's development trajectory, as it is at this level where development objectives and growth targets are identified. It will also help ensure that the right enabling environment and incentives are put in place for scaling up private and public green investments.

**To promote the transition to inclusive green growth, it is important to understand a country's:**

- Development needs and policy objectives;
- Options for promoting human welfare given its economic make-up, environment and geography;
- Priority sector(s) that provide comparative advantages and at what temporal and spatial scales;
- Enabling environment, political economy, opportunities and constraints

**Successful green growth policies will be informed by the ability to identify pathways that realize economic, social and environmental objectives simultaneously.** A low-income country may, for example, increase its emissions and ecological footprint to meet basic development needs. Nevertheless, this may be compatible with green growth principles if it is part of a planned trajectory towards sustainability over the medium to long term. Consequently, green growth is not about individual "green" projects, but more about understanding how projects, policies, institutions and social fabric that make up country's development efforts, would contribute to sustainable growth. As investments are identified, the emphasis should be on ensuring the sustainable development gains that green growth brings by focusing on resource use efficiency, waste and pollution minimization, and resilience building.

### ***Mainstreaming Green Growth into National Development Planning Processes***

**National planning and other strategic documents set national development priorities and hence determine investment priorities.** Development objectives, such as increasing agricultural productivity and energy access, can usually be realized through various approaches. Emphasizing green growth means (a) carrying out upstream diagnostics to determine which approaches are most economically, socially and environmentally sound, and (b) establishing the necessary policy and institutional priorities to realize such an approach.

**Improved up-stream planning requires a broader integration of sectors, supported by the appropriate institutional enabling environment.** Table 2 highlights key aspects to consider when facilitating a government's efforts to mainstream green growth. Early movers on green growth have demonstrated high-level political commitment coupled with a long-term development vision.<sup>27</sup> They have also emphasized more programmatic development approaches, which seek to integrate development objectives across sectors. Improved diagnostics, information and monitoring are important to green growth development planning as well. They are necessary to evaluate a country's natural resource wealth, assess risks to sustainability and monitor progress. An economy can only assess the quality and sustainability of its growth if development progress is defined and monitored along appropriate economic, social and environmental criteria. But political economy realities also need to be recognized; often development processes are not systematic and second best solutions are necessary.

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<sup>27</sup> e.g. Rwanda and Ethiopia, as articulated in their respective Green Growth Strategies

**Table 2. Mainstreaming Green Growth into National Development Planning**

Aspect	Explanation
Vision	A medium- and long-term vision for the development trajectory of the country helps guide the transition to green growth by anchoring the shorter-term (usually 5-year) focus of Poverty Reduction Strategy Papers (PRSP): increasingly countries are adopting these visions.
Goal Setting	Identification of long-term goals, which are then further broken down and specified by quantifiable and time-bound targets in PRSP or other development plans.
Entry Points for Green Growth: Options Analysis	Entry points for action should be differentiated into: <ul style="list-style-type: none"> <li>○ Priority actions that can be undertaken immediately and which yield immediate economic, environmental and social benefits (<i>win-win-win options</i>)</li> <li>○ Priority actions that should be undertaken immediately due to (a) long-term lock in of the investment, (b) large costs associated, and (c) significant risk of maladaptation and adverse development outcomes if engagement is delayed (particularly applies to infrastructure investments, but also to soft measures, such as the development of a country’s skills base through secondary and tertiary education)</li> <li>○ Lower Priority Actions, which are likely to yield medium term/long-term benefits, if implemented, but also require additional upfront investment and where there is less risk of “lock in”</li> </ul>
Enabling Environment for Implementation	To maximize synergies, strong inter-sector coordination is needed. In addition to line ministries, early engagement of the Ministries of Finance and Planning is essential. Review of budgeting process, policy frameworks, regulations and incentive structures for their conduciveness to green growth and resilience is a central focus. But an understanding of social drivers and political economy constraints is also important. Implementation may be through decentralized government structures so their involvement is important
Investment Planning	While green growth should lead efficiency gains and enhance cost-effectiveness and sustainability, the transition may be associated with upfront investment costs. Investment plans should be developed for overcoming these transaction costs through improved budgeting processes and the use of domestic resources and private investment. Plans should also be developed for the strategic use of innovative finance instruments that can address imperfect markets and environmental externalities and facilitate private sector engagement by reducing investment risk.
Monitoring and Evaluation	GDP is complemented by additional indicators that help to gauge the quality of growth. In addition to a focus on inclusive growth, this should entail assessing (i) state/trends concerning a country natural capital, (ii) the efficiency of the economy, and (iii) the level of resilience of livelihoods and economic sectors.

**The composition of the country team is important, with the Bank’s country office playing a key role.** The country office’s participation and early engagement is critical to identifying entry points for dialogue with the government, and ensuring that the Bank has a robust understanding of a country’s development priorities, key stakeholders and political economy. Key team members include the country office representative, country economist, green growth team member and sector experts. Management plays a critical role in incentivizing collaboration across sectors and facilitating a shift to programmatic thinking among Bank staff. Furthermore management’s role in stressing the importance of an African-focused green growth agenda at international fora and at country level should not be underestimated. Transitioning to green growth will depend on political leadership, vision and support.

**Working with government to mainstream green growth into the Poverty Reduction Strategy Paper (PRSP) preparation process provides an ideal opportunity.** Building on poverty diagnostics and economic analysis, governments define development objectives in the PRSP or similar national development plans, usually within a time-frame of three to five years, and often coupled with a longer-term vision for a country. The PRSP preparation process represents a critical opportunity for the Bank to engage in targeted dialogue with governments to build awareness and ownership of



green growth and to develop a vision for solutions tailored to national circumstances by identifying ways to reach development targets and grow the economy, while protecting or increasing critical social and environmental assets.

**Through this early dialogue, the AfDB can help lay the groundwork for investment decisions and programmatic solutions for a transition to green growth.** The role of trust fund supported analytical work and a more strategic use of Economic Sector Work (ESW)<sup>28</sup> in guiding the dialogue with RMCs on enabling the transition to greener economies and supporting the Bank’s strategic objectives should be explored. Sierra Leone is an example, where the Bank provided up-stream support to the nation’s strategic development planning (Box 1).

**Box 1**

**Mainstreaming green growth in the Sierra Leone “Agenda for Prosperity”**

In 2012, Sierra Leone started preparing its new PRSP, the “Agenda for Prosperity” (A4P). Aware of its development challenges as well as the opportunities generated by its very rich natural resources, the Government called on AfDB’s technical assistance for mainstreaming green growth in the A4P. During eight months, the Bank worked closely with the Ministry of Finance and Economic Development to identify green growth opportunities for the country and propose policy measures or strategic interventions to be included in the A4P. As a result, Sierra Leone now has a national development strategy that aims at a more sustainable future, with quality growth for all mainstreamed into its pillars of economic diversification, improved natural resource management, human development and social protection, international competitiveness and employment promotion, governance, public sector management and gender empowerment. The strategy can also attract more financing for “green interventions” both from the public and private sectors. In addition, a series of communication and awareness raising tools were produced to ensure a shared understanding of this vision and set the stage for efficient implementation. Following the endorsement of the A4P, the Bank has prepared its new CSP 2013-2017 to contribute to the implementation of this green growth objective.

**Green Economy/Green growth road maps: The development of a strategic roadmap offers a complementary approach to mainstreaming green growth into national development planning.** A roadmap is particularly suitable if a country is not engaged in developing or reviewing a PRSP and if more advanced dialogue on green growth is needed. It provides an opportunity to combine a long-term strategic vision with a set of phased activities (Box 2). The challenge is ensuring that this does not promote fragmented approaches, or overlapping priorities, but ultimately informs overall development planning.

**Box 2**

**Mozambique’s Green Economy Road Map**

Mozambique has tackled green growth through a phased approach laid out in a Green Economy Road Map. Its vision for Mozambique to become “an inclusive, middle-income country by 2030, based on the protection, restoration and rational use of natural capital and ecosystem services, to guarantee inclusive and efficient sustainable development, within planetary limits”. The Road Map outlines a sequence of interventions that first focus on the development of a green growth action plan, an integrated implementation framework and public consultations. It then looks at knowledge building and adapting national planning and budgeting systems. Finally, the road map and action plan should then inform which green growth activities are prioritized in the government’s 5-year planning cycles between 2015 and 2030.

<sup>28</sup> See also the evaluation brief of the AfDB’s Operations Evaluation Department, reviewing economic and sector work between (2005-2010).

## **Country Strategy Paper: Identifying Priority Pillars and Programmes**

**In line with the Bank's 2013-2022 Strategy, staff members preparing the Country Strategy Paper (CSP) should use the opportunity to facilitate a transition towards green growth.** The CSP should lead to a clear definition of priority actions where the Bank has a comparative advantage, identifying the strategic opportunities for transitioning to green growth. CSPs should support diagnostics where countries are at an earlier stage of moving towards green growth. Where national development plans already show a strong commitment to a green economy, CSPs should support priority investment areas. In either case there are opportunities for "greening" selected pillars and investments<sup>29</sup>.

**CSPs examines a country's economic, political and social trends: This is where the quality of growth can be assessed with respect to natural resources, resilience, environmental hazards and governance.** CSP documents are necessarily brief, but should include a brief assessment of the state of natural resources, both renewable and non-renewable, together with trends in resource degradation; climate trends, including vulnerability to climate-related risks such as floods and droughts; the most pressing environmental hazards (*e.g.* solid waste and pollution issues); and key environmental governance issues, including the strength of environmental management institutions, and the adequacy of environmental management of key development sectors such as infrastructure, energy and mining. Key policies and policy distortions (as in energy or land tenure) that might facilitate or constrain green growth should also be mentioned. With the Green Growth Framework being the central reference document for the Country Strategy Toolkit<sup>30</sup>, staff should also ensure that important cross-linkages between the social and environmental dimensions are being made to ensure high quality and sustainability of growth.

**A CSP examines the country's strategic development framework, and identifies priority pillars for Bank Group engagement,** for both lending and non-lending support. The Bank's Strategy for 2013-2022 has identified five key pillars for Bank Group engagement: Infrastructure, Governance, Regional Integration, Skills and Technology, and Private Sector Development. There are opportunities for mainstreaming green growth into all of these pillars, and several of the strategies framing support to these have already identified key elements which emphasize efficient resource use, resilience, and minimization of pollution. There are opportunities for both lending and non-lending engagement.

