



## **MOBILISING FINANCE FOR INFRASTRUCTURE**

### **A STUDY FOR THE UK DEPARTMENT FOR INTERNATIONAL DEVELOPMENT (DFID)**

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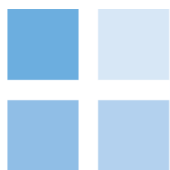
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#### **Regional infrastructure study**

Produced by:

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**CEPA**

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The views expressed within it are those of CEPA and do not represent DFID's own policies or views. Any discussion of the content should therefore be addressed to the authors and not to DFID.

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## ACRONYMS

ABAKIR	Autorité du Bassin du Lac Kivu et de la Rivière Ruzizi
ADF	African Development Fund
AfDB	African Development Bank
AU	African Union
AUC	African Union Commission
CAADP	Comprehensive African Agricultural Development Programme
CEPA	Cambridge Economic Policy Associates
CEPGL	Communauté Economique des Pays des Grands Lacs/ Economic Community of the Great Lakes Countries
COMESA	Common Market for Eastern and Southern Africa
DFI	Development Finance Institution
DFID	UK Department for International Development
DFS	Dakar Financing Summit
DRC	Democratic Republic of the Congo
EAC	East African Community
EADB	East African Development Bank
ECOWAS	Economic Community Of West African States
EGL	Energie des Pays des Grands Lacs/Energy of the Great Lakes Countries
ICA	Infrastructure Consortium for Africa
ICT	Information and Communications Technology
IDA	International Development Association
IFI	International Financial Institution
IGAD	Intergovernmental Authority on Development
IPP	Independent Power Producer
JICA	Japan International Cooperation Agency
KRC	Kenya Railways Corporation
NEPAD	New Partnership for Africa's Development
NPCA	NEPAD Planning and Coordination Agency
PAP	Priority Action Plan
PIDA	Programme for Infrastructure Development in Africa
PPA	Power Purchase Agreement

PPP	Public-Private Partnership
PRG	Partial Risk Guarantee
RIPoS	Regional Integration Policy and Strategy
REC	Regional Economic Community
SAPP	Southern African Power Pool
SGR	Standard Gauge Railway
SPV	Special Purpose Vehicle
SSA	Sub-Saharan Africa
URC	Uganda Railway Corporation
WAGP	West African Gas Pipeline
WAPP	West African Power Pool

## EXECUTIVE SUMMARY

This report was produced by Cambridge Economic Policy Associates (CEPA) as part of a wide-ranging research programme funded by the Department for International Development (DFID) that explores the factors constraining the provision of private finance to support infrastructure investment in DFID's focus countries, specifically those in Africa.

This report considers how the responses to the questions set in the terms of reference for this project differ when regional infrastructure is considered, as opposed to national infrastructure. To do so, regional projects were first defined (see Box ES.1).

### *Box.ES.1 Definition of regional projects*

#### Definition of regional projects

'Regional infrastructure designed to increase cross-border trade' has been interpreted as covering all infrastructure sectors, as energy, transport, telecoms and water can all facilitate trade. Within this, there are two types of regional projects: those that are only viable as multi-country projects and could not be undertaken by one country alone; or national projects, which have the potential for great "external" benefits, for countries other than that of the project host.

#### *Source: CEPA analysis*

The study provides background on the policy context for the development of regional projects in Africa; an overview of the main transactions that have taken place across the different infrastructure sectors; and then sets out the findings on the main factors constraining increased private finance for regional projects, and how these differ from those faced by national projects. These conclusions are based on desk based research and on the five consultations held on this topic, as well as drawing on the research and consultations undertaken as part of CEPA's work for DFID's Africa Regional Department on regional project preparation facilities, undertaken in early 2015.

The findings of the analysis are summarised below.

### **Private finance transactions in regional infrastructure**

Analysis of regional projects show only eight pure **multi-country regional projects**, based on the definition above. Total public and private investment in these projects around US\$1.bn has been invested in these projects, with the majority of them found in the energy sector. The **national projects with a regional impact** are primarily seaport projects, which have attracted over US\$8bn of investment over the period 2005-2014. The majority of these projects are from the Nigerian port concession programme.

A pipeline of 24 regional PPPs that are currently in development was developed. Of those projects identified, roughly half were in the transport sector and half were in the energy sector, with the pipeline former being dominated by large multimodal corridor projects, and the pipeline in the latter dominated by very large hydropower projects. 16 of the projects are at the structuring and transaction phase, with the remainder at the feasibility stage. Case studies of three pipeline projects consider in more detail the challenges that regional PPPs face in reaching financial close. These are summarised in Figure ES.1 below.

Figure.E5.1 Summary of case study projects<sup>1</sup>



The research and consultations held suggested that the constraints to attracting more private investment in regional projects are similar to those for national projects, but with additional complexity. As at the national level, developing bankable projects was highlighted as the key constraint. Two of the particular challenges identified are discussed below.

### National government capacity and lack of leadership

Consultees suggested that the enabling environment is a key constraint, particularly at the national government level, where all final decisions must be made. For example for Inga III, the government of the DRC is responsible for developing one of the largest PPPs on the continent, with relatively little previous PPP experience. Another challenge can also be the lack of clarity in determining with whom the private party should be negotiating. Some stakeholders suggested for some projects none of the governments involved wish to take on the responsibility of being the main sponsor for the project. Weak coordination, capacity and leadership can be key deterrents to private investors.

<sup>1</sup> Map sourced from <http://www.mapsofworld.com/africa/>.

### **Certainty of returns**

Private investors are looking for returns, but within regional projects these returns may be even more uncertain than for national projects. For example a regional generation project may involve national utilities from different countries, which may all be financially unstable (as is the case for Ruzizi III).

### **Recommendations emerging from the study**

To overcome these constraints, stakeholders emphasised the importance of strategic infrastructure plans that prioritise projects in the pipeline, continuing the work of PIDA. It was also suggested that donors and multilateral institutions are best placed to support capacity development within national governments and in the RECs, as well as engaging with the private sector to attract finance.

While the constraints they face are broadly similar, regional projects do differ from national projects in ways that could help address some of the challenges facing infrastructure projects in Africa: e.g. by spreading offtaker risk amongst a range of customers, and allowing for larger-scale projects than is possible at the national level.



## 1. INTRODUCTION

This report addresses the question set in the Terms of Reference that asks for a consideration of the extent to which the constraints faced by *regional infrastructure projects* designed to increase cross-border trade in accessing private finance differ from those facing national projects.

To do this, the study:

- Defines what is meant by a regional infrastructure project.
- Provides detail on the existing policy/ institutional context for regional projects in Sub-Saharan Africa (SSA).
- Using publically available information, analyses the regional infrastructure projects that have been able to access finance and assesses the projects that are currently in the pipeline.
- Provides more detailed case studies on three regional infrastructure projects: Ruzizi III, the Nacala Rail project, and Inga III.
- Sets out conclusions on the constraints and particularly additional constraints regional projects face.

The analysis presented in this report is focused on regional projects in SSA and is based on desk-based research and telephone-based consultations with selected stakeholders.

### 1.1. Defining regional projects

For the purposes of this report the definition of a regional project is based on Cambridge Economic Policy Associate's (CEPA's) recent work for the UK Department for International Development's (DFID's) African Regional Department.<sup>2</sup> In this, regional projects are defined as either:

- multi-country projects; or
- national projects with regional impacts.

#### 1.1.1. Multi-country projects

These are projects which are only viable (economic, financial and sometimes technically) if the project operates across a number of countries. Examples include:

- Electricity generation from a location-specific source, but where their markets are located elsewhere (e.g. Inga Hydropower project, which is based in the Democratic Republic of the Congo (DRC) but will generate electricity mainly for South Africa).
- Water basin projects in which the creation of, say, a dam and associated irrigation infrastructure in an upstream country has implications for countries lying downstream.

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<sup>2</sup> CEPA (2015). Africa Regional Department: Infrastructure Project Preparation Facilities In Africa – Options For Future Support.

These projects typically have more complex development requirements than for a purely national project. For instance they often require policy, legal and regulatory agreements to be made across a number of countries, which often necessitates the creation of new project-specific institutions.

### 1.1.2. National projects with regional impacts

National projects with regional impacts are simply projects that are located entirely within a single country but confer significant positive economic externalities on other countries in the region. Examples of this might include a port, such as Beira port in Mozambique, that open up trade corridors for neighbouring land-locked countries.

