



# IDEV

Independent Development Evaluation  
African Development Bank

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## Evaluation of Mainstreaming Green Growth and Climate Change into the AfDB's Interventions:

### Energy and Transport Cluster

#### Executive Summary



AFRICAN DEVELOPMENT BANK GROUP

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IDEV conducts different types of evaluations to achieve its strategic objectives



# Executive Summary

## Background

The transition to Green Growth (GG) is one of the two overarching objectives of the African Development Bank Group's (the AfDB or the Bank) [Ten-Year Strategy](#) (2013–2022). Improved access to sustainable infrastructure and a reduction of waste and pollution are key development results to support the achievement of Green Growth. Energy and transport are central to the Bank's "High 5s", namely, Light Up and Power Africa, Feed Africa, Industrialize Africa, Integrate Africa, and Improve the Quality of Life for the People of Africa. Lighting Up, Powering and Integrating Africa depend on appropriate energy solutions that are consistent with Green Growth and Climate Change (GG-CC) objectives. There are growing needs in the energy sector that challenge electricity generating capacity, network resilience, and community and household connections. Improving access and connectivity is central to Integrating Africa. Both energy and transport have a pivotal role to play in the other three priority areas of Feeding Africa, Industrializing Africa and Improving the Quality of Life of the People of Africa. As an integral part of the Independent Development Evaluation (IDEV) work program, this project cluster evaluation of the Bank's support for and mainstreaming of GG-CC into its energy and transport interventions is a building block in the overall corporate evaluation of the mainstreaming of GG-CC into the AfDB's interventions. This cluster evaluation provides lessons and good practices to enable the Bank to improve the quality and performance of its interventions and inform the new GG-CC strategic framework.

## What was evaluated

To contribute to improving the performance of the Bank in terms of mainstreaming GG-CC considerations into its policies, strategies and operations, IDEV conducted a cluster evaluation of the Bank's efforts to mainstream GG-CC into its energy and transport interventions between 2008 and 2018. The evaluation assessed: (i) the extent to which the Bank mainstreamed GG-CC into its energy and transport sector interventions (including policies, strategies and operations); and (ii) the performance of Bank-funded infrastructure (energy and transport) projects that mainstream GG-CC in terms of relevance, effectiveness, efficiency and sustainability. This led to the formulation of lessons and good practices to enable the Bank to improve the quality and performance of its interventions (in the energy and transport sectors) and inform the new GG-CC policy and strategy framework currently being developed.

## Purpose and scope of the evaluation

This cluster evaluation is one of six building blocks that evaluate the mainstreaming of GG-CC into the AfDB's interventions. The overarching purpose of the evaluation is to take stock of, and assess, the mainstreaming of GG-CC in the AfDB's interventions approved between 2008 and 2018. This project cluster evaluation covers a cluster of seven energy and transport projects in five countries: Cameroon, Morocco, Mozambique, Rwanda and Senegal, for a total value of USD 564 million<sup>1</sup>.

## Methodology

The project cluster evaluation used a theory-based approach broken down into the following 'components' to answer the main evaluation questions. The components were: (i) a literature review, focusing mainly on policy documents, independent thematic and project evaluations, as well as information gained from country-level reports, and literature from Multilateral Development Banks (MDBs), as well as key development partners. The focus on meta-level documents provided useful contextual insights and enabled a degree of benchmarking, while also providing a point of triangulation with the project-level and country-level sources; (ii) data and trend analysis of the energy and transport sector interventions that mainstream GG-CC; (iii) theory of change development; and (iv) analysis of energy and transport sector Project Results Assessments (PRAs). The seven projects were selected based on the following six criteria: (i) geographical representation (five regions of Africa: North, South, East, West and Central); (ii) the existence of the necessary documentation, mainly Project Completion Reports (PCRs); (iii) representativeness of the type of project (autonomous versus component); (iv) sectoral representativeness (energy and transport), including private sector operations; and (v) inclusion in the country case studies, through interviews with country-level and project stakeholders, focus group discussions with project beneficiaries, and project site visits for physical observation of the projects. The AfDB evaluation policy, the international evaluation criteria and the Evaluation Cooperation Group (ECG) Big Book on Good Practice Standards guided this evaluation, and a 4-point scale was used to assess project performance. Evidence from each of the six building blocks was then used to synthesize findings, and to develop a set of learnings.