**The infrastructure pillar includes transport, energy, water (including water and sanitation, irrigation, hydro-electric power, and broader water resource management), and ICT (information, communications and technology).** The Bank's new Energy Sector Policy<sup>31</sup> has nine objectives, with the first focused on affordable energy access. It aims to develop the sector in a socially, environmentally and economically sustainable way; to move towards cleaner energy paths, to enhance governance, to promote environmental and social responsibility and to integrate a response to climate change. Energy sector policy reform and inclusive green growth are closely linked. Better roads reduce transport costs, help reduce losses in agriculture and are "resource efficient"; if they are combined with road safety measures and sound environmental and social planning, and transport policies which ensure sound maintenance and provide for safe public transport they can be both green and inclusive. The Bank is also working to promote public transport in the larger cities, and is supporting rail, port and river transport development. A review of the Bank's ICT strategy and action plan for 2012-2014<sup>32</sup> demonstrates also the importance of one

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<sup>29</sup> Guidelines for preparing CSPs were under review at the time of writing of this document. However, broad principles of a CSP as a strategic and programming document for cooperation between AfDB and member countries will remain the same.

<sup>30</sup> AfDB 2014. The Country Strategy Toolkit. Practical guidance to help AfDB country strategy papers promote inclusive growth and the transition to green growth. Internal Bank document.

<sup>31</sup> Energy Sector Policy of the AfDB Group 2012

<sup>32</sup> Review of the Bank's ICT strategy and action plan for 2012-2014, AfDB 2012

element green growth, using technology to “leapfrog” into more efficient development paths. But it indicates also the Bank may be understaffed in this important and rapidly changing field.

**The Bank’s water programs under the infrastructure pillar also provide for a “green growth” approach.** While the Africa Water Vision and the MDGs provide context, the Bank’s integrated water resource management (IWRM) policy, which emphasizes that water is an economic, social and environmental good, provides a basis for green growth approaches. Much of Bank lending is on the infrastructure aspects of water (for energy, irrigation, water and sanitation). But where complemented by support to water governance, improved drainage and solid waste management especially in urban areas, watershed and water/drainage management in irrigated areas, and comprehensive river basin management for energy or multi-purpose developments, this program can contribute to the green growth principles of resource use efficiency, resilience and minimization of pollution. Disaster risk mitigation also contributes to resilience and is often linked to water. Although this is not an area of focus for the Bank group, there are opportunities complementing other partners’ efforts. The Bank also supports trans-boundary integrated water-resource management (IWRM) (see below).

**The Regional Integration Strategy<sup>33</sup> supports trade and integration through provision of regional infrastructure and capacity building.** Green growth principles are not explicitly articulated in the strategy, which was developed in 2009, but are implicit in the benefits brought about by regional integration. They include more efficient, lower cost movement of goods and services and trade between African countries<sup>34</sup>, more efficient use of power and water through cooperation and connectivity, minimization of externalities (pollution) through cooperation on regional public goods, and welfare gains and a more favourable investment environment from peaceful, transparent, consistent relations between countries. There is scope for emphasizing these cross-cutting aspects in strategy implementation, which are key to ensuring that infrastructure investments are inclusive and sustainable.

**The Governance Pillar is cross cutting and well integrated with green growth.** Its three re-enforcing pillars, improved “public sector and economic governance, sector governance, and an improved business climate” form the basis of the vision of transparent and accountable governments able to meet the twin objectives of the Bank’s Strategy for 2013-2022 for inclusive growth and transition to green growth”.<sup>35</sup> Extractive industry and natural resource governance is a clear building block, but there is scope for supporting broader cross-sectoral governance reforms that will facilitate the transition.<sup>36</sup> A key area includes improved environmental and social management of investments in the infrastructure and natural resources sectors, both non-renewable and renewable. The strategy also emphasizes the need for improved policy, regulatory and legal reforms to reverse land degradation, establish pollution standards for Africa’s rivers, strengthen trans-boundary cooperation, improve regulatory oversight over extractive industries and builds climate information systems to inform transparent decision making.

**The Private Sector Development Pillar<sup>37</sup> has three objectives:** (i) improving Africa’s investment and business climate; (ii) expanding access to social and economic infrastructure; and (iii) promoting

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<sup>33</sup> Regional Integration Strategy, AfDB 2009

<sup>34</sup> The great majority of officially recorded African trade is with countries outside the continent

<sup>35</sup> Governance Strategic Framework and Action Plan (GAP II) 2014-18 AfDB 2013

<sup>36</sup> The WB, for example, as supported Morocco through a US\$ 300 m Green Growth Development Policy Reform, which supports revenue diversification in rural areas, improved natural resource management, and a transition to lower carbon growth. It succeeds a Solid Waste Management policy loan which supports enhanced sector governance, sustainability and management.

<sup>37</sup> “Supporting the Transformation of the Private Sector in Africa: Private Sector Development Strategy 2013-17”, AfDB 2013

enterprise development. Within the broader framework of the Bank's Strategy for 2013-2022 it looks forward to a vision of a decent work environment for Africans, offering productive employment. The strategy argues for private sector involvement in infrastructure which is efficient, environmentally sustainable and supports low carbon growth (recognizing that reputable investors benefit from having a reputation for corporate social and environmental responsibility). While promoting enterprise development broadly the strategy also highlights value chain development and commercialization in agriculture, together with rural infrastructure improvement. The investment and business climate objective is closely linked to the governance pillar. The strategy demonstrates that a well performing private sector can contribute to a resource-efficient, resilient, low pollution development path.

**The skills and technology pillar contributes directly to inclusive growth and indirectly to green growth.** The pillar supports science and technology, and interventions which help men and women, including youth, move from low-productive employment which is usually inefficient in its use of natural resources (subsistence agriculture or informal services), to more productive and skilled work linked to value chain enhancement, and to greater economic diversification. More productive and skilled employment is generally more resource efficient and resilient and contributes less to resource degradation and pollution than low skilled, resource-intensive work

**The priority pillars identified in the Bank's Strategy for 2013-2022 include also a focus on three areas of special emphasis: fragile states, agriculture and food security and gender.** Its fragile states strategy was articulated in 2008 and focuses on rebuilding community infrastructure and services and enhancing economic opportunity, including through micro finance. It is currently being enhanced to develop a greater focus on regional issues, and on understanding the underlying causes of fragility including capacity to deliver services and governance. For agriculture the focus will be on rural infrastructure and value chain enhancement through private sector development (PSD), while partnering with other organizations on the agricultural productivity, extension and research agenda. For gender the Bank will focus on women's empowerment, gender appropriate infrastructure and PSD. A challenge, for all three areas but especially for agriculture, will be to ensure that (either by other partners or the Bank) there is sufficient focus on improving the resource base, water and land, forests and soil fertility, improved climate and geographical information, that underlie resilient, resource-efficient, low polluting improvements in agriculture.

**In summary, the five priority pillars have already articulated the way how support to these can contribute to green growth objectives.** The challenge will be in implementation, which must maintain a focus on simple, implementable investments and non-lending activities. Underlying data, capacity building and diagnostics are also likely to need to be supported as part of CSP implementation.

### ***Green Growth at the Project Level***

**At the project level, integrating green growth perspectives means designing the investment so that it promotes the efficient management and use of natural resources, the minimization of waste and pollution, and the resilience of livelihoods and economic sectors.** It should be emphasized that few of the Bank's investments are either "green" or "brown." The objective is to improve the quality of the investment pathway by ensuring that the package follows green growth principles. Greening project activities may require an approach which uses skills from several sectors. A rural roads program would include commercial agriculture, natural resource management, environment and social sector specialists, and local government specialists (if the roads are maintained by decentralized institutions) as well as engineers, economists, and institutional specialists.

The Sector Guidance Notes,<sup>38</sup> prepared by the departmental green growth focal points, outline entry points for green growth activities in some sectors. Table 4 highlights some green growth approaches, many of which are described in more detail in project examples in the guidance notes. Available tools to facilitate analysis are provided in Annex 3. Spatial risk mapping for example, which factors in climatic projections along with other long-term environmental and socioeconomic trends, helps ensure the sustainability of longer-term investments, such as infrastructure. The Bank can help build resilience by promoting risk-screening tools in project design (such as the Bank’s Climate Screening System) and supporting access to social safety nets, credit schemes and insurance mechanisms that promote adaptive capacities, incentivize risk management and enable recovery from shocks.

It should be emphasized again that much green growth policy is good growth policy; designing roads to avoid erosion and ecosystem damage and maintaining them well prolongs their life (uses resources efficiently), reduces costs of wear and tear on vehicles (reduces waste), protects productivity of neighbouring landscapes (increases resilience) and reduces traffic accidents (increases welfare).