National projects with regional impacts take two main forms:

- **Projects with proportionate costs and benefits.** Projects whose impact can be greatly enhanced if their design is altered to incorporate neighbouring countries; that is, there is the potential to capture significant externalities. Often this can involve sizing the asset so that other countries can benefit. In such situations there should be positive incentives for regionalisation. At the extreme, of course, this can push a “national” project into the “multi-country” project category set out above if it creates such cross dependencies. Typical scaling projects can involve increasing the scale of generation assets, airports or ports, the carrying capacity of transport or transmission assets (e.g. width of roads, voltage of transmission lines etc.).
- **Projects with disproportionate costs and benefits.** In these instances, the costs and benefits of the project are shared disproportionately between the host country and its neighbours. In these instances, there is either a lack of incentive for a host country to pursue a project or else active disincentives to do so. Examples of such situations can involve a host country using its IDA or ADF headroom to support a project of limited or questionable benefit to itself but which benefits its neighbour(s) considerably. Extending a road or rail link to a border may be an example of this. Stakeholders have suggested that at the moment, as project development is primarily driven by the host country, such projects where the host is less likely to benefit are unlikely to be developed, which could prevent key regional infrastructure from being taken forward.

The characteristics of these different types of regional projects are summarised below.

*Table 1.1 Characteristics of regional infrastructure projects*

Multi-country	National
<ul style="list-style-type: none"> <li>• Ownership” complex and requires high risk, early stage project preparation investment</li> <li>• Regulation and operation more challenging</li> <li>• Bigger and more lumpy; public or PPP</li> <li>• Extended gestation and payback periods</li> </ul>	<ul style="list-style-type: none"> <li>• Quicker to prepare and implement</li> <li>• Anchor of national economic and political interest</li> <li>• Market discipline of exporter or transit service model; less complex risk profile</li> <li>• Public, PPP or private; more success stories; project finance model less challenging to implement</li> </ul>

Multi-country	National
<ul style="list-style-type: none"> <li>• Possible asymmetry of costs and benefits</li> <li>• Fewer “ success” stories</li> <li>• Risks – real and perceived – generally higher</li> <li>• Risk mitigation more challenging</li> </ul>	<ul style="list-style-type: none"> <li>• Risks – real and perceived – seen as lower</li> </ul> <p>t:</p> <ul style="list-style-type: none"> <li>• Possible asymmetry of costs and benefits can create problems of alignment and incentives</li> </ul>

*Source: CEPA analysis*

## **2. ENABLING ENVIRONMENT FOR REGIONAL PROJECTS IN AFRICA**

### **2.1. Programme for Infrastructure Development in Africa**

Regional infrastructure and its role in improving integration of Sub Saharan African (SSA) countries was emphasised in the New Partnership for Africa's Development (NEPAD) in the early 2000s.<sup>3</sup> In 2010 the Programme for Infrastructure Development in Africa (PIDA) was established to take forward regional development plans.<sup>4</sup>

PIDA is a policy framework rather than a funding mechanism, covering the period 2011 – 2030. PIDA aims to establish a strategy for infrastructure development at the regional level covering Transport, Energy, Trans-boundary Water, and Information and Communications Technology (ICT) projects.

The first output of PIDA was the Priority Action Plan (PAP), 2012–20, which set out 51 priority projects that would support regional integration if implemented.<sup>5</sup> However, PIDA has no specific funds in place to support the implementation of these projects.

The total cost of delivering the 51 priority projects was estimated to be US\$68bn, with domestic public and private sources expected to provide over 50% of required funds, and donors providing \$26bn.<sup>6</sup> The overall cost of the PIDA programme between 2011 – 2040 is estimated to be \$360bn.<sup>7</sup>

The PAP emphasises that countries will have to mobilise their own public and private domestic resources and attract foreign private investment to the priority projects, including through PPPs. The use of bonds, guarantees and community levies are highlighted as innovative approaches that could be used by governments and African institutions.<sup>8</sup>

In 2014, 16 projects were selected to be taken forward as pilots, known as the Dakar Financing Summit (DFS) projects.<sup>9</sup> These included projects that were already well-developed (such as Ruzizi III) and others that were of strategic importance but at an early stage (such as the Abidjan-Ouagadougou/Bamako Multimodal Transport Corridor). The projects included a mix of public projects intended to be PPPs. The PPP projects are discussed in the pipeline section (Section 2.4.1), the full list of DFS projects is provided for information in Annex A.

### **2.2. Stakeholders**

There are a number of stakeholders that play a role in the development of regional infrastructure projects in SSA. These include executing and implementing agencies such as:

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<sup>3</sup> AfDB (2010), *Connecting Africa through NEPAD; Regional Infrastructure Development Program*.

<sup>4</sup> NEPAD (2010), *Africa launches an ambitious programme for infrastructure development*.

<sup>5</sup> PIDA (2011), *Programme for Infrastructure Development in Africa: Interconnecting, integrating and transforming a continent*.

<sup>6</sup> SOFRECO (2011), *PIDA: Interconnecting, Integrating and Transforming a Continent – The Regional Infrastructure that Africa Needs to Integrate and Grow through 2040*.

<sup>7</sup> PIDA (2010), *Closing the Infrastructure Gap is Vital for Africa's Transformation*.

<sup>8</sup> PIDA (2011), *Programme for Infrastructure Development in Africa: Interconnecting, integrating and transforming a continent*.

<sup>9</sup> NEPAD (2014), *Dakar Financing Summit for Africa's Infrastructure – Financing Africa's Infrastructure Development – Leveraging Public-Private Partnerships for Regional Infrastructure Transformation - Brochure*.

- the African Union Commission (AUC), a key part of the decision making process for PIDA whose technical body NEPAD is the executing agency for PIDA;
- the regional economic communities (RECs) which have been identified as the key for the implementation of PIDA; and
- national governments, who must take the final decisions on any infrastructure development.

Key sources of funding for enabling environment activities and finance for project development have also emerged, including:

- the African Development Bank (AfDB), who to date has been a key financier of regional infrastructure in Africa; and
- bilateral donors, who have provided financial support for both capacity and project development, as well as project finance.

This list is not complete, but gives an indication of the range of actors involved in African infrastructure. These different organisations all have key roles to play in developing regional infrastructure, but many face constraints and challenges in doing so. Below, each stakeholder is considered in turn, the tasks it has been attributed, and any constraints that have been identified that prevent it from fulfilling these roles.

### **2.2.1. Execution and implementation agencies**

#### **The African Union Commission (AUC)**

The AUC is the Secretariat of the African Union, the regional union supported by all countries on the African continent (except Morocco). The AUC is responsible for harmonising and providing leadership for development and physical integration. The Commission is tasked with ensuring that for PIDA, priority projects are aligned with other regional and continental strategies and policy frameworks.<sup>10</sup> In addition, NEPAD, which is now a technical body of the AU under the AUC, is the executing agency for PIDA, which means it is responsible for collaborating with RECs, countries, specialised institutions and the private sector to accelerate the implementation of PIDA. NEPAD also co-ordinates stakeholder engagements for the funding and financing of PIDA priority projects and produces consolidated ad hoc and annual reports on the implementation status of these projects..

A recent World Bank review noted that the AUC “has extremely limited human and program investment resources to facilitate, coordinate or co-fund [projects such as PIDA, CAADP and others] as compared to initiatives in the peace and security area.”<sup>11</sup> In late 2014, the World Bank committed US\$25m to increase the AUC’s capacity. However, this funding is not exclusively for infrastructure, but covers all of the AUC’s programmes.

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<sup>10</sup> Virtual PIDA information Centre (accessed May 2015).

<sup>11</sup> World Bank (2014), Support for the capacity development of the African Union Commission and other African Union organs project: Appraisal Document.

### 2.2.2. The Regional Economic Communities

The Regional Economic Communities (RECs) directly responsible for the implementation of the PIDA priority projects. There are eight RECs involved in the PIDA process, summarised in Table 2.1 below.

*Table 2.1: List of RECs*

REC	Members	Development Bank
Economic Community of Central African States	Angola, Burundi, Cameroon, CAR, Congo, Gabon, Equatorial Guinea, DRC, Sao Tome and Principe, Chad	No
The Community of Sahel-Saharan States	Burkina Faso, Chad, Libya, Mali, Niger, Sudan, CAR, Eritrea, Djibouti, Gambia, Senegal, Egypt, Morocco, Nigeria, Somalia, Tunisia, Benin, Togo, Ivory Coast, Guinea-Bissau, Liberia, Ghana, Sierra Leone, Comoros, Guinea, Kenya, São Tomé and Príncipe, Equatorial Guinea	The Sahel-Saharan Investment and Trade Bank
Common Market for Eastern and Southern Africa (COMESA)	Djibouti, Eritrea, Ethiopia, Egypt, Libya, Sudan, Comoros, Madagascar, Mauritius, Seychelles, Burundi, Kenya, Malawi, Rwanda, Uganda, Swaziland, Zambia, Zimbabwe, DRC, South Sudan.	Eastern and Southern African Trade and Development Bank
East African Community (EAC)	Burundi, Kenya, Rwanda, Tanzania, and Uganda	East African Development Bank
Economic Community Of West African States (ECOWAS-CEDEAO)	Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo and Cape Verde	ECOWAS Bank for Investment and Development
Intergovernmental Authority on Development (IGAD)	Djibouti, Ethiopia, Somalia, Eritrea, Sudan, South Sudan, Kenya, Uganda	No
Southern African Development Community	Angola, Botswana, DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	Links with the Development Bank for Southern Africa

There are some significant challenges facing the RECs involvement in PIDA and other regional infrastructure processes. Regional institutions often lack the minimum funding contributions promised by member states and key staff to undertake their basic mandate.<sup>12</sup>

In addition, the capacity of the RECs listed above varies widely, with some having quite sophisticated systems and others having not seen the same levels of engagement and investment. A capacity review undertaken in 2008 found that COMESA and IGAD are among the weakest RECs, but that a number of face capacity constraints.<sup>13</sup> This work does not appear to have been updated since then.