The evaluation faced the following limitations: (i) lack of easily comparable databases for the energy and transport sectors at the AfDB; (ii) difficulty in generalizing the findings based on a limited sample size: only four energy and three transport projects (representing 6 percent of the total number of

energy and transport projects approved by the Bank over the evaluation period) were subject to PRAs; and (iii) challenges in defining the Bank's projects that have mainstreamed GG and CC within the cluster, especially in relation to the transport sector. To address these challenges, IDEV planned the evaluation in collaboration with PEGC and the AfDB's Regional and Country Offices. In addition to IDEV's internal review, the results of the evaluation were reviewed by an Evaluation Reference Group (ERG) comprising experts from the relevant departments at headquarters and decentralized offices, and external peer reviewers. Meetings were held with the ERG to discuss the emerging findings and lessons.

## Findings

### **How well has the Bank mainstreamed GG-CC into its energy and transport sector interventions (including policies, strategies, and operations)?**

**The Bank has increasingly enhanced the integration of GG-CC principles into its sectoral policies and strategies, particularly in the energy sector, more so than in the transport sector.** The evolution of the AfDB's energy policies since 1994 clearly reflects a growing emphasis on climate change (CC) and environmental considerations, and the increased importance of low-carbon development. This greater engagement with GG-CC considerations is also evident in the Bank's project-level funding and contribution to Africa-wide strategies. In the energy sector, the AfDB took a lead role in preparing the Clean Energy Investment Framework for Africa (CEIF) in 2008, highlighting approaches to increasing energy access and developing clean energy, and specifying resource requirements and the Bank's role. The 2012 Energy Policy took into consideration additional emerging challenges, including "increased concerns over climate change and other environmental issues." Critical issues identified and added to the updated policy reflect the greater integration of GG-CC considerations and include: (i) moving to low-carbon

solutions; (ii) social equity in the development of, and access to, the continent's energy resources; and (iii) the need for an integrated approach to on-grid and off-grid electrification. The goal of the New Deal on Energy for Africa (NDEA), launched in 2016, is to achieve universal access to electricity by 2025 by promoting on-grid and off-grid solutions. It facilitates AfDB collaboration with Regional Member Countries (RMCs) and the private sector to develop a Transformative Partnership on Energy for Africa.

An explicit focus on GG-CC in the AfDB's transport sector interventions is a relatively new development, and more recent than the focus on the energy sector. The Green Growth Sector Guidance Notes published in 2014 identify infrastructure and services as entry points for transformative action. Recent Bank publications demonstrate a growing recognition of the centrality of GG-CC issues to the transport sector. However, there remains a lack of a strategic framework, and specific policies and guidance to support the practical integration of GG-CC considerations within transport sector interventions.

**The Bank has successfully mobilized and leveraged climate funds to finance major energy infrastructure projects.** The Bank has successfully managed and mobilized climate funds for regional projects, including the Climate Investment Funds: Clean Technology Fund (CTF), the Scaling Up Renewable Energy Program (SREP), and private equity clean energy financing, an example of which is Morocco's Ouarzazate Concentrated Solar Power project. The leveraging of additional finance supports RMCs to address GG-CC issues through their infrastructure programming and is consistent with the greater engagement of the Bank's energy and transport policies on GG-CC.

**Energy sector Program Based Operations (PBOs) have ensured more mainstreaming of GG-CC in the energy sector than in the transport sector, with no PBOs identified in the transport sector over the evaluation period.** PBOs are key mechanisms through which the Bank can facilitate GG-CC mainstreaming in the

infrastructure sector. Evidence from [a previous IDEV evaluation](#), supported by country-level evidence from this cluster analysis, points to the central importance of sustained engagement at the policy level, supported by relevant country programming, in the success of PBOs in mainstreaming GG-CC considerations into RMC infrastructure policies.