**Table 4.** Broad level opportunities for Integrating Green Growth into Project Design

Sector	Challenges & Opportunities for Green Growth Integration
Water	Increased focus on multi-purpose solution application of Integrated Water Resource Management (IWRM) approaches, including an emphasis on thorough options analysis and spatial planning. Focal areas for urban water and sanitation include: Safe sanitation, drainage, solid waste management, and maintenance and demand management; for rural water: ensuring safe supplies, sanitation and maintenance. Irrigation solutions need to be embedded in land and water management, drainage and water conservation plans. A strengthened focus on disaster and climate risk management is reflected in improved preparedness, application of forecasting and early warning systems and disaster response strategies.
Transport	Improving connectivity, strengthening safety, managing growing and shifting demands for urban and rural transport while minimizing environmental fragmentation and pollution and ensuring resilience to climatic changes, minimizing transaction costs at border crossings, developing multi-modal transport options, emphasizing road safety for both passengers and pedestrians
Energy	Promote sector reforms and governance to improve efficiency; reduce transmission and distribution losses; expand access through programmatic development of community off-grid or micro-grid electrification and other forms of distributed power; support competitive renewable solutions; promote regional integration; support more productive and sustainable wood-fuel energy production, processing, and marketing and use of fuel-efficient stoves.
Governance & public sector management	Improving the transparency management of extractive industries. Strengthening environmental governance, information management and capacity, especially in infrastructure, extractive industries, large scale land development and energy sectors. Improving collection of geographical and climate-related information to inform decision making across sectors. Strengthen collaboration between sectors and different levels of government on disaster risk management, land use planning and water management. Improving transparency of land governance. Regulating worker safety and environmental impact for artisanal mining.
Private sector Development	Providing an enabling framework for value chain addition, especially in agriculture, fisheries and forest based products as well as in improved land and water management. Clarifying land regimes to facilitate sustainable investment in urban and rural areas.
Agriculture, forests, fisheries	Linking agricultural infrastructure development (irrigation and rural roads) with land and water resource management and sustainable intensification; supporting sustainable resource management and value addition forest and fisheries products; promoting conservation and loss reduction. For land and forest management, taking advantage of REDD and Payment for Ecosystem Services (PES)

<sup>38</sup> Green Growth Sector Guidance notes, African Development Bank 2014

	opportunities.
Regional integration	Promoting efficiency and productivity gains from trans-boundary trade, energy markets and connectivity; supporting shared approaches to sustainable management of regional resources (fisheries, lakes, rivers, extractive industries, desertification control, pests and diseases)
Education, skills and technology	Supporting training in new technologies, taking advantage of opportunities for “leapfrogging” (eg in ICT and renewable energy) to more efficient technologies and practices. <sup>39</sup> Combining local knowledge with modern technology to build resilience and efficient resource management

**Preparation and appraisal documents would highlight how proposed technical assistance, budget support, support for policy and regulatory reform and investments will help the country to realize efficiency gains in economic sectors and reduce pollution and waste.** They should also emphasise how interventions help to address vulnerabilities to climate and natural and socioeconomic hazards. More generally, focusing on green growth options early in project identification and preparation will facilitate greening project design. Through preparation AfDB staff would actively collaborate with member countries and sponsors to maximize a project’s positive economic, social and environmental impacts and minimize the negative ones (rather than only focusing on standard outputs and financial and economic impacts). The relevant intermediate outcomes should be reflected in the results frameworks (see also below section on results). Approaches could include:

- Designing Environmental and Social Impact Assessment (ESIA) so that they take into account sustainable alternatives at the design stage as well as assessing environmental impacts of the chosen design;
- Identifying technologies and practices that enable the project to maximize natural resource efficiencies, minimize waste and pollution and build resilience
- Identifying financing options that help reduce potential transition costs for going green, i.e. potential for efficiency gains through improved budgeting processes, climate financing, public private partnerships (PPPs);
- Screening for vulnerability to climate variability and change, and mainstreaming of adaptation measures as appropriate (utilizing the Bank’s Climate Screening System and other tools); take stock of the carbon footprint of proposed activities (GHG tracking).
- Assessing capacity and information needs and factoring improvements into project design as needed
- Demonstrating the qualitative and, if possible, quantitative contribution of the project to greener solutions
- Establishing indicators for green growth that capture the economic, environmental and social dimension of the project
- Undertaking comprehensive cost benefit analysis (see Box 3 below)

<sup>39</sup> African Development Report 2012: Towards Green Growth; IRENA (International Renewable Energy Agency) 2012, Prospects for the African Power Sector; IPCC (International Panel on Climate Change) Special Report on Renewable Energy Resources and Climate Change Mitigation

**Box 3**  
**Green Growth and Cost Benefit Analysis**

Beyond the standard financial analysis, project teams may perform an economic analysis looking at the overall impact of the project on the economy. By assessing the Net Economic Present Value (NEPV) and the Economic rate of return (ERR) of the project, the design team can quantify the wealth created by the project over the time (NEPV) and the return to the investment for society (ERR). Examples of the kind of economic benefits that could be quantified include: (i) Avoided environmental damages and health hazard; (ii) Increased production as a result of an efficient use of natural assets and resources, (iii) Jobs created and (iv) new economic activities developed. Where a standard cost-benefit analysis cannot be applied due to unquantifiable impacts, the project team may take an approach of selecting options that present the lowest cost to obtain the same environmental benefit.

**The Bank’s existing framework for project monitoring through the Implementation Progress and Results Report can provide a robust framework for ensuring green growth deliverables are being met.** A project’s Implementation Progress rating includes progress on deliverables identified in its Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP), as well as progress on development outcomes. Green growth at the project level aims to integrate environmental and social outcomes into project design. Environmental and social deliverables would be reflected in the project’s development objectives (DOs) rather than in safeguards review. Treating environmental and social deliverables as central project objectives signals that these are part of the AfDB’s view of development, benefiting current project outcomes and creating an expectation that green growth objectives will be central to the AfDB’s priorities in future projects.

**The Project Completion Report (PCR) rates project performance in four dimensions – relevance, effectiveness, efficiency, and sustainability.** Contributions to green growth would be assessed, as applicable, under the relevance dimension, which looks, among others, at alignment with national and Bank strategies. The achievement of results (including, as applicable, green growth related indicators) will be evaluated under the effectiveness dimension. In the efficiency dimension, green growth could be captured, as applicable, in the cost-benefit analysis, particularly in the economic analysis and the assessment of the Economic Rate of Return (see Box 3). Finally, the sustainability dimension includes criteria on environmental and social sustainability.

***Non-Lending Services, Capacity Building and Strengthened Information for Decision Making***

**Mainstreaming green growth into development planning requires Bank staff to emphasize further “green growth diagnostics”, putting to use the Bank’s increasing role as a knowledge bank.** These can take different forms – with varying levels of engagement — including facilitated dialogue, knowledge products and analytical and advisory services (AAA) to inform policy formulation and investment decisions in RMCs.

**Following discussions in-country, key elements would typically include assessment and analysis of the following issues.** They are also presented in more detail in Table 3 below:

- **Sectors driving economic growth:** Economic structure including resource intensity and resource use efficiency, constraints and opportunities for growth and diversification
- **Status of the environment, including impact on health and welfare,** including: Renewable and non-renewable resources, use and governance; environmental health; air, water and land quality and pollution issues, environmental governance; weather and climate; quality of environmental information

- **Risks and Resilience**, including: Exposure and vulnerability to natural hazards, industrial disasters and global market volatility; programs for disaster risk management and social protection, changes over time
- **Trends**: Impact of socioeconomic, demographic and climate trends on infrastructure, energy, land-use and resource needs. Potential pressure thresholds, required adjustments
- **Opportunities**: For development of new technologies, natural assets, and domestic and foreign private investments and impact on green growth
- **Current institutions, capacity policies and programs**: including capacity at central and local level, civil society organizations, impact on inclusive and green growth pathways; support by development partners and private sector investments.

**The analysis should include an assessment of options for reinforcing synergies and mitigating trade-offs between economic, environmental and social objectives.** This analysis should also flag growth pathways that are at high risk of being unsustainable, *e.g.* by eroding a country's natural capital over time or undermining the quality of ecosystem goods and services, or by locking a country into a more costly and unsustainable development pattern which would be difficult to reverse. Green growth diagnostics should facilitate the government's ability to set strategic goals and sequence interventions, considering natural resources, as well as a country's social, economic and environmental challenges and institutional capacity. Optimal strategies will differ and must be adapted to political economy and governance realities.

**Capacity building and strengthened information bases for data-informed decision making are a priority in most African countries.** Many countries, for example, lack accurate the accurate meteorological, hydrological, or geographical data that provides farmers and fishermen, infrastructure development agencies, home builders, urban planners and private sector investors the information they need to make sound decisions.<sup>40</sup> Accurate information of this kind is of value across sectors. Environmental and social impact assessments and management plans can also yield valuable insights. Table 3 highlights information needed for sound diagnostics. Most African countries have accurate information on only some of these areas and it may not always be regularly updated.

**CSP implementation should consider including programs under the governance pillar to strengthen geographical and climate data bases and environment management capacity,** to inform decision making across sectors. Providing support for regular updating, sharing and disseminating information is also important. Spatial imaging tools, for example can provide increasingly accurate information but local capacity to use them is sometimes lacking, and they may not always be mechanisms for widely sharing this information.

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<sup>40</sup> The investors in the Addax sugar-cane project in Sierra Leone, for example, had no reliable hydrological information, and the only existing accurate data on weather patterns was at the airport near Freetown 200 kms away, where weather patterns are different from those inland. (Interview with Addax management, February 2013)



**Table 3. Examples for Focus of Upstream Diagnostics for Green Growth Policies and Measures**

Major Areas of Focus for Green Growth in Africa	Focus of Diagnostics (Examples)
Sustainable Infrastructure	Statistics/databases for understanding need for infrastructure development <ul style="list-style-type: none"> <li>• Economic sector projections</li> <li>• Demographic statistics</li> <li>• Urbanization trends</li> <li>• Energy access</li> </ul> Statistics/databases for identifying challenges <ul style="list-style-type: none"> <li>• Urban/rural access to public services</li> <li>• Urban air pollution</li> <li>• GHG emissions by relevant sectors</li> <li>• Energy security by population groups, urban/rural areas, region/country</li> </ul>
Efficient and Sustainable Management of Natural Assets	Statistics and maps characterizing natural assets of country/region <ul style="list-style-type: none"> <li>• Climate statistics, spatial and temporal profiles</li> <li>• Ecosystem types, historical, current and project distributions, maps</li> </ul> Statistics/databases to identify areas of high biodiversity value <ul style="list-style-type: none"> <li>• Trends in spatial extent of key ecosystems over time by region/country</li> <li>• Spatial maps highlighting biological richness</li> </ul> Statistics/databases to identify areas with high above or below ground carbon stocks <ul style="list-style-type: none"> <li>• Maps showing trends in spatial extent over time</li> </ul> Statistics/databases of agricultural areas and areas suited for agriculture by region/country Spatial overlays highlighting areas performing multiple high value ecosystem services (biodiversity, carbon)
Resilience of Livelihoods and Economic Sectors to Environmental and Socioeconomic Changes	Statistics/databases to identify existing disaster risks by country and region <ul style="list-style-type: none"> <li>• Disaster statistics (loss of lives, total and relative economic losses)</li> <li>• Hazard maps (outlining spatial exposure to hydro-meteorological and geological hazards)</li> <li>• Statistics, technical information</li> </ul> Statistics/databases on climate change <ul style="list-style-type: none"> <li>• Regional trends in key climatic parameters</li> <li>• Maps</li> <li>• Vulnerability and adaptation assessments</li> </ul>
Cross-cutting analysis	<ul style="list-style-type: none"> <li>• Qualitative analysis of options likely to generate co-benefits in terms of energy and natural resource use efficiency and resilience</li> <li>• Qualitative analysis of likely trade-offs and synergies between various development objectives (e.g. agricultural productivity/food security, conservation of natural resources, climate change mitigation/adaptation)</li> <li>• Assessments of institutional, financial and capacity constraints for implementing cost-effective policies and measures that facilitate a transition to Green Growth</li> </ul>

### ***Tools and Methodologies***

**A range of tools have been developed to assist analytical work and progress towards green growth.** They include diagnostic tools (marginal cost abatement curves, green accounting, economic cost of environmental degradation), policy instruments (payment for ecosystem services, environmental impact assessment, price reform), and programs (for sustainable land management, or disaster early warning systems). Some of these are summarized in Annex 3. Policies and programs are also summarized above in the section on mainstreaming green growth into the CSP priority pillars. It should be emphasized that diagnostic tools are only as good as the underlying data. Often a priority that is frequently neglected is strengthening data bases.

