



## **MOBILISING FINANCE FOR INFRASTRUCTURE**

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

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#### **Mozambique country case study**

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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

ADF	African Development Fund
AfDB	African Development Bank
BOT	Build-Operate-Transfer
CEPA	Cambridge Economic Policy Associates
CfM	Caminhos de Ferro de Moçambique/Mozambique Ports and Railways
CTRG	Central Termica de Ressano Garcia
DFI	Development Finance Institution
DFID	UK Department for International Development
ECA	Export Credit Agency
EdM	Electricidade de Moçambique / Electricity of Mozambique
EIA	Environmental Impact Assessment
FIPAG	Mozambique Government Asset Management Agency
GDP	Gross domestic product
GoM	Government of Mozambique
HCB	Hidroeléctrica de Cahora Bassa
HMVK	Hidroeléctrica de Mphanda Nkuwa
HVDC	High Voltage Direct Current
IDA	International Development Association
IFC	International Finance Corporation
IPP	Independent Power Producer
LNG	Liquefied Natural Gas
LSP	Large Scale Project
MIGA	Multilateral Investment Guarantee Agency
MoU	Memorandum of Understanding
MSE	Maputo Stock Exchange
NLC	Nacala Logistics Corridor
PEP	Politically Exposed Person
PPA	Power Purchase Agreement
PPP	Public-Private Partnership
PRG	Partial Risk Guarantee
PRI	Political Risk Insurance

PSP	Private Sector Participation
RDC	Railroad Development Corporation
SAPP	Southern African Power Pool
SOE	State-owned Enterprise
SPV	Special Purpose Vehicle
Tcf	Trillion Cubic Feet
TdM	Telecomunicações de Moçambique/ Mozambique Telecom
UTIP	Technical Unit for the Implementation of Hydropower Projects

## **EXECUTIVE SUMMARY**

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

This report provides an overview of the market for infrastructure finance in (focusing on economic infrastructure sectors: energy, transport and water) using evidence gained from 11 consultations held with stakeholders (in the period December 2014 to February 2015) and complementary desk-based research.

The study provides background on the key policy reforms implemented by the Government of Mozambique (GoM) in an attempt to provide a framework more conducive for private finance; an overview of closed and pipeline 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 infrastructure drawing largely on the views of stakeholders.

The findings of the analysis are summarised below.

### **Status of reforms and private finance transactions by sector**

For each of the main economic infrastructure sectors, the research reviewed the extent to which the different sectors have been able to attract private finance. Figure ES.1 gives a summary overview of the different sectors, while Figure ES.2 provides examples of some of the projects that have been able to attract private finance or are looking to do so in the near future.

As indicated in Figure ES.1 below, the majority of economic infrastructure sectors in Mozambique have yet to experience a significant amount of private investment. For example, although mobile telephony is a relatively competitive market with a high degree of private involvement, other sectors have had less success in attracting extensive private participation.

Figure ES.1: Summary of progress in attracting private finance in economic infrastructure sectors