**The Bank is increasingly developing relevant knowledge products to support the integration of GG-CC in the energy and transport sectors.** The Bank's knowledge programs reflect and reinforce the growing integration of GG-CC considerations into the energy and transport sectors. Knowledge programs in the energy sector, particularly through the Africa Infrastructure Knowledge Program (AIKP), have promoted GG-CC objectives. Progress in the transport sector is more recent, with important GG-CC-relevant publications, such as Economic and Sector Work (ESW) in rail and road networks focused on regional integration since 2014.

**Although investments in green infrastructure have increased, particularly in renewable energy, there are still challenges faced in transitioning countries toward low-carbon development.** While investments in energy projects that mainstream GG-CC have seen regional successes, several challenges to wider investments remain, including cost, existing fossil fuel-based infrastructure, underinvestment in power distribution, and the limited mobilization of private sector finance in transitioning countries.

**How well have AfDB-funded energy and transport sector projects that mainstream GG-CC performed?**

From the Bank's portfolio, seven projects were selected for in-depth analysis (PRAs), four in the energy sector and three in the transport sector. The PRA data were synthesized using scorecards to assess their relevance, effectiveness, and efficiency and the sustainability of their results based on a screening of project documents, log-frames, and other documents that were then cross-checked with on-site visits and through interviews with stakeholders.

**Relevance:** The overall relevance of the seven projects was assessed based on the alignment of their design with the associated Country Strategy Papers (CSPs) and Regional Integration Strategy Papers (RISPs) (where these refer to GG-CC at the time that the project was developed), as well as on the average alignment of the project with national policies, Bank strategies, tools and beneficiaries' needs that mainstreamed GG-CC. The overall relevance of the cluster projects was found to be satisfactory. Five of the seven projects were rated satisfactory or better in terms of relevance. The three highest-rated projects were all in the energy sector, reflecting the clear focus on green infrastructure investment options. Performance in the transport sector was less strong and a reflection of the fact that road transport interventions are rarely totally green. Success factors present in the three best-performing projects include clear alignment with the Bank's GG-CC strategy, and project design clearly targeted to achieve GG-CC objectives and reduce country dependence on non-renewable energy sources. Characteristics of less well-performing projects include the lack of a coherent theory of change or log frame to support GG-CC, the failure to clearly consider environmental impacts, and project objectives which are clearly counter to GG-CC goals.

**Efficiency:** The evaluation examined project efficiency in terms of budget, time usage, how a project had coped with challenges that significantly impacted project performance, and whether solutions were found to these challenges during implementation. The overall efficiency of the cluster projects was not satisfactory. PRA data analysis indicates that individual projects were not performing at a satisfactory level in relation to efficiency. Only three of the sample projects were rated satisfactory. No significant differences were observed in efficiency between energy and transport projects. Success factors present in the three best-performing projects include a high standard of technical verification, engaging stakeholders at all levels in decision-making, and competitive tendering to increase cost efficiency and design quality. The main reasons

for weak performance were poor technical design quality, implementation delays relating to technical challenges, and the failure to leverage funding for activities pertaining to GG-CC.

**Effectiveness:** The effectiveness of the projects in achieving their intended GG-CC mainstreaming results (outputs and outcomes) was also assessed, and was found to be satisfactory overall. Almost all the sample projects performed satisfactorily, with only one rated as unsatisfactory. Success factors present in the three best-performing projects include ensuring that environmental considerations are explicitly addressed in delivery, using term-based maintenance contracts to maximize outcomes in the area of GG-CC, and combining engagement at a sector policy level. Characteristics of less well-performing projects include a failure to consider realistic assumptions in project design, and a failure to demonstrate and document clear outcomes related to GG-CC.

**Sustainability:** Project sustainability was assessed in terms of the overall sustainability of project results (financial and institutional sustainability), to what extent projects had considered specific risks related to GG-CC or sustainability in their design or exit strategies, and whether projects were likely to be effective in the long term. Overall, sustainability of project benefits was seen as likely, with six of the seven projects rated satisfactory or better. The projects with sustainable benefits were associated with strong institutional ownership and vested interests in the continuity of energy and transport infrastructure. Both the public and the private sector projects show promising prospects for sustainability. Five out of the seven projects are revenue generating (all of the power sector projects and one toll road), and the other two roads in Rwanda and Cameroon are in countries with, in the case of Rwanda, strong public commitment to road maintenance, while in the case of Cameroon the roads sector is receiving significant development partner support to strengthen asset maintenance. PRA data from the sample energy and transport projects reviewed provide evidence

that interventions that explicitly consider their GG-CC impact and maintain environmental safeguards during implementation were more likely to make a sustained contribution to outcomes pertaining to GG-CC than those that did not.