<sup>12</sup> SOFRECO (2011), *PIDA: Interconnecting, Integrating and Transforming a Continent – The Regional Infrastructure that Africa Needs to Integrate and Grow through 2040*.

<sup>13</sup> The African Capacity Building Foundation (2008), *A Survey of Capacity Needs of Africa's Regional Economic Communities*.

As can be seen from the list above, many of the RECs have overlapping memberships, which can create some issues for the coordination of activities for regional infrastructure projects.

The RECs are by their experience better placed for a policy rather than an implementing role - in its 2012 report on project preparation, CEPA noted “RECs are not structured or resourced as implementing organisations and that it is at the country level that actual project development, financing, construction and operation will have to take place.”<sup>14</sup> This is supported by the PIDA synthesis report, which notes that the capacity of RECs is geared toward reaching timely political consensus, coordinating general policy, developing regional regulatory frameworks, and preparing regional project studies, not to implementing projects. It concludes that even early project development activities should be entrusted to project-specific development entities established under the joint auspices of the RECs, their specialised agencies, and countries involved.<sup>15</sup>

The RECs’ specialised agencies also face capacity constraints, as is highlighted in the Ruzizi III study with regards to Energie des Pays des Grands Lacs (EGL), the specialised body of the Economic Community of the Great Lakes Countries dedicated to the energy sector, which has struggled to access the necessary technical and financial resources. To develop the Ruzizi III project, EGL has received significant technical assistance from the EU-AITF.

### **2.2.3. Governments**

National governments have a key role in incorporating regional directives into their national legal and regulatory frameworks (discussed in more detail in the next section) and are key for implementing regional projects. As the PIDA synthesis study observes, the focus of project implementation must be national, as very few regional projects are built across borders.<sup>16</sup>

A high profile programme of government support has been the Presidential Infrastructure Champion Initiative, which is chaired by President Jacob Zuma of South Africa. The initiative intends to use the influence of the member presidents to:

- provide visibility for projects,
- unblock the “bottlenecks” to infrastructure development;
- coordinate resource mobilisation; and
- ensure that the projects are implemented.

This initiative had an initial list of seven priority projects (which has two projects in common with the DFS pipeline) announced in 2011.<sup>17</sup> Some progress has been made on these projects – most notably on the South African-led North South Corridor.<sup>18</sup> Beyond this

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<sup>14</sup> CEPA (2012), *Assessment of Project Preparation Facilities in Africa*

<sup>15</sup> SOFRECO (2011), *PIDA: Interconnecting, Integrating and Transforming a Continent – The Regional Infrastructure that Africa Needs to Integrate and Grow through 2040*.

<sup>16</sup> SOFRECO (2011), *PIDA: Interconnecting, Integrating and Transforming a Continent – The Regional Infrastructure that Africa Needs to Integrate and Grow through 2040*.

<sup>17</sup> NEPAD (2010), *Presidential Infrastructure Champion Initiative (PICI) – Project Status Report*.

<sup>18</sup> The Presidency of the Republic of South Africa (2015), *Report by President Zuma in his capacity as chairperson of the Presidential Infrastructure Championing Initiative (PICI)*.

however, national government capacity has often been identified as a key constraint to regional project development. This is discussed in more detail in Section 5.

#### **2.2.4. Sources of funding and financing for projects**

#### **2.2.5. African Development Bank**

The African Development Bank (AfDB) plays a major role in mobilising and providing resources for capacity building of RECs, countries and specialised institutions as well providing capital for project preparation and investment in infrastructure development. A recent paper undertaken for the Brookings Institute noted that the AfDB's role in infrastructure is likely to expand: "The general conclusion is that the AfDB should play the key leadership role in coordinating traditional and non-traditional infrastructure financing for SSA."<sup>19</sup>

In recent years the AfDB has provided significant financial support to regional infrastructure. In 2013, the AfDB provided US\$0.9bn in loans and grants to regional infrastructure projects.<sup>20</sup> In November 2014, the AfDB Board approved a new Regional Integration Policy and Strategy (RIPoS) for 2014 to 2023. This placed more emphasis on "soft infrastructure" issues such as trade facilitation, harmonisation and policy reforms. RIPoS has two main thematic areas: first, supporting regional infrastructure development; and second, enhancing industrialisation and trade.

In January 2014, the AfDB and the AUC signed an US\$8.6m grant agreement for a three year PIDA Capacity Building Project for the RECs and the NEPAD Planning and Coordination Agency (NPCA). The objective is to accelerate the implementation of the PIDA PAP, as approved by the AU Heads of States and Governments in Addis Ababa in January 2012. It is thought that most of this grant will be used for co-ordination, training and institutional development, but with a small portion for project development.

### **Africa50**

To help meet the project development and financing needs of PIDA, the AfDB has proposed the establishment of a new delivery vehicle called Africa50, which aims to mobilise private financing to accelerate the speed of infrastructure delivery, focusing on the energy, transport, ICT and water sectors. It does not appear that Africa50 would be restricted only to PIDA projects, or regional projects but could also support a wider range of projects currently in Africa's infrastructure pipeline. Its target is to reduce the time taken to develop projects in Africa. The facility is structured as a developmentally-oriented entity, but one which is commercially operated through two business segments:

- **Project Development:** Africa50 will substantially increase funding of early stage project development activities and will provide key advisers to early stage projects, sharing costs with member governments and developers and recovering funding at financial close or through a carried interest in the project.

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<sup>19</sup> Gutman et al (2015) *Financing African Infrastructure: can the world deliver?*

<sup>20</sup> AfDB (2014), *Annual Report 2013*.



- **Project Finance:** Africa50 will be able to provide i) bridge equity, ii) senior secured loans, iii) refinancing/secondary transactions, as well as iv) credit enhancement and other risk mitigation measures which are noted to be “geared at attracting non-traditional funders such as institutional investors”.

Africa50 estimated it would need an equity investment of US\$10 billion, which it would use to leverage US\$100bn from the private sector. To begin operations, it targeted raising US\$3bn in equity and will also raise debt in the international capital markets. The organisation has a target of achieving an investment grade rating of single A.<sup>21</sup>

While expected to be fully operational in Q1 2014, it is challenging to find much information on Africa50 in early 2015 at present. Financing appears to be ongoing. The AfDB has committed US\$0.5bn of equity, and is currently holding talks with Egypt on its contribution.<sup>22</sup> Whilst Africa50 was not consulted as part of the research, stakeholders commented that team is currently small, and to date has not made a large impression on the sector. They are focused more on commercial projects, which one stakeholder suggested has limited their scope somewhat. However, another consultee suggested that a key reason for Africa50’s recent slow development has been that AfDB president Donald Kaberuka, who has been a key proponent of the scheme, is stepping down. Once his successor has been selected, the future of the facility should be much clearer.

### Key donors

A number of donors have been highly active in supporting the development of more regional infrastructure projects. Some notable examples are presented here.

In 2005 following the Gleneagles Summit, **the Japan International Cooperation Agency (JICA)** committed to provide over US\$1bn over five years for private sector development, including co-financing a range of regional projects alongside the AfDB.<sup>23</sup> Under the second phase of the Enhanced Private Sector Assistance initiative, launched in 2012, Japan has committed a further US\$2bn, a substantial portion of which will support PIDA priority regional infrastructure projects.<sup>24</sup>

In 2013, the US committed US\$7bn to **Power Africa**, a new scheme that aimed to double Africa’s electricity output. To date it has supported projects with potential regional impact such as Azura, Lake Turkana, and a 1,000MW power plant, the Corbetti Geothermal project in Ethiopia. It also hopes to have some role in Inga III, though what this role will be is still unclear (see Inga case study in Section 2.4.2 for more detail).

**DFID** has provided approximately £40m over the period 2012-2015 to support improvement of regional infrastructure in Africa through the Regional Infrastructure Programme for Africa.

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<sup>21</sup> AfDB, *Africa50 background information* (see here:

<http://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa50-infrastructure-fund/background/> (accessed May 2015).

<sup>22</sup> Thompson Reuters (2015), *AfDB Contributes \$500 million to Africa50 Fund, Egypt Talks Ongoing*.