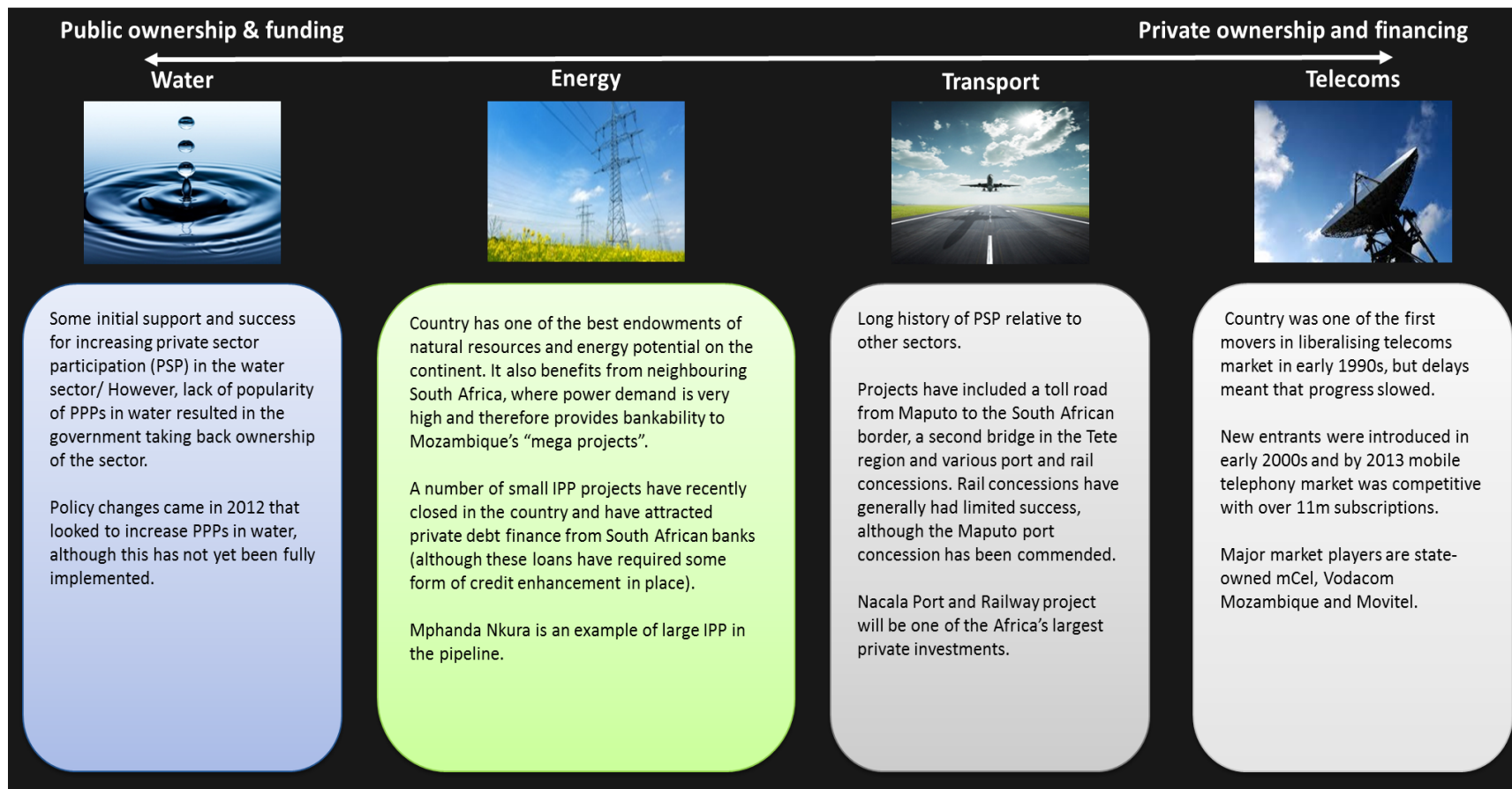


Figure ES.2: Examples of infrastructure projects in the pipeline or that have received private finance

Mphanda Nkura Hydropower Plant: US\$2.9bn Financial close: In development	
<b>Projects Sponsors</b>	Chinese Investors (40%) Insitec (40%), EdM (20%)
<b>Latest developments</b>	Project initially had Brazilian company Camargo Correa as the main sponsors. However, due to the slow progress being made the government decided to replace them with Chinese investors. According to stakeholders, project participants are currently waiting for the new government to decide its next move, meaning that the project has stalled.

Gigawatt Power Plant: US\$200m Financial close: 2014	
<b>Private Debt</b> US\$160m	Standard Bank was the sole lender to this project.
<b>Sponsor Equity</b> US\$40m	Gigajoule were the main sponsors of this project, while Mozambican companies were also shareholders during the development stage who were eventually bought out at financial close.
<b>Additional support</b>	The project's debt and equity providers have benefited from political risk insurance (PRI) cover provided by the World Bank's Multilateral Investment Guarantee Agency (MIGA).



Nacala Transport Corridor: US\$4.4bn Financial close: In development	
<b>Projects Sponsors (Rehabilitation)</b>	Caminhos de Ferro de Moçambique (Cfm) (49%), Vale (17.5%), Mitsui (17.5%), Others (16%)
<b>Project sponsors (New construction)</b>	Vale (35%); Mitsui (35%), Cfm (30%)
<b>Latest developments</b>	The project is seeking US\$2.7bn in non-recourse debt finance so that the project can reach financial close. Mitsui were brought onto the project in December 2014 and acquired 50% of Vale's stake in the various project SPVs, and also obtained a stake in the coal mine.

Kuaninga Power Plant: US\$99m Financial close: 2013	
<b>Private Debt</b> US\$51m	Investec provided the majority of the debt for this project.
<b>DFI Debt</b> US\$23m	The Industrial Development Corporation of South Africa.
<b>Sponsor Equity</b> US\$25m	The initial equity for the project was provided by Investec and Enventure. However, at financial close this equity was sold to a consortium comprising Kuaninga de Mozambique (a holding company comprising various Mozambican businesses and individuals), South Africa's Public Investment Corporation, Enventure's local subsidiary Kasel Group and Pale Clean Energy from South Africa.
<b>Additional support</b>	US\$40m of Investec's debt in this project was supported by a export credit guarantee provided by an undisclosed export credit agency (ECA).