**Environmental and social impact assessments can identify opportunities for maximizing social, economic and environmental benefits as well identifying and mitigating any potential harm of project activities.** They can help assess the merit of alternative approaches. The Bank is strengthening its efforts in this area through the launch of its Integrated Safeguard System (ISS) in

2014. At inception, for Category 1 projects potentially having the most significant environmental and social impact, an RMC will submit a draft ESIA as part of the project's feasibility study to comply with the Bank's safeguards at the readiness review stage. An RMC is also required to develop a complimentary ESMP and RAP where necessary to mitigate identified adverse impacts.

With the objective of transitioning to green growth, further emphasis is placed on growing the economy while maintaining or building environmental and social assets. Hence, the emphasis goes beyond identifying and mitigating potential harms at the operational level, to identifying proactively opportunities for investment and project design that maximize economic, environmental and social benefits, while minimizing trade-offs. Strategic Environmental Assessments can support this process.

## 5 Financing the Transition and Tracking Progress

### *Financing the Transition to Green Growth*

**The majority of financing for the transition will come from country development, private sector and development partner budgets.** This paper and others have demonstrated the advantages of pursuing green growth pathways. For developing countries, green growth should be prioritized where it yields immediate development benefits by focusing on (i) optimizing efficiency and resource productivity gains in priority sectors; (ii) internalizing the negative impacts of growth on the most vulnerable, including the environment and the poor, through valuation/payments for ecosystem services; (iii) re-alignment of perverse subsidies in the brown economy; and (iv) strategies to leverage global financing options for inclusive green growth

**There are multiple pathways to green growth depending on a country's stage of development, growth objectives, and social and environmental circumstances.** The pathway chosen will define the scale and options for green growth financing. Lower income countries tend to have much smaller ecological footprints than middle- and high-income countries.<sup>41</sup> Hence, Least Developed Countries (LDCs) have lower sunk costs in the fossil fuel based economy than industrialized nations. However, the resource and energy intensities per person per unit of GDP of LDCs are higher than those of industrialized economies.<sup>42</sup> In many cases policy and price reforms can reduce distortions and release funds for development.

- **Phasing out perverse subsidies.** Carefully phasing out perverse subsidies can be an important step in transitioning to more inclusive and greener growth. Subsidies often disproportionately benefit high-income households. For example, in 2010-2011, only 8% of the estimated 410 billion USD in fossil fuel subsidies worldwide went to the poorest 20% of the population<sup>43</sup>. Additionally, fuel subsidies are linked to the inefficient use of public resources. If not committed to subsidies, these resources could be spent on social programs or other investments that can provide better-targeted and longer-term benefits. Subsidies can also lead to natural resource depletion and environmental degradation when their use disincentivizes conservation and the use of cleaner technologies. However, phasing out subsidies cannot be done without giving special attention to the socioeconomic context and the potential impact on poor and vulnerable groups who are often dependent on subsidies to meet basic needs. Where necessary, awareness building, training, compensating mechanisms, or other social protection measures should be put in place to mitigate the negative consequences of phasing out of perverse subsidies.
- **Optimizing Resource Productivity and Efficiency Gains by Greening Value Chains.** Given large inefficiencies in the existing development infrastructure in least developed countries (LDCs),

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<sup>41</sup> WWF and AfDB 2012.

<sup>42</sup> UNEP 2011, IEA 2012

<sup>43</sup> IEA, 2011.

global investments of around USD 90 billion in promoting energy efficiency in developing countries could provide USD 600 billion in net savings.<sup>44</sup> Considerable efficiency gains can also be achieved through more efficient management and utilization of natural resources.

- **Public-Private Partnerships.** With foreign direct investment (FDI) increasingly exceeding official development assistance in Africa, governments must provide an enabling regulatory environment for the private sector to invest in green projects, according to the comparative and competitive advantages of countries.

**Fiscal and Environmental Policy Tools strengthen the enabling environment for green growth.** They include green taxation, green procurement, green bonds, micro-credit, targeted weather index insurance, and payments for ecosystem services which can then further promote resource efficiency and sustainable livelihoods. But the tools selected depend on institutional capacity, governance and the quality of available information.

**There are many entry points for the AfDB to support RMCs in financing a transition to green growth.** The Bank can engage with RMCs to improve governance structures, budgeting and procurement, regulatory frameworks and incentive structures. These can help improve resource allocation, the business climate and innovation and efficiency gains. This requires a focus on policy dialogue, advisory services, targeted ESWs and programme-based operations informed by green growth principles.

**The AfDB is managing or hosting a range of innovative financing instruments that help overcoming a number of barriers commonly associated with the transition to green growth.** Green growth efficiency gains may only be realized if upfront transition costs can be overcome to enable more programmatic approaches and promote access to better technologies and practices. Particular financing opportunities for greening development processes at the programmatic and project levels include:

- **Using carbon finance opportunities** While Africa's per capita and total greenhouse gas emissions are low on average, the carbon contained in Africa's biomass, particularly its forests, has become a newly valued asset in international efforts to slow the rate of global warming. Countries like Nigeria and South Africa have opportunities to reduce the carbon intensity of their transport, energy and industrial sectors. The instrument of performance based payments can lead to new revenue streams for countries, providing incentives for more sustainable development pathways. The Bank can help countries to make use of these options, by building awareness, technical capacities and catalysing access to available financing instruments.
- **Blending financing instruments.** In addition to traditional mechanisms, the Bank hosts a number of innovative financing instruments for up-scaling renewable energy, climate change mitigation and adaptation, and promoting more sustainable natural resource management practices. At the project level, task managers should more strategically use these financing options to lower transaction costs and de-risk the engagement of the private sector. For example, these instruments can be structured to buy-down higher capital upfront investment cost associated with cleaner, non-traditional technologies. They can help bridge the gap in the risk-return expectations from market participants. Ultimately, it is vital that any barriers associated with green growth development are addressed to bring risk down to levels that can be naturally mitigated by the market.

In addition, the Bank can play an important role in strengthening access to new emerging financing instruments by helping to build readiness of African countries. For example, the Green Climate Fund (GCF) has been established as by decision of the 16<sup>th</sup> Conference of Parties to the United Nations

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<sup>44</sup> McKinsey, 2010

Framework Convention on Climate Change (UNFCCC). As an operating entity of the Convention's financial mechanism, the GCF is designed to support policies, programmes, projects, and other activities in developing countries<sup>45</sup>. The fund seeks to promote transformational change to low carbon and climate resilient development pathways. It is hence closely relevant to facilitating the transition to green growth and important to ensure the strong emphasis on adaptation and focus on Africa is realized, in addition to enabling low carbon development solution. Building on early dialogue and engagement, the Bank needs to consider how it can position itself as potential implementing agency of the GCF and engage in supporting its African countries in achieving access to the resources that are expected to become available through the GCF.

Through its Green Bond programme, the Bank has also responded to the demands from socially and environmentally conscious investors, opening up new avenues for raising capital relevant to green growth in Africa. On its debut on Thursday, October 10, 2013, the Bank's inaugural syndicated Green Bond raised 500 million USD, which will be allocated to support the financing of low carbon and climate resilient projects. For selecting eligible investments, the Bank first screens its project portfolio in accordance with its methodology for climate mitigation and adaptation finance. Furthermore, projects also to be eligible for financing under the AfDB window only and meet a set of additional criteria. The current bond is specifically focused on climate smart development. However, the Green Bond program could potentially be expanded in scope in line with green growth principles focused on maximizing resource efficiency, minimizing waste and pollution and strengthening resilience. The will require a further development of eligibility criteria and third party validation, but underlines the considerable potential for raising capital that promotes the building of greener economies in Africa.

Annex 4 provides an overview of various financing instruments that can lower the transition costs to green growth. Some of these instruments are more upstream in focus, concentrating on enabling readiness to climate change and green growth, while other instruments allow for programmatic and project level investments. It is important that Bank staff is aware of these (complementary) funding opportunities and how these can be strategically used when engaging in dialogue with client countries. This requires a general understanding of various eligibility criteria and scope of these instruments, so these instruments can be effectively utilized. Middle income countries (MICs) have access to an additional funding pool through the MIC technical assistance fund.

### ***Tracking Progress***

**Beyond GDP, it is important that decision-makers take into account other indicators to gauge the quality of growth by informing about:**

- (i) The state of a country's natural assets;
- (ii) The resource use efficiency of the economy; and
- (iii) The resilience of livelihoods and economic sectors.

**In its dialogue with regional member countries, the Bank should consider opportunities for technical assistance, training and budget support concerned with strengthening national statistical data bases, and monitoring and evaluation capabilities,** so that RMCs are in a position to comprehensively assess and monitor the impact of policies and measures. To the extent possible, emphasis should be placed on identifying indicators, which can be readily constructed from national or international data bases and are most relevant for the country context. Gaps in information should be identified and address over time to strengthen the basis for informed decision-making. Annex 5 provides a selection of possible indicators.