<sup>23</sup> AfDB, Enhanced Private Sector Assistance for Africa: EPSA Initiative (see here: <http://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/enhanced-private-sector-assistance-for-africa-epsa-initiative/> accessed May 2015).

<sup>24</sup> AfDB (2014), Japan committed to work closely with AfDB, Africa50 and RECs to develop regional infrastructure in Africa.

This provides funding to the EU-Africa Infrastructure Trust Fund (EU-AITF), the Infrastructure Consortium for Africa (ICA), and the AfDB's Infrastructure Project Preparation Facility.

### **2.3. Legal and regulatory structure**

At the regional level, planning for regional infrastructure projects must be coupled with a legal and regulatory framework. This includes appropriate national level frameworks (e.g. utility regulation, planning laws etc.) as well as legislation that is consistent with that in other countries in the region. To date, developing the required legal framework has been a challenge. As part of the DFS's Agenda for Action, the attendees called again for African countries to develop regulatory frameworks for infrastructure development that minimize disparities in rules and regulations, including for PPPs.<sup>25</sup>

While there has been some success in Africa on these aspects, most notably in power pools such as the Southern African Power Pool (SAPP) and the West African Power Pool (WAPP),<sup>26</sup> there remain constraints. A stakeholder suggested that harmonization of legal standards within power pools remains a work in progress, though some useful work has been undertaken by the Africa Legal Support Facility, including on developing standardized power purchase agreements (PPAs).

The Ruzizi III case study gives examples of where legal harmonisation and implementation remains a challenge. The technical and organisational studies undertaken for the project highlighted the need for an International Treaty and the creation of a Basin Agency, *Autorité du Bassin du Lac Kivu et de la Rivière Ruzizi (ABAKIR)*, which would be responsible for the sustainable and equitable management of water resources of the Kivu Lake and the Ruzizi River. These proposals were approved by the Ministers of Energy of the DRC, Rwanda and Burundi in July 2011. However, this agency is not yet operational; a transitional structure was supposed to be put in place in January 2013. Yet in February 2014, the Ministries of Environment from the three countries were asked by *Communauté Economique des Pays des Grands Lacs (CEPGL)* to accelerate the operationalisation of ABAKIR. However, no further information on its progress is available at the time of writing this report.

In addition, the three countries developing Ruzizi III have begun to liberalise their energy sectors and have recently adopted new sector legislation. However, few of these reforms have been fully implemented and they don't go as far as originally intended.

Despite these difficulties the Ruzizi III project continues to develop, suggesting that these legal harmonisation challenges are not always insurmountable.

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<sup>25</sup> NEPAD (2014), *Dakar Financing Summit for Africa's Infrastructure – Financing Africa's Infrastructure Development – Leveraging Public-Private Partnerships for Regional Infrastructure Transformation - Brochure*.

<sup>26</sup> ICA (2011), *Regional Power Status in African Power Pools*.

### 3. ANALYSIS OF REGIONAL PROJECT TRANSACTIONS

This sub-section pulls together some evidence on the regional projects that have been successful in attracting private finance, based on publicly available information, which can be limited on some projects.

To carry out this analysis the definition of national projects with regional impacts (see Section 1.1) has been used. These include power generation (especially renewables) that have stated trading component mentioned in the project documents, ports, railway and airport projects within a country with a potential for opening up new trade routes for adjacent land-locked countries. Cross-border electricity and gas transmission projects are also included.

Analysis of regional projects using the two definitions show only eight pure cross-border regional projects as compared to the national projects with a regional impact. Total public and private investment in these projects around US\$1.bn has been invested in these projects, with the majority of them found in the energy sector.

The national projects with a regional impact are primarily seaport projects, which have attracted over US\$8bn of investment over the period 2005-2014. It is important to note that the majority of these projects are from the Nigerian port concession programme (discussed below).

*Table 3.1: Sector wise split of regional projects between 2005-2014 in SSA*

Sector	No. of cross border projects	Total investments (US\$m)	No. of national projects with potential regional impacts	Total investments in national projects with potential regional impacts (US\$m)
<b>Energy</b>				
Electricity generation	5	1,064		
Gas transmission	1	590		
<b>Transport</b>				
Airports			2	210
Railroads	1	287	1	134
Roads	1	97	1	426
Seaports			28	7,438
<b>Total</b>	<b>8</b>	<b>2,038</b>	<b>32</b>	<b>8,208</b>

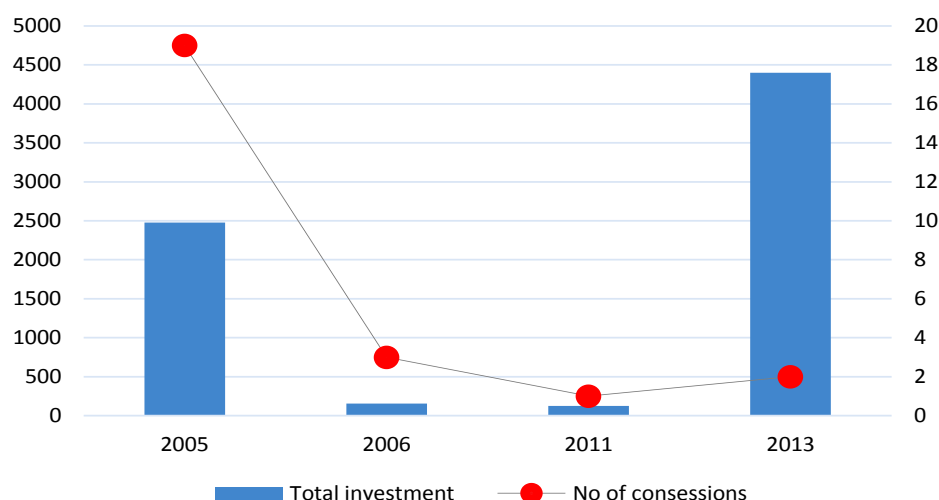
*Source: PPI database and CEPA research.*

*Note: Figures are approximations based on PPI database and available information in the public domain.*

The 28 seaports concessions are dominated by Nigerian port concession programme, in which 22 terminal concessions were awarded across eight Nigerian ports to private companies in 2005-06 with a total value of US\$2.6bn. Three more concessions were awarded between 2011-13 with a total value US\$4.5bn. Out of the total 25 concessions in

Nigeria, thirteen terminals were concessioned through competitive bidding processes and twelve through direct negotiations. Figure 2.1 below shows the number and value of the port concessions awarded between 2005-13.

*Figure 3.1: Trend of Nigerian port concession between 2005-13*



*Source: CEPA analysis*

It is interesting to note that the 2005-06 Nigerian port concessions are generally perceived to have been very successful, not just in improving the financial stability of the sector, but also bringing some broader benefits for the West African region, and increasing the amount of trans-shipment from Nigerian ports to other destinations.<sup>27,28</sup>

As mentioned previously, there is still very limited examples of multi-national regional projects that have successfully achieved financial close. The majority projects are hydro and gas powered independent power producers (IPPs) with export commitments to neighbouring countries. Table 2.3 below presents eight regional projects with cross-border elements that are either operational, under construction or achieved financial close.

*Table 3.2: Cross-border projects with stated regional elements*

Project / programme name	Financial Close	Country	Status	Size US\$m	Regional impact
<b>Cross-border transport projects</b>					
Beitbridge Border Post	2011	South Africa, Zimbabwe	Operational	97	Border crossing post
Kenya-Uganda Railways	2010	Kenya, Uganda	Operational	287	Cross border railway restructuring
<b>Energy trade projects</b>					
Neusberg Hydro Electric Plant	2013	South Africa	Operational	56	Exporting to Namibia

<sup>27</sup> See discussion in CEPA Nigeria Country Study.

<sup>28</sup> See: Kruk (2008) *Port Reform and concessions in Nigeria* and Debie (2012) *The West African port system: global and regional particularities*

Project / programme name	Financial Close	Country	Status	Size US\$m	Regional impact
Gisenyi Methane Gas Plant	2010	Rwanda	Operational	16	Expects to have surplus power that can be exported to Uganda
Muchinga Power Company	2012	Zambia	Financial close	600	Plans to export to SAPP countries
KivuWatt	2011	Rwanda	Under construction	142.2	Rwanda expects to have surplus power that can be exported to Uganda
West Africa Gas Pipeline Ltd.	2005	Nigeria, Ghana, Benin ,Togo	Operational	590	Exports gas from Nigeria to Ghana, Benin and Togo

*Source: Adapted from PPI database and publicly available information.*

Based on available data on project costs, the regional projects set out above have received around US\$9.4bn in total investment, of which Nigerian ports alone account for US\$7.2bn. Compared to the \$360bn estimated PIDA projects this suggests that progress has been very limited to date.<sup>29</sup>

### 3.1.1. Pipeline of regional projects

A pipeline of regional projects under development has been constructed based on:

- PPP projects currently receiving support from the EU-AITF.
- PIDA DFS projects (which currently have strong regional backing and are being developed as pilot PIDA projects).
- PIDA projects that are currently at the structuring/ transaction phase.
- Regional PPP projects not included in the above list but at the later stages in the project development cycle.