Although progress has been made in attracting private finance in telecoms, there is still a considerable financing need in the other economic infrastructure sectors. This report also focused on providing some evidence on the main factors constraining the increased provision of private finance.

The findings from the consultations were that the lack of bankable projects was the key barrier to increasing private infrastructure finance, as opposed to a lack of supply in finance. In particular, government commitment and capacity to originate and facilitate the development of a private infrastructure market were often noted as being particularly pressing issues, exacerbated by the limited extent to which support can be provided due to the government's unwillingness to receive it.

### **Barriers to investability/ bankability**

As mentioned, the research and country consultations suggested that barriers to increasing private infrastructure finance in Mozambique were associated with a lack of bankable projects being developed in the country. These include issues such as:

- Government's limited understanding of the requirements involved in developing sustainable PPP agreements.
- Difficulty in charging cost reflective tariffs for the provision of infrastructure services because consumers are either unable or unwilling to pay these higher prices.
- The lack of an open, solicited procurement was noted by several interviewees. Stakeholders highlighted that companies acquiring the development rights for projects in Mozambique are often closely connected to politically exposed persons (PEPs). This creates uncertainty for potential private investors, and has the knock-on effect of making it more difficult for development partners to provide support to certain projects.

Having said this, stakeholders were relatively optimistic about the new government, noting that it is more likely to seek external support where needed compared to the previous administration. As with other countries, the extent to which PSP has been adopted has varied by sector, with the telecoms sector experiencing the greatest degree of private activity.

Sectors such as water were opened up to private participation but have recently reverted back to state ownership, primarily due to the lack of government commitment to PPPs being implemented in the sector. In energy, transmission and distribution is still the responsibility of EdM, but it is currently facing huge financial difficulty due to its inability to increase tariffs, which in turn is limiting the bankability of generation projects due to risks associated with its ability to pay for power.

### **Constraints on domestic finance**

Although barriers associated with domestic finance were regarded as being a less pressing issue than the bankability constraints, the following issues were highlighted during the consultations:

- **Rates and tenors on local currency finance.** Stakeholders noted that the interest rates being charged on debt financing for local currency are currently at similar levels to returns on equity investments, with borrowers experiencing rates of between 14% and 16%. Furthermore, the maximum tenors on commercial lending in local currency is 7 years, which is much shorter than the tenors required for long-term infrastructure projects.

- **Regulatory challenges on international currency finance.** While financing projects in international currencies allows for sponsors to obtain low and fixed exchange rates on loans with longer tenors, regulations have been implemented in Mozambique that only allow for export-orientated projects to obtain dollar financing. Therefore, problems will arise for projects that are focused on the domestic market that require dollar financing.
- **Small size of local capital market.** While there are a number of companies who are currently active in the infrastructure market and are listed on the Mozambique Stock Exchange (MSE), the size of the market is well below the level required to raise sufficient capital to finance the large infrastructure projects currently being developed.

## **1. INTRODUCTION**

This country study provides an overview of the market for infrastructure finance in Mozambique (focusing on the economic infrastructure sectors: energy, transport, water and telecoms) using evidence gained from eleven consultations held with stakeholders and complementary desk-based research.

The report aims to examine the most recent infrastructure deals that have been completed to identify the main factors that have enabled them to reach financial close. It also sets out stakeholders' views on the key barriers to mobilising increased private finance for infrastructure development in Mozambique.

The report is structured as follows:

- Section 2 reviews the current status of private financing of infrastructure in Mozambique. It includes examples of public-private partnership (PPP) transactions that have been completed recently seeking to identify the key factors that have enabled finance to flow to the projects. It also identifies the main sectors/ type of deals in the pipeline and the key market players involved in infrastructure financing.
- Section 3 uses the findings of the in-country consultations to consider what factors are viewed as constraining the flow of finance to infrastructure projects in Mozambique.
- Section 4 uses the findings of the consultations together with some desk-based research to review the issues around the available sources of finance for infrastructure.
- Section 5 presents conclusions.
- Annex A contains a list of stakeholders consulted as part of the process.
- Annex B provides some cases studies of projects that have attracted private finance.
- Annex C includes the references.

## **2. THE HISTORY OF PRIVATE FINANCING IN MOZAMBIQUE**

This section outlines the development of the enabling framework for private sector infrastructure investment in Mozambique. The section also provides an overview of PPP transactions that have taken place in the key economic infrastructure sectors and how the current pipeline is developing. Lastly it describes the key participants in the market that have financed infrastructure transactions.