## Lessons

1. Establishing a clear strategic sector framework supported by complementary policies and strategies can support the mainstreaming of GG-CC considerations in sector interventions. In the case of the energy sector, the Energy Policy, Ten-Year Strategy (TYS) and the New Deal on Energy for Africa all have a clear integration of GG-CC considerations. In contrast, the transport sector lacks an equivalent overarching strategic framework and has only recently begun to substantively engage with GG-CC issues.
2. Designing interventions with clear alignment to GG-CC objectives is more challenging for projects in the transport sector. Given the greater complexities and trade-offs in defining what appropriate interventions pertaining to GG-CC look like in this sector, carrying out an in-depth analysis will be beneficial to determine what the key characteristics of GG-CC are within the transport sector to improve quality at entry, implementation, and supervision. More work is needed to help define what constitutes GG-CC and how it can be measured at the sector level.
3. The best-performing projects assessed in the cluster analysis were those projects that combined engagement at a sector policy level with project interventions, taking clear steps to ensure that environmental considerations are explicitly addressed throughout delivery and, in the transport sector, those projects that employ term-based maintenance contracts to maximize outcomes pertaining to GG-CC.
4. Successful GG-CC-aligned energy sector projects occur in countries that already have a strong commitment to GG-CC objectives in their energy mix. If the AfDB is to achieve its High 5s objective of Lighting Up Africa, much more needs to be done in countries that are not currently prioritizing GG in the energy sector. The onus on the AfDB is to try to create momentum for GG-CC in those countries where awareness is lower, and/or where other priorities are taking precedence. Power is capital intensive, and innovative investment is needed to achieve this, supported by effective knowledge-sharing programs.
5. A lack of coherence in regional responsibilities across Africa is a barrier to developing appropriate GG-CC solutions, particularly regarding harmonised technical standards in the transport sector. Despite this impediment, through a focus on the development of transit corridors and improving border crossings, Bank investments are able to realise GG-CC benefits from efficiency and effectiveness gains. This is consistent with both the High Fives and with GG-CC providing it is managed carefully.
6. Projects that have clear alignment with government priorities, build on long-term sector commitment and country engagement, establish robust institutional mechanisms to support financial sustainability, and effectively engage with end-users from the start have the greatest likelihood of sustainability.
7. It takes time, in-country resources, and extensive consultation to develop effective and appropriate GG-CC strategies and solutions. The Bank has been most successful in sectors with strong national leadership supporting GG-CC; where this is not present, a range of instruments including PBOs, project support, and knowledge products may help to develop the enabling GG-CC environment. This suggests that a GG-CC focus needs to be retained and mainstreamed over several CSP cycles. ■



## About this evaluation

This project cluster evaluation is a building block in the overall corporate evaluation of mainstreaming Green Growth and Climate Change (GG-CC) into the AfDB's interventions. It covers seven energy and transport projects in five countries: Cameroon, Morocco, Mozambique, Rwanda, and Senegal, for a total value of USD 564 million.

The evaluation examined how well the Bank has mainstreamed GG-CC into its energy and transport sector interventions, and how well Bank-funded energy and transport sector projects that mainstream GG-CC have performed in terms of relevance, effectiveness, efficiency and sustainability.

Overall, the evaluation found that the Bank has increasingly enhanced the integration of GG-CC principles into its sectoral policies, strategies and operations, particularly in the energy sector, more so than in the transport sector. The Bank has also successfully mobilized and leveraged climate funds to finance major energy infrastructure projects.

The projects were found relevant in terms of the alignment of their design with policies, strategies and beneficiaries' needs, and effective in achieving their intended GG-CC mainstreaming results (outputs and outcomes), but efficiency was deemed unsatisfactory. The sustainability of project benefits was seen as likely.

The evaluation provides lessons and good practices to enable the Bank to improve the quality and performance of its interventions and inform the development of its new GG-CC strategic framework.



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