This is likely to incorporate the majority of the regional projects under development it is not likely to be a complete list. However, it helps to identify the sectors where most progress is expected in the future.

*Table 3.3: Pipeline of African regional projects*

Project / Programme	Sector	Stage
<b>EU-AITF Pipeline projects</b>		
Bumbuna Phase II Hydroelectric Project - Sierra Leone	Energy	Feasibility
Itezhi-Tezhi Hydropower	Energy	Structuring /transaction

<sup>29</sup> PIDA (2010), *Closing the Infrastructure Gap is Vital for Africa's Transformation*.

Project / Programme	Sector	Stage
Mozambique Backbone Transmission System (CESUL)	Energy	Feasibility
Ruzizi Hydropower Plant	Energy	Feasibility
Lome-Ouaga Road and Transport Facilitation Project	Transport	Structuring /transaction
<b>DFS projects</b>		
Batoka Gorge Hydropower	Energy	Feasibility
Sambangalou Hydropower	Energy	Structuring /transaction
Nigeria-Algeria Pipeline	Energy	Feasibility
Central Multimodal Transport Corridor	Transport	Structuring /transaction
Northern Multimodal Transport Corridor	Transport	Structuring /transaction
Abidjan-Lagos Coastal Transport Corridor	Transport	Early concept proposal
Abidjan-Ouagadougou/Bamako Multimodal Transport Corridor	Transport	TBC
Douala-Bangui Douala-N'Djamena Multimodal Transport Corridor	Transport	TBC
ICT Terrestrial Broadband Connectivity	ICT	Structuring /transaction
North-South Multimodal Transport Corridor	Transport	Structuring /transaction
<b>Late stage PIDA projects</b>		
Inga 3 Hydropower	Energy	Structuring /transaction
Mphanda Nkuwa Hydropower	Energy	Structuring /transaction
Pointe Noire Port Upgrading	Transport	Structuring /transaction
Trans-Maghreb Highway	Transport	Structuring /transaction
Kinshasa-Brazzaville Bridge Road and Rail Project & Rail to Ilebo	Transport	Structuring /transaction
<b>Other regional PPP projects</b>		
Gokwe North Thermal Power Station	Energy	Structuring /transaction
Tanzania-Rwanda-Burundi-DRC Rail Line	Transport	Structuring /transaction
Dar es Salaam cargo terminal	Transport	Structuring/transaction
Sogwe River Basin Development Programme	Energy/ Water	Structuring/transaction

*Note: projects have been included above where there is some indication they may be taken forward as PPPs. This may not be the final outcome. The exceptions are the EU-AITF WAPP projects, which upon discussion with EU-AITF, are likely to be public sector projects though WAPP has private sector members. For PIDA projects, the stage has for the most part been selected based on the most advanced project within the programme. For more information, see the PIDA Web CMS system.<sup>30</sup>*

<sup>30</sup> The PIDA Web CMS system can be accessed here: <http://www.au-pida.org>.

While the information available about these can vary widely, there is limited information available in the public domain that enables much insight into the costs of these projects or the financing structures likely to be used. However, it is clear that there is a close to 50/50 split between transport and energy projects, with the transport projects being dominated by large multimodal corridor projects, and the energy projects being dominated by very large hydropower projects.

16 out of the 24 projects above are at the structuring and transaction phase, with the remainder at the feasibility stage. Though the experience of regional projects to date suggests that there is a lot of uncertainty about when these projects will reach financial close.

## 4. REGIONAL CASE STUDY PROJECTS

This section provides a summary of three detailed case studies that were completed as part of this report. Each project analysis has been carried out through combination of desk-based research and some consultations. They are:

- the Nacala Corridor, which will connect areas of Mozambique and Malawi by rail to Nacala port;
- the Ruzizi Hydropower plant that is being developed between DRC, Burundi and Rwanda; and
- Inga III, a large hydropower plant in the DRC that will eventually provide energy to South Africa.

The key characteristics of these projects are presented below.

*Table 4.1 Summary of case study projects*

	Ruzizi III	Nacala Corridor	Inga III
<b>Sector</b>	Energy	Transport	Energy
<b>Countries</b>	DRC / Burundi / Rwanda	Mozambique / Malawi	DRC, with South Africa purchasing approximately half the electricity generated.
<b>Project description</b>	Construction of a 147 MW run-of-the-river hydroelectric plant with three power units and a 10 km transmission line	Upgrade of 682km existing rail line and construction of 230km rail line and a coal terminal in the Port of Nacala	Construction of a 12km canal, a 100m-tall concrete dam across the Bundi valley, a 11 unit hydropower station and transmission lines.
<b>Start of development</b>	2008	2010	2010
<b>Financial close</b>	Expected for the end of 2015	Expected date is unclear	Unclear – mid 2016 at earliest
<b>Implementing structure</b>	EGL, a specialised agency of CEPGL	Subsidiaries of Vale and Mitsui working with Mozambique's ports and railways company (CFM)	The Government of DRC and partners are currently setting up Agence pour le Développement et la Promotion d'Inga (ADEPI), an independent agency.
<b>Project cost</b>	US\$650m	US\$4.4bn	US\$10.5bn
<b>Project structure</b>	A 25-year build, own, operate and transfer (BOOT) concession	Five concession agreements with the governments of Mozambique and Malawi for different elements of the corridor.	TBD – expected that the private partner will construct and operate the power station and one transmission line, with the public sector developing the intake, canal and dam.
<b>Private sector partner</b>	Consortium Sithe Global – IPS	Vale, Mitsui	TBD – tenders to be released to shortlisted bidders Summer 2015.



	Ruzizi III	Nacala Corridor	Inga III
<b>Current proposed project financing</b>	Equity: 28%, of which: Private partner equity: 55% States equity: 27% IFIs grant: 18% Debt: 72%, of which: concessional loans will be 80% and 20% will likely come from development finance institutions (DFIs).	Equity and quasi-equity: ~16%, of which Vale and Mitsui will take a 50:50 share. Debt: ~84%, of which 70% will project finance and the remainder will be a loan from Vale's shareholders.	TBD

While these projects reflect a wide range of different dynamics, and have been developed in very different ways, there are some key similarities that can be drawn out.

## 4.1. Summary of findings

The findings from the case studies are presented below.

### 4.1.1. Leverage and opportunities from larger scale projects

The economies of all of the countries are small compared to the scale of the projects and they probably would not have been able to develop and finance such projects on their own.

None has relevant previous experience. Table 4.2 below shows the number of PPP projects, which have reached financial close since 1990, the total investment in projects and the average investment by project for the countries involved in the regional projects reviewed.

*Table 4.2: Overview of PPP national projects in countries under review, 1990 - 2014*

	Burundi	DRC	Malawi	Mozambique	Rwanda
<b>Number of PPP projects</b>	4	7	5	12	7
<b>Sectors</b>	Telecom	Telecom Transport	Telecom Transport Energy	Telecom Transport Energy Water and sewerage	Telecom Energy
<b>Total investment (US\$m)</b>	96	1,531	875	1,350	672
<b>Average investment (US\$m)</b>	24	388	219	150	96

*Source: Extended PPI Database and CEPA research. Excludes cancelled and distressed projects. Please note that Burundi was not updated as part of this extension. Please note the total investment figure is not available for all projects.*

The average investment by project ranges from US\$24m in Burundi to US\$388m in the DRC. Considering the five countries together the average investment is around US\$175m, significantly smaller than the size of Ruzizi III (US\$650m) and the Nacala corridor (US\$4.4bn) projects.

This may indicate that projects that are planned for across multiple countries are often larger than national projects. This is because regional projects can also help address some of the underlying challenges of creditworthiness associated with projects. Greater traffic flows

arising from increased connectivity can reduce traffic risk associated with roads and railway projects if shared by more than one country; for instance, through a transport corridor. Similarly, the development of the physical infrastructure of power pools, together with permissive regulation, can reduce the reliance of IPPs on a single-off taker, enabling power to be switched to other customers where there is a failure to pay.

#### **4.1.2. Strong project development support**

All of the three projects have had access to sufficient project development funding and access to advisory skills:

- Nacala has been developed by the global mining company Vale, who hope to utilise the corridor to transport coal from its Moatize mine. Indeed, the mine drives the rationale for and economics of, the project.
- Inga has received over US\$100m in project development funding from the World Bank and the AfDB, and has attracted the attention of a wide range of other international organisations.
- Ruzizi has received over €7m from the EU-Africa Infrastructure Trust Fund.