### **2.1. Development of the investment framework**

In 2011, the Government of Mozambique (GoM) published the Law on PPPs, Large Scale Projects (LSPs) and Company Concessions.<sup>1</sup> The Law establishes that each government department is responsible for the PPPs in its own sector, and should regulate its PPPs so that the interests of users are cared for, to ensure the project is sustainable, and that there is economic and financial equilibrium among the contracting parties. The law applies to:

- All PPPs aimed providing public services or essential goods; concessions involving the use of public goods or patrimony, regardless of the size and activity involved.
- Mega-projects, defined as all those that involve investments above MZN12.5bn (approximately US\$500m) in 2009 prices. Hence, this law covers large-scale commercial mining related projects.
- Public infrastructure service projects including rail, port, power, water and telecoms.

Article 33 of the Law reserves Mozambican participation for PPPs and LSPs by requiring the sale of 5-20% of shares through the Mozambican stock market. The stock may be kept in trust by the state or by the project implementing entity. For natural resource projects, the Government can acquire a 5% free-carry interest at any stage of the project.<sup>2</sup>

The PPP infrastructure projects are to be transferred to Government at the end of the concession period. The duration of the PPP infrastructure agreements will be dependent on the financial analysis of the project and determined in the contract, with the maximum length dependent upon the nature of the project. Greenfield projects have a maximum concession length of 30 years and can be expanded for a further 10 years, while brownfield projects that require rehabilitation and expansion works have a maximum time span of 20 years. Existing infrastructure projects that do not require major works have a maximum concession length of 10 years. The new PPP and LSP Law also affects mining projects and associated infrastructure investments.

The Law also calls for the Ministry of Finance to establish a unit that centralises the economic and financial evaluation of PPP projects, in coordination with the sectoral ministries. According to stakeholders, this unit has been established in the Ministry, although it is relatively small at present. Furthermore, a City of Maputo PPP Unit has been set up as a result of a study funded by the Public-Private Infrastructure Advisory Facility (PPIAF).

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<sup>1</sup> Government of Mozambique (2011) Law n°15/2011.

<sup>2</sup> Government of Mozambique (2012) Decree n°16/2012.

## 2.2. Analysis of PPP transactions

### 2.2.1. Energy

Mozambique is one of the best endowed countries in Africa in terms of natural resources, including hydrocarbons such as coal and natural gas, as well as having major hydro and solar potential. In addition to the Pande and Temane gas fields in central Mozambique which are already being exploited, since 2010 there have also been major new natural gas discoveries in the northern offshore Rovuma basin. Mozambique's proven natural gas reserves are estimated to be around 100tn cubic feet (Tcf), making it the third-largest proven natural gas reserve holder in Africa, after Nigeria and Algeria.<sup>3</sup>

In terms of power, Mozambique is the second largest producer of electric power in the southern African region, largely as a result of the 2,075MW Hidroeléctrica de Cahora Bassa (HCB) dam on the Zambezi river which was constructed by the Portuguese during the colonial era. At present, the majority of the power from the dam is exported to South Africa via a high voltage direct current (HVDC) transmission system, while the state-owned utility company Electricidade de Mozambique (EdM) accesses 300MW. In addition, a transmission line is currently in place to Zimbabwe and the Southern African Power Pool (SAPP) that allow power from the dam to be export to these regions.

Total demand for power in Mozambique is currently around 760MW, providing electricity to around 26% of the population, with an additional 900MW if demand from the Mozal aluminium smelter is included. As with other African countries, electrification rates vary significantly by region, with urban areas around Maputo having the highest rates of electrification in the country while access in provinces such as Cabo Delgado is currently limited. Given the low demand for power relative to the country's potential, there is significant scope for Mozambique to export power to neighbouring regions, particularly South Africa where power shortages have created significant problems in recent years.

In addition to publicly-owned plants such as HCB and temporary gas plants provided by Aggreko, some independent power producer (IPP) projects will supply power locally in the near future. For example, the 100MW Gigawatt gas-fired plant situated in the Ressano Garcia region (where an Aggreko gas power plant is already located) reached financial close in 2014. The project's ownership was comprised of the South African-based Gigajoule Group and local partners Intelec Holdings and Eagle Holdings during the development phase of the project. Once the project reached financial close, stakeholders mentioned that the majority of Intelec's participations was bought out of the project by Gigajoule, leaving Intelec with a lower equity share during the construction and operational phase, which is likely to be reached at the end of 2015.<sup>4</sup>

This is a royalty point on the Sasol pipeline that transports gas from the Mozambican gas fields to South Africa. The rights to the royalty gas were negotiated by the Mozambican government as part of the transaction. The total cost of the project was US\$200m with an 80:20 debt-equity structure, and was able to obtain debt financing from Standard Bank of South Africa.<sup>5</sup> This debt was made possible as a result of political risk insurance (PRI) being provided by the World Bank Group's Multilateral

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<sup>3</sup> EIA.gov (Accessed February 2015), *Mozambique: Overview data*.