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<sup>45</sup> For further information on structure and decisions guiding the Green Climate Fund, please see: <http://www.gcfund.org/documents/board-meeting-documents.html>

**In order to allow for cross-comparison, the Bank has developed a One-Bank Results Measurement Framework for 2013 to 2016,**<sup>46</sup> which track development progress across four levels: (i) assessing Africa's development, (ii) reviewing AfDB's contribution to Africa's development, (iii) assessing how effectively the Bank manages its operations, and (iv) determining whether the Bank, as an organization, manages itself effectively. Through the Additionality and Development Outcomes Assessment (ADOA), the Bank is already applying an ex-ante assessment of the development outcomes of its private sector operations. ADOA is being revised to align to the Bank's Strategy for 2013-2022. This offers an opportunity to further utilize this instrument to identify entry points for green growth.

**The level 1 indicators for Inclusive Growth and Green Growth are closely linked.** For inclusive growth they include a total of 25 indicators covering economic, social, spatial (access to services) and political (voice, gender parity, level of accountability) inclusion as well as competitiveness, business environment and trade indicators.

**For transition to green growth six indicators were selected.** For the pillar on building resilience and adapting to a changing climate they include food security and resilience to water shocks; for managing natural assets efficiently and sustainably they include an index on environmental management capacity and agricultural productivity; and for minimizing waste and pollution they include indices on the energy intensity of GDP, and percentage of electricity generated from renewables. The indicators all use available information, and will be tracked until 2016, when they will be reassessed. The UN Sustainable Development Goals, to be developed by 2015 to complement the MDGs, will help provide further insights to green growth goals. The selection of level 1 indicators currently does not include a focus on health status, apart from overall life expectancy. Given the high incidence of air and water borne diseases, tracking changes in incidence would be a useful addition relevant to tracking both inclusive and green growth.

**The level 2 indicators monitor intermediate outcomes to which AfDB support contributes directly.** Some of these are directly related to green growth. The PSD outcomes, for example, include improved land and water management as well as value chain indicators. The transport indicators include improvements in access to transport and road safety as well as roads constructed/maintained. The energy indicators include GHG tracking. These indicators are necessarily limited, in part because of challenges in cross-country comparison, and they do not fully reflect the outcomes of the range of interventions to be supported under the different pillars (see chapter 4 above). For example the governance pillar does not include indicators on extractive industry governance or AfDB contribution to environmental management capacity.

**In order to further strengthen the capacity of RMC's and the Bank to track progress in transitioning in green growth, the Bank should seek to strategically engage in multi-lateral efforts to harmonize indicators.** As a partner of the Green Growth Knowledge Platform (GGKP), the Bank should draw on the emerging results of GGKP's research programme on metrics and indicators. In addition the UN is expected to reach consensus on Sustainable Development Indicators in 2015 which should provide further guidance.

## 6 Conclusions and Next Steps

**In transitioning to green growth as a long-term strategic objective, the AfDB has taken has positioned itself as partner and catalyst for transformative change in Africa.** This is the beginning of a journey that should lead to more efficient, competitive, clean and resilient economies. Many of the building blocks for enabling RMCs to move towards green growth are already there. The following

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<sup>46</sup> AfDB 2013. Managing for Development Results – The One-Bank Results Measurements Framework (2013-2016). Discussion Paper presented at the ADF 13 Second Replenishment Meeting, June 13. African Development Fund.

paragraphs summarize priority areas for consideration by the Bank as it moves forward in facilitating the transition in the coming years.

**Providing incentives for cross-sector development planning and project implementation.** While the Bank already fields cross-departmental teams for the design of CSPs and projects, the incentive structure is still geared towards a single department leading the effort. The primary performance criteria for operational staff are the volume of investments, which limits their ability to provide cross-sector support. There needs to be further recognition of the time and effort put in by team members from various departments to promote a “One Bank” approach. In this context, the core objectives of the Bank, inclusive growth and transition to green growth, can be mainstreamed more explicitly in program design, implementation and monitoring.

**Linking knowledge with operations.** To deliver green growth the Bank needs to increase its role as a “Knowledge Bank”. There needs to be more emphasis on and recognition of the importance of upstream diagnostics, capacity development and environmental statistics to understand development pathways and how these choices influence growth quality. Analytical work and technical assistance programmes should be strengthened. There also

**Supporting regulatory and policy frameworks while strengthening governance, social marketing and accountability to citizens.** Government regulations and standards will need to provide the overall policy framework for a transition to a green economy. A clear, predictable and stable policy environment can create the confidence required to stimulate private investment. Improved governance and acceptance by citizens is key to implementation. The proactive engagement of government, industry and consumers would enable African countries to fully participate in shaping the norms for environmentally sound goods and services.

**Strengthening Partnerships.** Support for innovation through research and development is critical for economic diversification and identifying opportunities for a greener economy. There is a need to strengthen partnerships that enable technology transfer and South-South cooperation as well as to build an appropriate skill base within Africa. The Bank can promote this through partnerships with academic institutions, think tanks and private sector entities.

**Catalyzing financing support for green growth.** In addition to its existing financing instruments, the Bank can act as important catalyst for attracting additional support for green growth in Africa. This includes helping African countries build readiness for accessing new financing instruments, such as the Green Climate Fund, as well as opening up new avenues for raising capital, as the Bank has begun to do through its Green Bonds programme. While currently focused on climate change, the Bank should consider how a broader scope could be realized that will support initiatives that address other environmental pollution issues and promote a more sustainable management of Africa’s natural assets, its ecosystem goods and services.

**Upscale engagement of private sector in building a green economy.** The public sector has neither the monetary means nor the entrepreneurial ability to become involved in the economy as a producer or trader. A green growth economic model requires the successful engagement of the private sector on a broad scale. This means improving the investment climate for the private sector. It requires, among others, political support, a stable macro-economic and legal environment, transparent, fair and effective regulation, mechanisms to promote business models such as PPPs and the availability of concessional funding and grants for project preparation and seed capital. It also means engaging financial intermediaries.

## Glossary

### **Adaptation (to climate change):**

*“The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects...” (IPCC 2014)*

### **Climate change:**

*“Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods’. The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes...” (IPCC 2014)*

### **Climate variability**

*“Climate variability refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all spatial and temporal scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability), or to variations in natural or anthropogenic external forcing (external variability)” (IPCC 2014).*

### **Ecological Footprint:**

*“The Ecological Footprint measures the amount of biologically productive land and water area required to produce all of the resources an individual, population, or activity consumes, and to sequester the carbon dioxide they generate, given prevailing technology and resource management practices. This area can be compared with biological capacity or biocapacity, the amount of productive area that is available to generate these resources and to absorb wastes...” (WWF and AfDB, 2012)*

### **Greenhouse Gas (GHG):**

*“Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth’s surface, the atmosphere itself, and clouds. This property causes the greenhouse effect. Water vapor (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), and ozone (O<sub>3</sub>) are the primary greenhouse gases in the Earth’s atmosphere...” (IPCC 2014)*

**Green Growth (Definition):** *...the promotion and maximization of opportunities from economic growth through building resilience, managing natural assets efficiently and sustainably, including enhancing agricultural productivity, and promoting sustainable infrastructure (AfDB)*

**Mitigation (of climate change):**

*“A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs)...” (IPCC 2014)*

**Lock-in**

*“Lock-in occurs when a market is stuck with a standard even though participants would be better off with an alternative.” (IPCC 2014)*

**Marginal abatement costs**

*“The cost of one unit of additional mitigation.” (IPCC 2014)*

**Reducing Emissions from Deforestation and Forest Degradation (REDD):**

*“An effort to create financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development (SD). It is therefore a mechanism for mitigation that results from avoiding deforestation. REDD+ goes beyond reforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks...” (IPCC 2014)*

**Resilience:**

*The capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation (Arctic Council 2013 in IPCC 2014)*

**Sustainability:**

*“A dynamic process that guarantees the persistence of natural and human systems in an equitable manner “ (IPCC 2014)*

**Sustainable Development**

*“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987).*

**Transformation**

*“A change in the fundamental attributes of a system, often based on altered paradigms, goals, or values. Transformations can occur in technological or biological systems, financial structures, and regulatory, legislative, or administrative regimes” (IPCC 2014).*



## Annex 1

### Green Growth as a Global Necessity

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*On a global scale humanity is faced with the challenge of improving human welfare, while reconciling the demand for resources with the limitations set by the natural environment.* Since the early 1960s the aggregate human demand on earth's natural resources has more than doubled. It would now require 1.5 earths to sustainably meet consumption needs.<sup>47</sup> If harmful<sup>48</sup> climate change is to be averted, the global economy must de-carbonize by diversifying the energy mix, shifting to increasingly renewable energy technologies, and promoting efficiency.

*While African countries have not been the major drivers of global environmental change, their livelihoods and economic sectors are considered among the most vulnerable to the impacts of these changes.* These alterations require an emphasis on reducing the vulnerabilities of livelihoods and economic sectors, such as shifting rainfall patterns, increasing temperatures, changes in climatic extremes and changes in the supply of goods and services. While aggregate and per capita greenhouse gas (GHG) emissions and ecological footprints are currently low in comparison to most other regions,<sup>49</sup> this picture is also changing.<sup>50</sup>

*In order to sustainably improve human welfare, growth must be decoupled from unsustainable resource consumption and pollution.* Traditional models of growth show a largely linear relationship between Gross Domestic Product (GDP), resource use and environmental impacts. The challenge of green growth is to reverse this trend. An important aspect is therefore decoupling economic growth from resource uses and environmental impacts. While "decoupling" can be defined in various ways,<sup>51</sup> this document adheres to UNEP's<sup>52</sup> definition of two types of decoupling (Figure Annex1-1):

- *Resource decoupling:* using fewer resources per unit of economic output, (e.g. GDP)
- *Impact decoupling:* reducing negative environmental impacts as a result of the resources used for each unit of economic activity

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<sup>47</sup> WWF 2010. Living Planet Report