In addition, the projects all have strong teams developing them, with Vale, the DRC Government with the support of its partners and the EGL all driving the process. For example, for Inga the Prime Minister of the DRC has become a champion for the project, showing the level of national commitment. One stakeholder commented that Ruzizi III is the big hope for regional PPPs in Africa, and once it is closed it could invigorate the market.

#### **4.1.3. A number of attempts at project development**

However, despite the level of support all three projects have seen delays at various stages of development, and all are not the first attempts to develop the projects. For instance, the Nacala corridor already had one concession that failed and EGL had undertaken ambitious plans for the Ruzizi river in the 1980s which had to be dropped due to the crises and conflicts that have affected its member countries.

This highlights the problem that the regional projects can be more complex than national projects, given the reliance on political stability in multiple countries.

#### **4.1.4. Engagement of the private sector**

An interesting observation emerges from these case studies, namely that the private sector has been involved from an early stage, despite some of the greater constraints such as government capacity, weak legislative and institutional frameworks and political risk. For example, despite one concession already failing for Nacala, Vale remained engaged, due to its own strong incentive to improve access to the Nacala port. Its Moatize mine near the Tete province of Mozambique currently produces over 11 million tonnes of coal a year,<sup>31</sup> and thus provides a guaranteed demand for the railway. In addition, despite the challenges

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<sup>31</sup> domain-b.com (Nov 2011) *Brazilian miner Vale to spend \$6 bn in expanding Moatize coal project news*.

of working in the DRC energy sector, three consortia have remained involved in Inga III since 2010. This could in part be due to the agreed offtake from South Africa and 1,300 MW reserved for the local mining sector creating some certainty and significant opportunities for the private sector. Three bids were also received for Ruzizi, despite the relatively weak regulatory and institutional framework in the three countries. Indeed, the development of a regional infrastructure may rather foster reforms to adapt the institutional and legal framework. The decision to create the ABAKIR resulted from the organisational studies on the Ruzizi III project and the preparation of a dedicated Inga law are good examples of this.

This suggests that where there is a viable return from such projects, and they are well developed, there is sufficient interest from the private parties, despite other constraints. This is particularly the case where there is an anchor project that drives the financial viability of the infrastructure project, such as the Moatize mine for the Nacala corridor and in Inga from the copper and cobalt mines in the Katanga province of the DRC. Such potential industrial customers for a project provide a clear demand for the infrastructure service from a reliable source, which is very attractive to private investors. The fact that Ruzizi now appears unlikely to attract any commercial debt shows that challenges remain, could in part be due to the lack of such an anchor project for the IPP reducing its financial viability in the eyes of potential investors.

Some of the key constraints faced by regional projects are summarised in the following section.

## **5. CONSTRAINTS TO REGIONAL PROJECTS**

This section sets out the findings on the constraints specific to regional infrastructure projects, relative to those of pure national projects, based on consultations and desk-based research.

One thing it is worth highlighting up-front is that consultees were of the view that there is only a limited role that the private sector can play in regional infrastructure projects in SSA. They estimated that the private sector share of regional project financing is not likely to exceed 10 to 20%.

This is partly because many of the regional project structures are not easily amenable to PPP structures – for example, large electricity transmission projects are not commonly developed as PPPs, nor are many of the large international road corridors suitable for toll road projects.

However, there are some types of regional projects that can be undertaken as PPPs, and the PIDA initiative emphasises that private finance is needed to help fill the financing gap for the PAP projects. Furthermore regional projects that are suitable for private sector participation have the potential to provide services to a larger market. This could give these projects the scope to overcome the demand risk problem that limits some national projects from being bankable.

In this section, the different types of constraints that restrict private engagement identified through the consultations are considered, beginning with bankability constraints, then considering the financing constraints.

### **5.1. Bankability**

The consultations and desk-based research completed for this study suggest clearly that main constraint on the ability of regional projects to attract private finance are around the bankability of projects:

- Political economy constraints caused by deficiencies in the enabling environment for regional projects and concerns around transparency and good governance.
- Issues around the ability to charge cost-reflective tariffs limiting the ability of certainty of returns.
- Issues around the way in which regional projects are prioritised.

#### **5.1.1. Enabling environment for regional projects**

Consultees suggested that as with national projects, the enabling environment remains the most challenging issue for regional projects to progress to financial close.

In particular for multi-country projects, planning needs to be undertaken at the regional level, which requires strong coordination and cooperation between countries and appropriate financial and human resources commitment from all constituents.

However, the final decisions must be taken by the national governments, so this is where any capacity constraints are most keenly felt. For instance, governments may also need to allocate some of their borrowing or guarantee capacity to secure financing for regional projects - both International Development Association (IDA) and African Development Fund (ADF) now both have allocations to support regional projects but these are insufficient to cover the required financing. This can create problems where one country benefits substantially more from a project than another, leading to a lack of political commitment in one of the countries key to the ability of the project to reach close.

The complexities involved in trying to develop regional projects can be a key deterrent to private investors in larger regional projects, as setting up meetings between the ministers or civil servants of multiple countries is complex and time consuming and leads to uncertainty and long costly delays for private investors. This has been a particular challenge for regional projects in Africa to date – for the PIDA projects in the pipeline, the majority of the those reviewed above have seen some delay, and many of EU-AITF's projects have been extended two or three times.

Implementation capacity among the RECs and their specialist agencies was also highlighted as a constraint, including requirements for both financial and human capital. As is discussed under the Ruzizi III study, a key driver of the project's success has been EGL, whose capacity has received significant support from EU-AITF. Without similar external support, it is unlikely that many of the other RECs and their agencies would be able to develop such a project.

#### **5.1.2. Transparency and governance**

Lack of transparency and poor governance were also cited by consultees as big constraints: particularly with regards to procurement. Recently, in East Africa the Standard Gauge Railway (SGR) project, a greenfield railway project which will eventually increase capacity between Mombasa in Kenya and neighbouring countries, experienced irregularity in procurement. In particular, stakeholders noted that there was a lack of transparency from the government in determining the preferred bidder for the construction and financing of the line.

Such irregularities as those seen on the SGR project can be a real deterrent to potential private investors. However, this is unlikely to be significantly different from the constraints faced at a national level.

#### **5.1.3. Lack of leadership**

Another challenge can also be the lack of clarity in determining with whom the private party should be negotiating when trying to develop a regional project. Some stakeholders suggested that it is often the case that none of the governments involved wish to take on the responsibility of being the main sponsor for a project, suggesting a lack of leadership. For some regional projects, this could be due to the fact that the benefits of the project are unequally distributed across the countries involved.

One stakeholder observed that there is need for the governments involved in a project to invest more resources to ensure that the special purpose vehicle (SPV) has the necessary capacity to support the development of the project and therefore is in a position to credibly

act as the single counterparty for the private sector is a good way to overcome this issue. An example of where this has occurred is for the CESUL transmission link between Mozambique and South Africa, where Mozambique has set up the Sociedade Nacional de Transporte de Energia, which will own and operate the transmission system. In addition, for the Ruzizi project, EGL acts as the counterparty for the private sector, which makes negotiations more straightforward.

#### **5.1.4. The ability to obtain cost-reflective tariffs**

Another issue identified by stakeholders is that it can be more difficult for the private sector to have confidence that it will be able to obtain cost-reflective tariffs for regional projects. This is because it can be more difficult to determine the source of these returns or guarantee a direct relationship between the service and the final buyer. As the case studies suggest, where there is a clear link (such as for Vale accessing the Nacala port, or Eskom's agreed offtake from Inga III) the private sector is more likely to be engaged because it has more certainty about the level of demand for the infrastructure services provided by the project.

In particular in the energy sector, the financial weakness of national utilities caused in part because of an inability to charge cost-reflective tariffs, which would act as the main off-taker for Independent Power Producer (IPP) projects can threaten the bankability of projects. In a regional project, which might involve multiple weak national utilities from different countries, this risk can become even more complex, and also makes the private sector's due diligence process more challenging. In addition, it makes the negotiation of PPAs a longer and more difficult process. There can be solutions to this problem such as the creation of power pools, which enable the distribution of power to be changed to another utility in the event of non-payment by one of the off-takers.

It is also possible that the use of credit enhancement tools such as partial risk guarantees (PRGs) to provide private investors with more support to manage the risks with regional projects. However, the use of PRGs in regional projects appears to date appears to be limited. It was expected that Ruzizi would benefit from a PRG; however it now appears this will not be required as all of the debt will be from DFIs and IFIs, rather than from commercial banks. It is also expected that Inga will require PRG support but the project is at too early a stage to comment on what form this may take.

The main example for the use of PRGs for regional projects in SSA is for the Kenya-Ugandan Railways project. Details provided in Box 2.1 below.

#### *Box 5.1 Summary of PRG for Rift Valley Railways*

##### **Kenya- Uganda Railways PRG**

For this project a concession arrangement was agreed for the existing railway between Kampala and Mombasa. It was structured as two different 25-year concession contracts between each government and the subsidiary company in each country of the main concessionaire.