<sup>4</sup> IJGlobal (2014), *100MW Ressano Garcia Gas-Fired Plant*.

<sup>5</sup> IJGlobal (2014), *100MW Ressano Garcia Gas-Fired Plant*.

Investment Guarantee Agency (MIGA). According to stakeholders, the debt financing would not have been possible without the PRI cover being in place.

Other South African banks have also been active in providing finance for IPP projects in Mozambique, including investment bank Investec who provided both debt and equity financing during the development stage of the 40.29MW Kuaninga Energia gas power plant. The total cost of the project was US\$99m with a 75:25 debt-equity structure, and reached financial close in December 2013. Following financial close, Investec and the project development company Enventure Partners sold their combined equity share of 75% in the project to the following:

- 25% to Mozambican-based Kuaninga de Mozambique (comprising a group of Mozambican companies and individuals), who also had a 25% equity stake in the development phase and therefore their total equity increased to 50%.
- 30.6% to the South African state-owned enterprise (SOE) Public Investment Corporation.
- 28% to Enventure's local subsidiary Kasel Group.
- 16.4% to the South African-based Pele Clean Energy.

Investec have provided a US\$40m direct loan guaranteed by an undisclosed export credit agency (ECA), while also providing a direct loan of US\$11m alongside the US\$23m provided by the Industrial Development Corporation, the South African-based development finance institution (DFI).<sup>6</sup> According to the stakeholders, this project is currently being delayed due to procurement issues associated with the gas pressure reduction system.

### **2.2.2. Telecoms**

Mozambique was an early reformer of the telecom sector among African countries. However, since it began liberalisation in 1992, progress was initially marred by significant delays and uncertainty but in recent years competition has increased significantly. Prior to liberalisation, the telecoms market was dominated by the state-owned Telecomunicações de Moçambique (TdM), which was responsible for providing services across the sector (including fixed landline, mobile, and internet services). In mobile telephony, TdM has operated through its subsidiary mCel, which was established in 1997 as the single provider of mobile services. However, by 2000, Mozambique had only 62,000 mobile phone subscribers and prices were around US\$6.21 for 3 minute calls.<sup>7</sup>

To increase competition and access in this market, new entrants have been introduced. In 2003, Vodacom Mozambique was awarded the second GSM licence and as a result mobile subscriptions increased by 60,000 in the first four months of operation, exceeding its expectations by 20%.<sup>8</sup> In 2010, a third network licence was provided to Movitel, and according to stakeholders has invested heavily in telecoms infrastructure since entering the market. By the end of 2013, mCel had maintained its dominant position in the market with 5.3m subscribers (44% market share), followed by Vodacom Mozambique with 4.12m (34.3%) and Movitel with 2.59m (21.6%). Despite its dominant market position, stakeholders noted that mCel is under a significant amount of pressure to improve its

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<sup>6</sup> IJGlobal (2014), *40.29 MW Kuaninga Power Plant*.

<sup>7</sup> World Bank (2009), *Communication Sector Reform Project: December 2009*.

<sup>8</sup> Telegeography (2004), *Vodacom Mozambique growth exceeds all expectations*.

services and lower costs, which it is finding difficult to do relative to its competitors due to its inability to access private capital markets.<sup>9</sup>

### 2.2.3. Transport

The transport sector in Mozambique has a long history of private sector participation (PSP) relative to other sectors, with projects being implemented before any form of PPP legislation was in place. For example, the first PPP in the country was implemented in 1996 for a toll road between Maputo and Witbank in South Africa, which was later extended to Pretoria. Of the 720 km of road that was concessioned, only 90 km was situated on the Mozambican side of the border, therefore the majority of the legislation required for the project was based on South African law at the time.

Despite only a fraction of the road being situated in Mozambique, nearly a third of the US\$400m invested by the winning consortium was allocated to the Mozambican operations. The project was financed with a debt-equity ratio of 80:20, with the debt being provided by South African banks and was guaranteed by both governments (with even the equity being guaranteed under some circumstances).<sup>10</sup> Despite the lack of previous experience implementing toll roads in Mozambique, the Mozambican side of the project has delivered better than expected results, with daily traffic on the road to Maputo increasing from 27,690 in 2008 to 44,000 in 2011, while the journey time between Maputo and Ressano Garcia has decreased by 90 minutes.<sup>11</sup> Although the project has reduced travel times for vehicles travelling long distances, the project has been criticised for extending the toll to the centre of Maputo, which has resulted in urban commuters having to pay daily tolls.