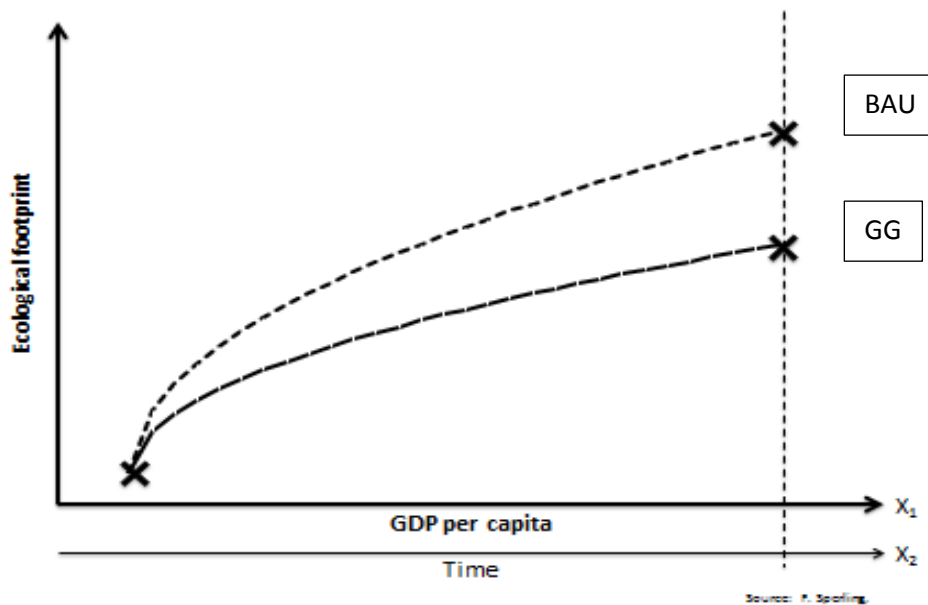
<sup>48</sup> The ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC) is to "avert dangerous anthropogenic climate change". While it is difficult to exactly determine warming levels correspond with "dangerous" climate change on a global scale, the international community considers limiting global warming to 1.5 to 2 °C as guardrails and negotiation targets. In general with increasing warming levels the risk for irreversible changes and surprises with adverse consequences increases (see IPCC 2007).

<sup>49</sup> IPCC 2007

<sup>50</sup> AfDB and WWF, 2012.

<sup>51</sup> OECD, 2002; Ester Van der Voet et al., 2005

<sup>52</sup> UNEP, 2011



**Figure Annex1-1. Schematic example of Green Growth (GG) development scenario compared to Business as Usual (BAU) development** for low income countries (LICs) aspiring to achieve middle income status over time. Priority for low income countries is to meet basic development needs. This may require increasing the ecological footprint. Under a green growth scenario emphasis is placed on reaching a particular development objective or growth target while improving efficiency over time, hence maximizing economic opportunities while simultaneously seeking to minimize adverse environmental consequences. A green growth development trajectory should achieve the same development target with greater efficiency in resource use (lower ecological footprint) than under BAU.

Decoupling economic growth rates from rates of resource use (resource decoupling) and pollution rates (as well as other adverse socio-economic and environmental trade-offs downstream (impact decoupling)) is central to efficient, productive, and sustainable economic growth and human welfare. However, the precise relationship between resource-impact decoupling in economic growth will depend on the local context variables. These include, inter alia, the stages of economic development and the consequent pollution or biophysical environmental degradation upon which growth and human well-being depend.

There are multiple pathways for countries to transition to inclusive green growth; they depend on current levels of economic growth, social well-being and environmental resources. These define the overarching national development priorities within which inclusive green growth process is to be realized. Generally speaking though, the level of development will define the scope and priority of measures needed to achieve green growth:

- *Industrialized economies will need to pursue absolute decoupling (i.e. reducing resource consumption per capita and total greenhouse gas emissions);*
- *Developing countries will need to focus on relative decoupling, increasing resource access and security (a pre-requisite for economic growth and human welfare), while at the same time reducing resource-intense per capita GDP growth, and minimizing the adverse environmental impacts of resource uses.*<sup>53</sup>

<sup>53</sup> High-income countries that have historically been the main contributors to climate change and other global environmental changes will need to reduce their ecological footprints. Most developing countries will need to better manage existing natural assets, while taking concrete steps to ensure that chosen development pathways are not unsustainable over the medium- to long-term.

## Annex 2

### Africa's Economic Transformation: Threats to Sustainability and Benefits of a Transition to Green Growth

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As of 2013 Africa is the fastest growing continent.<sup>54</sup> Several African countries have reached middle-income status. The continent's collective GDP per capita was at USD 953 in 2012.

Despite this progress, income distribution and economic opportunities deriving from recent GDP growth have been uneven. The gap between rich and poor is widening in many countries, leading to significant social inequities and unrest. The "Arab spring", which emerged in North African countries like Tunisia and Egypt (fuelled by poverty, unemployment, and lack of economic opportunity), demonstrates that the current development model is unsustainable.<sup>55</sup> A greener development model is a way for governments to achieve not only sustainable and evenly distributed economic growth, but also to ensure social stability and safeguard the environment and resources for future generations.

African economies and livelihoods are particularly dependent on natural resource sensitive sectors. Agriculture remains a major source of formal and informal employment<sup>56</sup> and contributes significantly to GDP and export revenue for the African continent.<sup>57</sup> Agricultural products, oil, metals and minerals account for much of the export revenue of Sub-Saharan Africa. In order to increase food security on the continent, agricultural output needs to be increased. However, how Africa's renewable and non-renewable resources are managed will determine whether this resource wealth is a blessing or a curse. There is evidence that environmental degradation, in particular loss of top soil and nutrients, is equivalent to a loss of 4 to 12 per cent of Africa's GNP (2003).<sup>58</sup> A more recent study in Ghana shows that land degradation diminished agricultural GDP by five per cent during 2006-2015.<sup>59</sup>

Africa is the region where most national economies have a narrow industrial base. Despite its vast mineral resources, exploitation and heavy industrialization may not be sustainable in some countries. This is especially true in areas where mining disturbs major surface or sub-surface ecosystems or where the disposal of mining tailings or toxic substances like mercury and arsenic pose pollution risks. Exporting raw materials during a period of rising commodity prices will produce GDP growth. However, it will not be broad-based growth that optimizes opportunities for endogenous job creation, poverty alleviation, and strengthening of the science and technology skills needed in the global market. In other words, it will not produce genuine, sustained economic development – definitely not endogenously driven development and hence not resilient to external shocks. Even in the face of increased GDP during the past decade in some regions, real incomes for the majority of citizens have continued to decline.

While Africa is one of the world's regions most richly endowed with clean and renewable energy sources, it has not realized its technical potential and lacks energy security to power its development. Africa's substantial endowments in renewable energy resources are largely unutilized even though the renewable energy market has been growing significantly in recent years.<sup>60</sup> For example, while assessments show large opportunities for hydro-power world-wide, the continent

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<sup>54</sup> African Development Bank, 2013. ADER 2013

<sup>55</sup> Long before the current uprisings, one of the Arab world's leading economic minds, Tarek Yousef, co-edited a book with a prophetic title: *The Generation in Waiting* (Brookings Institution Press, 2009).

<sup>56</sup> Mills and Herbst, 2012

<sup>57</sup> African Development Bank 2013. African Development Report 2012: Towards Green Growth.

<sup>58</sup> Olson and Barry, 2003

<sup>59</sup> Diao and Sarpong, 2007

<sup>60</sup> e.g. IPCC, 2012, SRREN

lags behind other regions: Undeveloped capacity ranges from 42 per cent in Europe to 92 per cent in Africa.<sup>61</sup> Similarly, installed wind power capacity in Africa is comparatively low in relation to its technical potential.

The geographical dispersion of key natural resources constitutes a challenge to their effective management. Africa is a continent of environmental extremes and contrasts. There are steep rainfall gradients across the continent. Africa's 63 international water basins cover about 64 per cent of the continent's land, contain 93 per cent of its water and are home to 77 per cent of the population. While countries around the equator have abundant rainfall, two thirds of the continent is classified as semi-arid and 60 per cent of land area is prone to droughts.<sup>62</sup> The difficult hydrology of the continent poses a challenge to managing water as a resource. Decreasing water quality, sinking ground water tables and the impact of droughts and floods reflect this.

Climate change threatens to compound vulnerabilities related to water. Only four per cent of Africa's water resources are utilized, which translates into about 200m<sup>3</sup> per capita for the continent's population of roughly one billion in 2010. In contrast, in developed countries an average per capita use of 1500 m<sup>3</sup> is required to meet domestic, food and industrial water needs.<sup>63</sup> In light of projected population growth and African countries' aspiration to middle income status by the middle of the century, the gross water requirement for Africa would be 2700 billion m<sup>3</sup>, which would translate into a utilization rate of about 70% of Africa's renewable water resources. As emphasized in a recent international conference, climate change impacts the rate of change in the status of available water resources in Africa.<sup>64</sup> This has implications for exposure to hydro-meteorological hazards, water scarcity and quality. Superimposed on other local and global environmental and socioeconomic trends, African countries are challenged to manage water in the context of existing and emerging inter-dependencies and uncertainty.

Land degradation and desertification affects the livelihoods of many in Africa. UNEP<sup>65</sup> estimates that the livelihoods of 1 billion people around the globe are in danger as a result of desertification. In fact, desertification may result in the loss of land for 135 million people. Events unfolding in the Horn of Africa have particularly exposed the vulnerability of many African states to the compounding impacts of land degradation and climate variability.

Africa's forests are under threat of depletion under intense pressure from an increasing population, urbanization and demand for forest products. Africa is home to about 17% of the world's forest area,<sup>66</sup> most of which is concentrated in the west and central part of the continent. Across the continent, there are inter-regional differences in the distribution of forest and woodlands. From 2000 to 2010 alone, there was a 3.4 million hectare annual loss of forests. The five countries with the largest annual net loss of forest during this period are in Africa: Comoros (-9.3%), Togo (-5.1%), Nigeria (-3.7%), Mauritania (-2.7%) and Uganda (-2.6%).<sup>67</sup>

The ecological footprint in Africa is increasing, as more people need to share increasingly limited resources. Between 1961 and 2008 the aggregate ecological footprint of human activities on the continent increased by 240%.<sup>68</sup> As regional and global population growth, urbanization, regional and

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<sup>61</sup> IPCC 2012.

<sup>62</sup> Africa Water Vision 2025.

<sup>63</sup> Flakemark M. and J. Rockstrom, 2005. Balancing Water for Humans and Nature – The New Approach in Ecohydrology.

<sup>64</sup> Special session on "Global Change in Southern African Water Resources Systems: Vulnerabilities, Responses and Opportunities" during the Conference on "Water in the Anthropocene" organized by the Global Water System Project, in Bonn, Germany in May 2013.