This was the first PRG for Kenya and second PRG for Uganda provided by the World Bank. It was agreed in early 2006 along with IDA Credits of approximately US\$120m provided for Kenya and US\$25m for Uganda.

PRG term sheets were included the bid documents to enhance the attractiveness of the bid to private investors. The PRG cover was for up to 27 years and covered up to US\$45m for Kenya and up to

US\$15m for Uganda. The PRG guaranteed to provide support for government and KRC/URC payment obligations in the event of early Termination or Expiry of either Concession. It also covered expropriation, changes in law and political force majeure (e.g. war, terrorism).

*Source: Adapted from Babbar (2006) Partial Risk Guarantees for Kenya-Uganda Joint Railway Concession*

## 5.2. Availability of finance

From the discussions, consultees suggest there is no specific type of finance that regional projects require from the private sector that is necessarily distinct from the finance that is provided to national projects. In practice the type of finance suitable for regional projects will vary depending on the project structure – as is the case for national projects.

It is often the case that the individual national parts of a regional project are very large, and this limits the ability of smaller investors to invest directly in infrastructure projects. The East Africa Community (EAC) is currently developing a fund that will seek to attract different categories of investors for large regional infrastructure projects. A legal framework has been drafted, and the East African Development Bank (EADB) has been identified as the lead institution for the fund and will manage it once it is in place. Consultations regarding the finalisation of the fund is ongoing.

There are limited examples of local institutional investors engaging in regional projects; an example is the Ethiopian Grand Millennium Renaissance Dam, which was funded by bond issues and is an innovative model. This is summarised briefly in Box 2.2 below.

### *Box 5.2 Summary of Diaspora bonds for Millennium Renaissance Dam*

Millennium Renaissance Dam
Ethiopia launched its second diaspora bond: “Renaissance Dam Bond” in 2011. The proceeds of the bond will be used to finance the construction of the Grand Renaissance Dam, which would be 5,250MW, larger even than Basse Chute of Inga III. The bond was issued in Euros, dollars, sterling and Birr, with a minimum denominations of US\$50. The bond maturity ranges from between five and ten years, with interest rates ranging from between Libor plus 1.25% to Libor plus 2%. Interest is to be paid every six months.
The first diaspora bond did not meet expectations because of risk perceptions on the payment ability of the Ethiopian energy company and lack of trust in the government as a guarantor. <sup>32</sup> While the second issue was thought to be structured more effectively, <sup>33</sup> some sources suggest that it too has not been very successful, due to low awareness levels, limited publicly available information and political opposition to the scheme in Ethiopia. <sup>34</sup>

*Source: Adapted from Plaza (2011) Ethiopia’s new diaspora bond: will it be successful this time?*

For the most part however, IFIs are still playing an intermediary role for institutional investors. As part of the review of the institutional investor market for infrastructure undertaken as part of this research project, it is proposed however that supporting large regional projects may help overcome the issues of scale that deter many institutional investors from African infrastructure.

<sup>32</sup> World Bank (2011), *Ethiopia’s new diaspora bond: will it be successful this time?*

<sup>33</sup> Southern Innovator (undated), *Diaspora Bonds to Help Build up Infrastructure*.

<sup>34</sup> Beyene (undated), *The Great Ethiopian Renaissance Dam and the Ethiopian Diaspora*.

### **5.3. Conclusions on how regional projects differ from national projects**

Overall, the main constraints facing regional projects are the same as those facing national projects, but these challenges are often larger because of the scale of the project and are more complex because of the involvement of a wider range of actors.

While there are ongoing efforts to improve the policy framework for regional infrastructure through PIDA, the main constraints are at the national level, including national government capacity to develop projects that are bankable, national legislative frameworks, political will and leadership to drive projects, and transparency. The financial weaknesses of national utilities continues to pose a challenge at the regional level, a constraint that may be exacerbated by a number of weak utilities from different countries being involved.

With regards to financing, the information available on regional PPPs is limited and the sample size is too small to draw any conclusions. However, as at the national level, there does not appear to be any significant institutional investment in the sector. DFIs and concessional finance continues to play a key role, as is seen in the Ruzizi project and is currently being proposed for Inga.

Against these challenges, however, regional projects differ from national projects in ways that could help address some of the underlying challenges of creditworthiness. Greater traffic flows arising from increased connectivity can reduce traffic risk associated with roads and railway projects if shared by more than one country; for instance, through a transport corridor. Similarly, the development of the physical infrastructure of power pools, together with permissive regulation, can reduce the reliance of IPPs on a single-off taker, enabling power to be switched to other customers where there is a failure to pay.

The case study projects also suggest that regional projects allow countries to undertake larger projects that they would be able to do on their own (even on a proportional basis) suggesting such collaboration opens up opportunities for leverage.

#### **5.3.1. Possible solutions proposed**

This section summarises some of the solutions to these challenges that were proposed by the stakeholders consulted as part of this regional review.

Stakeholders suggested that a key way to overcome the constraints for regional projects is for governments and RECs to prepare a strategic infrastructure plan that aggregates and prioritises projects that are in the pipeline taking forward the work undertaken for the PAP projects and as part of the new DFS scheme. The importance of a clear strategy has been re-emphasised in a recent paper by the Brookings Institute.<sup>35</sup>

However, to attract private sector participation detailed project level analyses need to be prepared, providing detailed information on the regulatory model, proposed type of contract (concession, management and lease etc.), estimated start date, lead and involved government agencies, permit approval requirements and key stakeholders. To attract private sector investors, it is also important to clearly set out how the private sector can

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<sup>35</sup> Gutman et al (2015) *Financing African Infrastructure: can the world deliver?*



make returns on its investment. This was carried out for a recent refinery project in Uganda developed by the EAC and has resulted in increased private sector interest in the project. To date, stakeholders are of the view that the PIDA projects do not provide the level of granularity to provide potential investors with the information they require.

Stakeholders believed that donors and multilateral institutions are best placed to support regional projects by funding capacity development within national governments and in the RECs, which includes training internal staff in developing and procuring PPP projects, as well as engaging with the private sector to attract finance. Many noted that if Africa50 is established and works in the manner proposed it would help overcome some of the development and financing constraints that currently prevent regional projects from achieving bankability. It is to be hoped that this intervention will be fully up and running in the near future and can help advance regional PPPs in Africa.

## ANNEX A CONSULTATIONS

Table A.1. below outlines the stakeholders that were consulted as part of this regional study

*Table A.1.: List of consultees*

Name	Organisation
Morag Baird	European Investment Bank
Alex Rugamba	African Development Bank
Albert Mbafumoya	Ministry of Energy, DRC
Tom Cargill	Bechtel
Oswald Leo	East African Development Bank

Please note that this study also drew on discussions held as part of CEPA's work on regional project preparation for DFID's Africa Regional Department.

## ANNEX B DAKAR FINANCING SUMMIT PROJECTS

Table B.1. below lists projects that were prioritised at the DFS.

*Table B.1.: DFS Projects*

Project Name	PPP?	Sub-project name	Project Summary	Sector	Country	Project Stage
E.11 : Batoka Gorge Hydropower	Yes	E.11.01 : Batoka Gorge Hydropower Plant	Construction of 1,600 MW Batoka Gorge hydro-electric dam (Zambia and Zimbabwe).	Energy	Zambia	Feasibility
E.12 : Ruzizi 3 Hydropower	Yes	E.12.01 : Ruzizi III Hydropower Plant	Construction of 145 MW Ruzizi III hydro-electric dam (Rwanda and DRC).	Energy	Rwanda	Feasibility
E.02 : North-South Power Transmission Corridor	No	E.02.03.02 : ZTK Transmission Interconnector (Kenya section)	Construction of 150 km / 400 kV Kenya section of the ZTK transmission interconnector.	Energy	Kenya	Construction
		E.02.03.03 : ZTK Transmission Interconnector (Zambia section)	Construction of 700 km / 330 kV Zambia to Tanzania section of the ZTK transmission interconnector (Zambia and Tanzania)	Energy	Zambia	Early concept proposal
E.07 : Sambangalou Hydropower	Yes	E.07.01 : Sambangalou Hydropower Plant	Construction of the Sambangalou Dam, with an installed capacity of 128 MW and a 3.8 km <sup>3</sup> reservoir.	Energy	Guinea	Structuring /transaction
E.09 : North Africa Power Transmission Corridor	No	E.09.01.01 : Algeria - Tunisia section of ELTAM Transmission Interconnector	Reinforcement of the Algeria part of the 220 km / 400 kV Algeria to Tunisia section the ELTAM transmission interconnector.	Energy	Algeria	TBC