As well as the implementation of the Maputo-Pretoria toll road, a number of rail and port concessions have been implemented in Mozambique, and these are summarised in Table 2.1. below.

*Table 2.1: Transport concessions in Mozambique 2003 – 2012*

Project	Year	Sub-sector	Cost (US\$m)
Sena-Machipanda Railroad	2004	Railways	152
Ressano Garcia Railroad	2006	Railways	80
Nacala Railway <sup>12</sup>	2004	Railways	17.7
Maputo port	2003	Sea port	150
Quelimane port	2004	Sea port	16.7
Second Tete bridge	2012	Bridge	150

*Source: Fischer, R. & Nhabinde, V. (2012), Assessment of Public-Private Partnerships in Mozambique; World Bank PPI Database (2015); Country consultations.*

As indicated in the table above, a number of PPP transactions have been implemented in the transport sector, with the majority being in the railways and sea ports. Despite a number of transactions occurring, several of these projects have experienced various setbacks regarding improving the delivery of services. According to some sources, the service issues have partly been due to

<sup>9</sup> One stakeholder noted that many of mCel's subscribers are not active and that Movitel is more dominant in rural areas.

<sup>10</sup> Fischer, R. & Nhabinde, V. (2012), *Assessment of Public-Private Partnerships in Mozambique*.

<sup>11</sup> Fischer, R. & Nhabinde, V. (2012), *Assessment of Public-Private Partnerships in Mozambique*.

<sup>12</sup> This refers to the initial concession of the railway line, as opposed to the more recent acquisition by Vale.

Mozambique Ports and Railway (CfM) being both the regulator and participant in the market, which has resulted in a lack of monitoring from an independent regulator being in place.<sup>13</sup> In addition, stakeholders noted that the World Bank Group was subject to a considerable amount of criticism regarding the support it provide for the concessionaires. Although the success of rail concessions in Mozambique has been relatively limited, a number of stakeholders have commended the delivery of Maputo’s port concessions (including the coal and container terminal).

#### **2.2.4. Water**

As has been the case in other African countries studied, PSP in Mozambique’s water sector has been limited by the extent to which tariffs can be increased and the political sensitivities associated with allowing the private sector to profit from supplying water, which is widely regarded as a public good. This has been demonstrated by Mozambique’s experience of attempting to bring private sector investment into the market. In 1999, Mozambique set up a comprehensive framework for PPPs in the water sector – the Delegated Management Framework. However, first efforts to increase PSP in the water sector was unsuccessful due to a number of factors, including: floods, the private company’s lack of experience with donor projects, and an absence of mechanisms for effective cooperation between the government and the private partner.

The project was first delayed, eventually leading to a renegotiation of contracts, followed by foreign private investors terminating their commitments. A second PPP contract was negotiated in 2007, which was more successful due to government commitment, institutional reform, and donor support.<sup>14</sup> Despite this, in 2010, the Government Asset Management Agency (FIPAG) took complete control of the national water company, Aguas de Moçambique. This was attributed to the PPP having met its objectives, which included providing capital and know-how to the government, although it has been suggested that the acquisition was due to the ongoing lack of popularity of PPPs among the unions in the sector.<sup>15</sup> However, in 2012 there was a complete volte-face in policy when the government re-launched the privatisation of water distribution.<sup>16</sup>

### **2.3. Analysis of the current project pipeline**

As outlined in the previous section, Mozambique has experienced varying degrees of activity of PPPs between sectors and periods. For example, while PSP has successfully been introduced to the mobile telephony sector, experience in the water and transport sectors has been patchy, while the energy sector has experienced little activity relative to other countries studied. However, as outlined in Table 2.2 below, the majority of later stage pipeline projects in Mozambique are being developed in the energy sector.

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<sup>13</sup> Fischer, R. & Nhabinde, V. (2012), *Assessment of Public-Private Partnerships in Mozambique*.

<sup>14</sup> AllAfrica (2012), *Mozambique: Government Relaunches Water Supply Privatisation*.

<sup>15</sup> Fischer, R. and Nhabinde, V. (2012), *Assessment of Public-Private Partnerships in Mozambique*.

<sup>16</sup> AllAfrica (2012), *Mozambique: Government Relaunches Water Supply Privatisation*.