<sup>65</sup> UNEP, 2006. AfricaEnvironmentOutlook2:OurEnvironmentOurWealth. United Nations Environment Programme.

Earthprint: UK.

<sup>66</sup> FAO, 2010

<sup>67</sup> FAO, 2010

<sup>68</sup> WWF and AfDB 2012. Africa Ecological Footprint Report.

global consumption patterns and the global environment change, there will be increasing pressure on and demand for Africa's resources. In fact, this pressure is already evident: 29 million of the 56 million hectares of land (51.8%) sought after by foreign investors globally is located in sub-Saharan Africa. Even though countries with abundant uncultivated land attracted the most interest, some of these countries also had poor records of rural land tenure, a lack of institutions protecting vulnerable groups, and no culture of disclosure.<sup>69</sup> Consequently, unless Africa's terrestrial and aquatic resources are managed sustainably, there is a real threat to livelihoods and food security. Relative to 2010, the energy-related CO<sub>2</sub> emissions of Africa are expected to increase by 22 per cent by 2035.<sup>70</sup>

How resources are managed in one sector can have implications for other sectors. Understanding the water, energy and land nexus is critical for advancing sustainable development, particularly in Africa.<sup>71</sup> For example, mountainous, elevated areas are the water towers of the African continent,<sup>72</sup> as they receive more rainfall than lower lying areas and feed many of the continent's trans-boundary river systems. The upstream management of these watersheds has downstream implications for agriculture, energy and other resources. And land use changes, which lead to deforestation and erosion, will have implications for water quality and flood protection.

It is no longer sufficient to grow the gross domestic product (GDP) of countries alone. Current models of economic growth (focusing only on increasing GDP) rarely account for many social and environmental externalities that can exacerbate poverty in many developing countries. Rather, a more pluralistic (inclusive) growth pathway that offers opportunities to the masses and addresses the problems of society beyond GDP growth is needed.

How African countries will manage these local and global resource demands will determine the water and food security of the continent. It will also determine whether the region will develop while maintaining or depleting its natural assets. There is strong evidence that sustainable inclusive green growth can be achieved without jeopardizing rapid economic growth rates:

<b>Selected economic evidence that inclusive green growth is possible, efficient and affordable for Africa</b>	
<b>Maximizing natural resource use efficiency</b>	<ul style="list-style-type: none"> <li>• In Africa, where many countries are too small to build national power plants at an efficient scale, it is estimated that \$2 billion of energy investment could be saved if trade in power was fully exploited.<sup>73</sup></li> <li>• African firms lose an estimated 5 per cent of their sales due to power outages, a figure that rises to 20 per cent for informal firms unable to afford backup generation. The aggregate economic costs of power shortages are 1–2 per cent of GDP.<sup>74</sup></li> <li>• Globally, gross revenues from fisheries total about USD 85 billion. However, estimates indicate that unsustainable management of marine fisheries cost about 50 billion US dollars annually. The accumulated benefits of greening the fisheries sector is estimated to be 3 to 5 times the required investment costs.<sup>75</sup></li> <li>• In Madagascar, efforts by the government and the private sector to control overfishing have led to larger shrimp sizes and thus to substantial increases in export prices (by 10% in 2000/01, and by 3% in</li> </ul>

<sup>69</sup> Deiniger et al 2011

<sup>70</sup> OECD/IEA 2011. Chapter 2. Projections based on New OECD/IEA Policy Scenario.

<sup>71</sup> ODI, ECDPM) and GDI/DIE, 2012

<sup>72</sup> UNEP 2010. Water Atlas.

<sup>73</sup> Foster and Briceño-Garmendia, Africa's Infrastructure: A Time for Transformation. Paris: Agence Française de Développement

<sup>74</sup> Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the implications for Africa? Draft background report, Rio+20 2011.

<sup>75</sup> Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the implications for Africa? Draft background report, Rio+20 2011.

	<p>2001/2002); the shrimp industry is now bringing over USD 155 million a year in export revenues to the country.<sup>76</sup> In Sub-Saharan Africa, reducing the sulfur content of fuels used for transport could save up to US\$ 980 million per year in health and related economic costs.<sup>77</sup></p> <ul style="list-style-type: none"> <li>• In Uganda, income from organic agriculture went from USD 3 million in 2003 to approximately USD 23 million in 2008 with a direct benefit for Ugandan farmers whose price premiums were consistently higher than conventional producers.<sup>78</sup></li> </ul> <p>Leapfrogging can be achieved in economic sectors that offer a high potential for greater energy and resource efficiency. For example, African aluminum smelters appear to be among the most efficient in the world, essentially because new production facilities employ the latest technologies in the field. Aluminum smelters in Mozambique use on average 14,337 kiloWatt hour per ton of aluminum produced (kWh/t) compared to 15,613 kWh/t in North America, or the world average of 15,268 kWh/t.<sup>79</sup></p>
<b>Minimizing waste and pollution</b>	<ul style="list-style-type: none"> <li>• Today's level of waste and pollution is highly correlated with income: estimates show that the increase in income and living standard is expected to generate over 13.1 billion tons of waste in 2050, about 20% more than in 2009. However, it is possible to reduce waste flows and future liabilities by moving towards resource efficiency and resource recovery. Indeed, the scope for recovering waste is large, as currently only 25% of all the waste is recovered or recycled, while the world market for waste, from collection to recycling, is worth an estimated US\$ 410 billion a year.<sup>80</sup></li> <li>• Waste management is not only a cost but it can be turned into marketable products. For instance, the waste-to-energy (WtE) market was already estimated at US\$ 20 billion in 2008 and is projected to grow by 30% by 2014.<sup>81</sup></li> </ul>
<b>Strengthening the resilience of livelihoods and economic sectors</b>	<ul style="list-style-type: none"> <li>• Improving the resilience of African countries to oil is economically strategic. Currently, oil accounts for 10-15% of total imports for oil-importing African countries and absorbs over 30% of their export revenue on average. In addition, some African countries, including Kenya and Senegal, devote more than half of their export earnings to energy imports. Promoting the use of renewable energy based on locally available sources could improve at the same time financial, economic and energy security.<sup>82</sup></li> <li>• In Africa, an estimated 110 million poor households spend more than US\$ 4 billion a year on kerosene-based lighting, which is costly and causes safety and health problems. Also, indoor air pollution caused by the use of traditional biomass and coal in homes is expected to cause more than 1.5 million premature deaths per year by 2030. Providing electricity to all is costly and requires approximately USD 756 billion between 2010 and 2030. Promoting transition towards green technologies – specifically, renewable energy – could substantially improve living and health standards in low-income areas, particularly in off-grid situations. Cost effective solutions can include clean biomass and off-grid solar photovoltaics, with low operating costs and flexible, small-scale deployment options.<sup>83</sup></li> </ul>
<b>Green jobs</b>	<ul style="list-style-type: none"> <li>• Globally, employment in the renewable energy sector has become substantial with more than 2.3 million people estimated to be working either directly or indirectly in the sector in 2006.<sup>84</sup></li> <li>• Forestry contributes 6 per cent of GDP in Africa on average, and up to 13 per cent in tropical African countries. Investing in forest conservation and reforestation could boost formal employment alone in this sector by 20% by 2050.<sup>85</sup></li> <li>• Specifically in South Africa, a strong transition to renewable energy is expected to generate 27% more jobs than the business-as-usual scenario.<sup>86</sup></li> <li>• Improving energy efficiency in the transport sector at global level is expected to increase employment by about 10% more than business as usual.<sup>87</sup></li> </ul>

<sup>76</sup> OECD, Natural Resources and Pro-Poor Growth: The Economics and Politics, DAC Guidelines and Reference Series, 2008.

<sup>77</sup> ICF International 2009, Sub-Saharan Africa Refinery Project – Final Report.

<sup>78</sup> OECD, Putting Green Growth at the Hearth of Development, 2013.

<sup>79</sup> International Energy Agency, Tracking industrial energy efficiency and CO2 emissions, 2007.

<sup>80</sup> Chalmin P. and Gaillochet C. From Waste to Resource: An Abstract of World Waste Survey. Cyclope, Veolia environmental Services, Edition Economica, 2009.

<sup>81</sup> Argus Research Company, Independent International Investment Research Plc and Pipal Research Group 2010.

<sup>82</sup> UNEP, Towards a green economy, 2011.

<sup>83</sup> UNEP, Towards a green economy, 2011.

<sup>84</sup> Green Jobs: Towards Decent Work in a Sustainable, Low-carbon World. UNEP/ILO/IOE/ITUC September 2008.

<sup>85</sup> UNEP, Towards a green economy, 2011.

<sup>86</sup> Rutovitz, 2010.

<sup>87</sup> UNEP, Towards a green economy, 2011.

### Annex 3

#### Tools facilitating the transition to green growth<sup>88</sup>

Name	Brief Description
<b>Public Environmental Expenditure Review (PEER)</b>	PEERs review how government resource allocations match environmental priorities. PEERs may be conducted at the national and subnational level.
<b>Environmental Fiscal Reform (EFR)</b>	EFRs represent a range of taxation and pricing tools that seek to promote efficient resource use and enhance environmental sustainability and stewardship, while also generating fiscal revenue.
<b>Green Accounting</b>	Expands national accounts beyond GDP by assessing impact of human activities on essential natural assets. The System for Environmental and Economic Accounts (SEEA) provides an internationally recognized method for tracking the state of various natural resources.
<b>Strategic Environmental Assessment (SEA)</b>	SEA covers a range of analytical and participatory approaches aimed at assessing development options and their economic, social and environmental implications.
<b>Environmental Impact Assessment (EIA)</b>	EIAs assess environmental risks and opportunities at the project level with the aim of minimizing environmental harm.
<b>Marginal Abatement Cost Curve (MACC)</b>	MACC rank the mitigation potential of economic sectors in terms of cost. They can also help in the prioritization of mitigation measures.
<b>Sustainable Land Management</b>	A suite of policies and measures focused on increasing land productivity and reducing degradation, while maintaining essential ecosystem goods and services. Often includes a strong focus on spatial and cross-sector land-use management.
<b>Integrated Water Resource Management</b>	Comprehensive approach to water resource management, seeking to integrate economic, environmental and social perspectives.
<b>Payment for Ecosystem Services</b>	Provides compensation for maintaining ecological services of local, national, regional or international importance. For example, reducing emissions from deforestation and degradation (REDD) is a performance based payment scheme for maintaining the carbon stored in forest ecosystems.
<b>Early Warning Systems</b>	Early warning systems provide near-term alerts (hours or days) of natural hazards such as floods, storms and earthquakes. Coupled with disaster risk management plans and training, these systems can reduce casualties and economic losses.
<b>Seasonal Forecasting</b>	In areas where strong influences from semi-periodic climate events such as El Nino exist, seasonal forecasts can provide information on the quality of rainy seasons and the potential for climate extremes with several months lead time. Linked to appropriate training, this can help in the design of adaptive responses for natural resource sensitive livelihoods and sectors.
<b>Climate Vulnerability and Adaptation Assessments</b>	Vulnerability and Adaptation Assessments analyse the sensitivity of sectors and livelihoods to risks associated with climate variability and change and identify potential adaptation options to mitigate these risks.