Project Name	PPP?	Sub-project name	Project Summary	Sector	Country	Project Stage
		(Algeria part)				
		E.09.01.02 : Algeria - Tunisia section of ELTAM Transmission Interconnector (Tunisia part)	Reinforcement of the Tunisia part of the 220 km / 400 kV Algeria to Tunisia section the ELTAM transmission interconnector.	Energy	Tunisia	Construction
		E.09.02.01 : Libya - Tunisia section of ELTAM Transmission Interconnector (Libya part)	Reinforcement of the Libya part of the 210 km / 400 kV Libya to Tunisia section of the ELTAM transmission interconnector.	Energy	Libya	Feasibility
		E.09.03.01 : Egypt - Libya section of ELTAM Transmission Interconnector (Egypt part)	Reinforcement of the Libya part of the 340 km / 500 kV Egypt to Libya section of the ELTAM transmission interconnector.	Energy	Libya	Feasibility
		E.09.02.02 : Libya - Tunisia section of ELTAM Transmission Interconnector (Tunisia part)	Reinforcement of the Tunisia part of the 210 km / 400 kV Libya to Tunisia section of the ELTAM transmission interconnector.	Energy	Tunisia	Feasibility
E.15 : Nigeria-Algeria Pipeline	Yes	E.15.01 : Nigeria - Algeria Gas Pipeline (Nigeria Section)	Construction of Nigeria section of the 4,400 km Nigeria to Algeria Gas Pipeline.	Energy	Nigeria	Feasibility
		E.15.03 : Nigeria - Algeria Gas Pipeline (Algeria Section)	Construction of the Algeria section of the 4,400 km Nigeria to Algeria Gas Pipeline.	Energy	Algeria	Feasibility

Project Name	PPP?	Sub-project name	Project Summary	Sector	Country	Project Stage
		E.15.02 : Nigeria - Algeria Gas Pipeline (Niger Section)	Construction of the Niger section of the 4,400 km Nigeria to Algeria Gas Pipeline.	Energy	Niger	Feasibility
T.19 : Kinshasa-Brazzaville Bridge Road and Rail Project & Rail to Ilebo	Not specified	T.19.03 : Kinshasa - Ilebo Railway	Construction of 840 km Cape gauge Kinshasa to Ilebo railway line (DRC).	Transport	DRC	Early concept proposal
		T.19.01 : Brazzaville-Kinshasa Road/Rail Bridge	Construction of Brazzaville-Kinshasa Road/Rail Bridge (Republic of Congo and DRC).	Transport	Congo	Structuring /transaction
T.08 : Central Multimodal Transport Corridor	Yes	T.08.04.04 : Dar es Salaam New Container Terminal	Development of new container terminal (berths 13 and 14 with dredging of access channel) at Dar es Salaam Port (Tanzania).	Transport	Tanzania	Structuring /transaction
		T.08.04.03 : Dar es Salaam New Berths Vijibweni, Mbwamaji and Kunduchi	Construction of new berths at Dar es Salaam Port (Vijibweni, Mbwamaji and Kunduchi).	Transport	Tanzania	Early concept proposal
		T.08.04.01 : Dar es Salaam Port Modernisation	Modernisation of Dar es Salaam Port in Tanzania (incl. berths 1 to 7, deepening, cargo handling and port layout).	Transport	Tanzania	Feasibility
T.05 : Northern Multimodal Transport Corridor	Yes	T.05.03.20 : Kampala - Jinja Road	Upgrading of 75 km road to dual carriageway between Jinja and Kampala (Uganda)	Transport	Uganda	Structuring /transaction
		T.05.03.12 : Juba-Torit-Kapoeta-Nadapal Road	Construction of 365 km Juba-Torit-Kapoeta-Nadapal single carriageway road in South Sudan.	Transport	South Sudan	Structuring /transaction

Project Name	PPP?	Sub-project name	Project Summary	Sector	Country	Project Stage
T.06 : North-South Multimodal Transport Corridor	Yes	T.06.03.01.01 : Serenje - Nakonde Road Link 1 (Serenje - Mpika)	Upgrading Link 1 (from Serenje to Mpika) of the Serenje - Nakonde Road in Zambia (238.3 km).	Transport	Zambia	Structuring /transaction
		T.06.03.01.02 : Serenje - Nakonde Road Link 2 (Mpika - Chinsali)	Upgrading of Link 2 of the Serenje - Nakonde Road Link between Mpika and Chinsali in Zambia (164.6 km).	Transport	Zambia	Structuring /transaction
		T.06.03.01.03 : Serenje - Nakonde Road Link 3 (Chinsali - Nakonde)	Upgrading of Link 3 of the Serenje - Nakonde Road between Chinsali and Nakonde in Zambia (208.6 km).	Transport	Zambia	Structuring /transaction
T.10 : Lamu Gateway Development	No	T.10.02.02 : Eldoret - Nadapal Road	Upgrading of 640 km of single carriageway road from Eldoret to Nadapal (Kenya).	Transport	Kenya	TBC
T.12 : Abidjan-Lagos Coastal Transport Corridor	Yes	T.12.03.05.01 : Abidjan - Lagos Road Dualisation (Ivory Coast section)	Upgrading of Ivory Coast section of the 1,028 km Abidjan to Lagos road to dual carriageway.	Transport	Ivory Coast	Early concept proposal
		T.12.03.05.05 : Abidjan - Lagos Road Dualisation (Nigeria section)	Upgrading of the Nigeria section of the 1,028 km of road to dual carriageway between Abidjan and Lagos.	Transport	Nigeria	Early concept proposal
		T.12.03.05.04 : Abidjan - Lagos Road Dualisation (Benin section)	Upgrading of the Benin section of the 1,028 km of road to dual carriageway between Abidjan and Lagos.	Transport	Benin	Early concept proposal

Project Name	PPP?	Sub-project name	Project Summary	Sector	Country	Project Stage
		T.12.03.05.03 : Abidjan - Lagos Road Dualisation (Togo section)	Upgrading of the Togo section of the 1,028 km of road to dual carriageway between Abidjan and Lagos.	Transport	Togo	Early concept proposal
		T.12.03.05.02 : Abidjan - Lagos Road Dualisation (Ghana section)	Upgrading of the Ghana section of the 1,028 km of road to dual carriageway between Abidjan and Lagos.	Transport	Ghana	Early concept proposal
T.13 : Dakar-Bamako-Niamey Multimodal Transport Corridor	No	T.13.04.01 : Dakar - Bamako Standard Gauge Railway (Senegal section)	Upgrading of the Senegal section of the 1,228 km railway to standard gauge between Dakar and the border with Mali.	Transport	Senegal	TBC
		T.13.04.02 : Dakar - Bamako Standard Gauge Railway (Mali section)	Upgrading of the Mali section of the 1,228 km railway to standard gauge between the border with Senegal and Bamako in Mali.	Transport	Mali	TBC
T.15 : Abidjan-Ouagadougou/Bamako Multimodal Transport Corridor	Yes	T.15.03.01.01 : Abidjan - Ouagadougou Narrow Gauge Railway (Ivory Coast section)	Upgrading of Ivory Coast section of the 1,200 km of narrow gauge railway between Abidjan and Ouagadougou.	Transport	Ivory Coast	TBC
		T.15.03.01.02 : Abidjan - Ouagadougou Narrow Gauge Railway (Burkina Faso section)	Upgrading of Burkina Faso section of the 1,200 km of narrow gauge railway between Abidjan and Ouagadougou.	Transport	Burkina Faso	TBC
T.20 : Douala-Bangui Douala-N'Djamena	Yes	T.20.03.01 : Douala-N'Gaoundéré-N'Djamena	Construction of road sections on Douala-N'Gaoundéré-N'Djamena road (Cameroon).	Transport	Cameroon	TBC

Project Name	PPP?	Sub-project name	Project Summary	Sector	Country	Project Stage
Multimodal Transport Corridor		Road Links in Cameroon				
		T.20.03.02 : Douala-N'Gaoundéré-N'Djamena Road Links in Chad	Construction of road sections on Douala-N'Gaoundéré-N'Djamena road (Chad).	Transport	Chad	TBC
		T.20.05 : Douala Bridge	Construction of the Douala Bridge (Cameroon).	Transport	Cameroon	Construction
		T.20.04 : Douala-N'Gaoundéré-N'Djamena: Railway and Intermodal Facility	Construction of approx. 2,000 km Douala to N'Gaoundéré to N'Djamena railway and intermodal facilities (Cameroon and Chad).	Transport	Cameroon	TBC
I.02 : ICT Terrestrial Broadband Connectivity	Yes	I.02.19.01 : Lusaka - Lilongwe Fibre-optic Link (Zambia section)	Construction of 600 km fibre optic link between Lusaka and Lilongwe (Zambia section).	ICT	Zambia	Structuring /transaction
		I.02.19.02 : Lusaka-Lilongwe Fibre-optic Link (Malawi section)	Construction of 600 km fibre optic link between Lusaka and Lilongwe (Malawi section)	ICT	Malawi	Structuring /transaction



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