Table 2.2: Pipeline of later stage PPP projects

Project	Stage	Sector	Cost (US\$m)	Sponsors (Country)
175MW Ressano Garcia Gas-Fired Plant	Transaction	Energy	105	EdM (Mozambique) Sasol (South Africa)
Nacala Corridor Railway and Port Project	Transaction	Transport	4,400	Vale SA (Brazil) Mitsui (Japan) CfM (Mozambique)
Moatize-Macuse Port and Railway Project	Transaction	Transport	4,500	Italthai Engineering Limited (Thailand) CfM (Mozambique) Codiza (Mozambique)
300MW Ncondezi Coal-Fired Plant	Structuring	Energy	600	Ncondezi (Mozambique) Shanghai Electric Company (China)
600MW Moatize Coal Fired Power Plant	Structuring	Energy	1,000	ACWA Power (Saudi Arabia) Mitsui & Co (Japan) Vale SA (Brazil) Whatana Investment Group (Mozambique) EdM (Mozambique)
Beira Port Coal Terminal	Structuring	Transport	25	Essar Group (India) Port & Rail Authority of Mozambique (Mozambique)
Mphanda Nkuwa Hydropower Zambezi River	Structuring	Energy	2,900	Insitec (Mozambique) EdM (Mozambique)

Source: IJGlobal (2015)

As can be seen from the table, nearly all pipeline projects contain some form of local ownership, either through SOEs or local equity investors. According to stakeholders, this partly reflects the previous government's policy of increasing local ownership in projects, which was reinforced by the PPP law which requires projects to have at least 5-20% local ownership. Of the projects mentioned, the Moatize IPP and the Nacala Rail Corridor projects were often referred to in consultations due to their importance and connection to one another. In addition to the Nacala railway line, a consortium led by Thai-based Italthai Engineering has been awarded the concession to construct a greenfield railway line from the Moatize plant which will terminate at a new deep seaport at Macuse. The power generated from the plant will be utilised mainly for Vale's mining operations, while the railway lines will provide primarily freight services for the coal mine with some additional passenger services also being operated.

In 2011, Vale acquired 67% of the Nacala Rail project consortium through Corredor Logistico Integrado de Nacala - a joint venture between Vale (80%) and CfM (20%), although Vale sold 50% of the equity in the rail line for US\$313m to Mitsui in 2014. Vale has been hampered in its need for coal transportation by the cargo limitations of the Sena Line-Beira port corridor and plans to invest significant amounts in the rehabilitation of the railway. Both the IPP and the railway line projects are

good examples of how a so-called ‘anchor’ project, involving the main off-take from a creditworthy party, can attract long term bank finance. However, the bankability of the transport projects that are being used to export the Moatize coal are dependent on its international price, which has recently been at low levels and has therefore limited the extent to which these projects can attract financing.<sup>17</sup>

Another project that was discussed by stakeholders was the Mphanda Nkura IPP, a 1500 MW hydroelectric plant on the Zambezi River in southern Mozambique. The project has been in the pipeline for a very long time, with feasibility studies finally being carried out in 2009 and is due for commissioning in 2017. Much of the electricity generated will be exported to South Africa, with some sources claiming that up to 90% of the dam’s output will be bought by South Africa’s Eskom, with EdM buying the remainder.<sup>18</sup>

Until recently, the developer and operating consortium comprised three shareholders: Brazilian construction group Camargo Correa, Mozambican company Insitec and EdM (whose equity investment is being financed by an African Development Bank (AfDB) loan). However, the government recently reallocated the development rights held by Camargo Correa to Chinese investors, due to the lack of progress the project was making. According to a number of stakeholders, the introduction of Chinese investors has not improved its progress and those with interests in the project are currently awaiting an announcement from the government on how it would like the project to proceed. Some stakeholders noted that the nature of Chinese involvement in this project was also unusual, given that typically Chinese companies are only interested in engineering, construction and procurement (EPC) contracts and exit post construction, whereas for the Mphanda Nkura project their direct equity holding in the special purpose vehicle (SPV) suggests that they are looking to act as investor in, and operator of, the project.

## **2.4. Market participants**

### **2.4.1. Development finance institutions (DFIs)**

Relative to other countries the DFIs have been inactive in Mozambique, which largely reflects the low level of private sector activity in the country. However, the 170MW Central Termica de Ressano Garcia (CTRG) project has secured US\$70m of debt financing from the International Finance Corporation (IFC) as an A loan, with a further US\$35m being provided through an IFC syndicated B loan. Elsewhere, the South African-based DFI – IDC - has provided senior lending to the Kuvaninga project in support of the South African companies involved on the debt and equity side of the project. Norwegian DFI - Norfund - is also looking to support energy sector development in the country through its part-ownership in Agua Imara, a renewable energy company that is active in Africa and is looking to invest in Mozambican projects in the near future.

### **2.4.2. Local companies**

A number of recently closed and pipeline infrastructure projects in Mozambique have local participation either through the development phase or once projects are operational. For example,

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<sup>17</sup> IJ Global (2015), *Vale’s big bet on Tete’s coking coal*; Thompson Reuters (2014), *Timing tough for \$4.5bn Thai-Mozambique coal rail-port project*.