<sup>88</sup> In addition, the AfDB, OECD, the UN and World Bank document “A Toolkit of Policy Options to Support Inclusive Green Growth”, which was submitted to the G20 process in 2012, provides further of various relevant diagnostic tools and methodologies.

## Annex 4

### Financing Instruments

#### Selection of AfDB hosted funds and instruments relevant to green growth

Focus	Fund/Instrument	Scope	Eligibility Criteria
<p><b>Natural Resource Management: Water</b></p> <p><b>Emphasis on Integrated Water Resource Management</b></p>	<b>African Water Facility (AWF)</b>	<p>Water governance;</p> <p>Piloting innovative technologies and testing approaches for scale-up;</p> <p>Improving support for effective water resource management (regional/national institutions);</p> <p>Knowledge and capacity development for informed decision-making</p>	<p>All RMCs, central/local governments, NGOs, community based organizations (CBOs), regional economic organizations (REOs), river basin organizations (RBOs) with credibility and track records in the water sector</p>
<p><b>Natural Resource Management: Forests</b></p> <p><b>Climate change</b></p>	<b>Congo Basin Forest Fund (CBFF)</b>	<p>Forest management and sustainable practice;</p> <p>Livelihoods and economic development;</p> <p>Monitoring, assessment and verification;</p> <p>Benefits from carbon markets and payment for ecosystem services;</p> <p>Capacity building in REDD in monitoring, assessment and verification, as well as in sustainable forest management</p>	<p>Central and local governments of RMCs, NGOs, CBOs, regional agencies and private sector institutions concerned with Congo Basin forest conservation and management</p>
<p><b>Energy: Renewables/Efficiency</b></p> <p><b>Low Carbon Development</b></p> <p><b>Climate Change</b></p>	<b>Sustainable Energy Fund for Africa (SEFA)</b>	<p>Technical assistance, capacity building and investment capital to support sustainable energy development</p> <p><u>Three components:</u></p> <p>(i) PPE Support to renewable (RE) project pre-investment activities through technical assistance, non-reimbursable grants of up to 1 million USD</p> <p>(ii) Equity Investment in small- and medium-scale RE-interventions through an independent fund manager; Vehicle: Africa Renewable Energy Fund</p> <p>(iii) Enabling environment - Technical assistance and capacity building grants (up to 1 million USD) for activities improving enabling environment for private sector, e.g. institutional, policy and regulatory planning, public sector capacity building</p>	<p>(i) PPE Implementation in RMCs, viable RE projects with total estimated costs of USD 30-200 million; beneficiaries providing least 30% of the total pre-investment costs; projects sponsored by private or semi-private entities Implementing agencies: Private Enterprises, Public Sector Entities</p> <p><u>Not eligible:</u> State-owned utilities cannot receive direct SEFA support</p> <p><u>Possible:</u> PPP projects</p> <p>(ii) Equity Small- and medium-size RE and energy efficiency projects</p> <p>(iii) Enabling Environment All African countries Implementing agencies: Public sector, financial institutions and civil society organizations</p>



## Selection of AfDB hosted funds and instruments relevant to green growth –continued

Focus	Fund/Instrument	Scope	Eligibility Criteria
<b>Climate smart development, including resilience and low carbon development</b>	<b>Africa Climate Change Fund (ACCF)</b>	Climate finance readiness; Climate change and green growth mainstreaming; Capacity building; Preparation and financing of adaptation and mitigation projects; Preparation of climate resilient and low carbon strategies and policies; Knowledge management, information sharing related to climate change; Analytical work related to green growth; Advocacy and outreach.	Direct recipients: African governments, NGOs, research and regional institutions based in Africa Indirect recipients: Bank's Departments executing grants on behalf of direct recipients
<b>Climate Change: Mitigation/ Adaptation</b>  <b>Low carbon and climate resilient development paths</b>	<b>Climate Investment Funds (CIF)</b>	1. CIF Investment Plans Two funds, four funding windows: (i) <i>Clean Technology Fund (CTF)</i> : Deployment and transfer of low carbon technologies; large-scale, country-initiated or private sector and PPP projects with substantial scaling-up potential (ii) <i>Strategic Climate Fund (SCF)</i> , including: - Pilot Program for Climate Resilience (PPCR) -Forest Investment Program (FIP); - Scaling-up Renewable Energy Program (SREP) 2. CIF Dedicated Private Sector Programs <i>SREP, PPCR and FIP set-asides for private sector engagement: Ad hoc competitions launched by the CIF in coordination with AfDB and other implementing agencies.</i> Instruments: Debt, junior debt, mezzanine, equity and junior equity CTF dedicated private sector program focused on utility scale renewable energy (geothermal, solar PV)	<i>CTF</i> : Country eligibility based on (i) ODA eligibility in accordance with OECD/DAC guidelines; and (ii) an active program with at least one of the MDBs. Countries are requested to express interest in becoming "pilot countries".  <i>SCF</i> : Eligibility based on recommendations from an expert group, based on the thematic nature of each programme and in accordance with a number of criteria, following a country's expression of interest (EOI)  Dedicated private sector programs: Ad hoc exercise targeting private sector low-carbon and/or climate resilience projects. Evaluation on a case by case basis.
<b>Climate Change: Mitigation/ Adaptation</b>  <b>Natural Resource Management</b>  <b>Biodiversity</b>  <b>Chemicals and waste</b>	<b>Global Environmental Facility (GEF)</b>	GEF is the managing body of: - <i>GEF Trust Funds</i> - <i>Least Developed Countries Fund (LDCF)</i> focused on climate change adaptation in LDCFs (water, agriculture, health, infrastructure and ecosystems) and disaster risk management - <i>Special Climate Change Fund (SCCF)</i> supports adaptation activities in water, land, agriculture, coastal zone management, health, infrastructure and ecosystems. There are two active funding windows under SCCF: the adaptation window (SCCF-A) and the technology transfer window (SCCF-B).  AfDB Public-Private Partnership Program: Co-financing/co-investment long-term facility of up to 20 million USD	<i>LDCF</i> : Any LDC country (as identified by the UN) who is party to the UNFCCC and has completed their NAPAs (National Adaptation Plans of Action) <i>SCCF</i> : All developing countries party to the UNFCCC; country driven adaptation and technology transfer projects, cost-effective and integrated into national sustainable development and poverty-reduction strategies, communication documents to the UNFCCC AfDB Public-Private Partnership Program: AfDB co-financing and minimum of a total leveraging effect of 1 to 10 (GEF: other investors); Renewable technology projects
<b>Climate Change: Climate Risk Management, Adaptation</b>	<b>ClimDev-Africa Special Fund (CDSF)</b>	Provision of high quality climate information in Africa; Capacity development of decision-makers and stakeholders on the use of climate information; pilot adaptation measures	RECs; RBOs; RMCs; Eligible projects must demonstrate complementarity to existing activities and willingness to share climate data and information of funded activities

## Annex 5

### Beyond GDP – A selection of indicators to assess growth quality

The table below presents a set of suggested indicators which may be used by regional member country's to gauge the quality of growth in terms of its positive or negative impact on natural and other assets that are relevant to human welfare and sustainability. The proposed indicators can largely be constructed from existing regional or global data bases. This list of indicators is not intended to be comprehensive or prescriptive, but illustrative. They may be complemented or refined by national data bases. In the context of the Green Growth Knowledge Platform further work is underway to identify a broader range of suitable indicators. Which of these will ultimately be used will depend on country specific circumstances. Emphasis should be placed on selecting a set of indicators that are easily measurable and verifiable and provide clear and transparent insights about the economic development of a country with regards to the state of natural resources, efficiency and resilience.

State of Natural Assets	Indicator
<b>Aquatic Resources</b>	Proportion of fish stocks within safe biological limits [%]
<b>Forest</b>	Forest area [ha]; Remaining primary forest [ha]; Deforestation rate [ha/year; % of total forest area/year]; Annual afforested/reforested forested area [%]
<b>Agriculture</b>	Productive agricultural land [ha]; Degraded land as a proportion of land under cultivation or total land area [%]
<b>Biodiversity</b>	Total documented species diversity [number]; Number of endemic species [number]; Number of threatened or endangered species [number]
<b>Sustainable Management and Conservation</b>	Area under sustainable management and conservation [ha] (could be further differentiated by ecosystem/land-use type)
<b>Environment (Composite)</b>	Bio-capacity/Living Planet Index
<b>Efficiency</b>	<b>Indicator</b>
<b>Material Productivity</b>	Domestic Material Productivity/GDP [ton/\$]
<b>Carbon Intensity</b>	CO <sub>2</sub> /GDP [ton/\$]
<b>Energy</b>	Renewable energy (as share of total power supply) [%]; Energy intensity (GDP per TPS)
<b>Waste</b>	Waste generation [ton] by sector/per unit GDP/per capita; Waste recycling and reuse [%]
<b>Environment</b>	Ecological footprint [gha]
<b>Resilience</b>	<b>Indicator</b>
<b>Human Health and Safety</b>	Population exposed to harmful levels of air pollution [%] Level of harmful chemicals in drinking water [g/litre]; Number of people hospitalized due to air pollution [number]; Proportion of population with sustainable access to safe drinking water [%]
<b>Disaster Risk</b>	Exposure to natural or industrial risk and related human/economic losses [loss of life or \$/disaster type]
<b>Agriculture and Food Security</b>	Inter-annual variability of agricultural output/productivity