<sup>18</sup> World Bank Private Participation in Renewable Energy Database (Accessed February 2015), *Project Information - HMK Mphanda Nkuwa HPP*; ESI-Africa (2012), *Standard Bank promoting Mphanda Nkuwa project*.

companies such as Insitec and Intelec currently have equity positions in projects, which are often financed by bridge loans provided either by international project sponsors or commercial banks. During the development phase, these companies assist with the project by bringing local knowledge, expertise and relevant skills from subsidiaries to assist with the projects reaching financial close, after which they sell their equity share in the projects to sponsors.

However, the Whatana Investment Group will hold an equity share in the Moatize IPP once this is operational. These companies have a portfolio of smaller businesses and equity shares in large companies in the infrastructure space. For example, both Whatana and Intelec currently hold equity shares in Vodacom, while Insitec is currently the majority shareholder in CETA, a construction company which competes for civil works contracts, particularly in the roads and bridges sectors and which is listed on the Maputo stock exchange.

### **2.4.3. International sponsors**

The large-scale infrastructure projects in Mozambique currently in the pipeline are largely being financed by international companies who take majority ownership in these projects, many of which are coming from Portugal or Brazil. For example, as mentioned previously, the Brazilian company Vale is committing significant amounts to the development of the Moatize IPP and the new railway line to Nacala, with its participation in such projects being through equity investments. Camargo Correa, another Brazilian conglomerate active in the natural resources and energy sectors, has also played an important role in the development of the Mphanda Nkura project, although its interest in this project has been replaced by Chinese investors recently. In transport, the Portuguese company Soares da Costa has been important in a number of civil works contracts and also provided direct equity investment to the second Tete Bridge PPP. Given their scale, international companies such as these are traditionally responsible for providing the majority of the equity financing for large scale private infrastructure projects.

### **2.4.4. Commercial banks**

While most commercial banks have not invested directly into infrastructure in Mozambique, some have provided significant amounts of financing for recently closed projects. For example, Standard Bank of South Africa provided the debt financing for the Gigawatt project that closed in 2014, while Investec played an important role in the financing of the Kuaninga project, providing both debt and equity pre-financial close. Given the risks associated with investments in Mozambique, the majority of Investec's and all of Standard Bank's financing was supported by guarantees or PRI cover from ECAs or MIGA. According to stakeholders, projects would not be able to secure debt at a reasonable cost without these credit enhancement facilities being in place.

### **2.4.5. Chinese investment<sup>19</sup>**

Whilst the majority of Chinese investment in infrastructure is often provided directly to the government, the importance of such financing for large scale projects currently in development

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<sup>19</sup> As noted throughout the report Brazilian investment has also been significant in Mozambique, focused mostly on public sector infrastructure projects. The emphasis on China rather than Brazil is because the Chinese are looking to provide large investments to the private sector in addition to their public sector investments.

justifies their inclusion in this study. The Chinese EXIM Bank is currently looking to provide the majority of the debt financing for the US\$755m Maputo – Catembe Bridge that is currently in development, with the China Roads and Bridges Corporation looking to deliver the EPC contract.<sup>20</sup> Such an approach by Chinese institutions whereby finance is provided alongside civil works contracts reflects how the Chinese usually choose to operate across Africa. A number of stakeholders have noted such agreements between the government and the Chinese often lack transparency. For example, as mentioned earlier Chinese investment was recently brought into the Mphanda Nkura project by the government, which has raised a number of questions with current project stakeholders regarding the rationale and what direction the project will take in future.

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<sup>20</sup> Macauihub (2013), *Construction of the Maputo/Catembe in Mozambique due to begin in second half*.

### **3. BARRIERS TO INVESTABILITY / BANKABILITY**

From a PPP perspective, whilst Mozambique faces similar challenges of uncreditworthy national utilities experienced in many other countries in SSA, it also has many natural advantages that potentially place it in a much better position. For example, power can be sold to neighbouring South Africa and large mineral and hydrocarbon resources have the potential to provide robust demand for infrastructure provision that can help ameliorate issues of creditworthiness. Such projects can also create demand for support logistics and transport infrastructure, with the resulting transport corridors providing opportunity for transit business from the African hinterland, including Johannesburg as well as Malawi, Zambia and Zimbabwe.

However, there are several constraints which militate against the achievement of this potential. A lack of capacity in government, a seeming reluctance to take up the specialist expert advice available to support government in transactions, modes of procurement that can create challenges for some key stakeholders as well as development orientated policies that can create challenges for the speedy implementation of projects.

#### **3.1. Historical context**

Mozambique is a post conflict country which has profound implications for its economics and politics. The first of these conflicts was that of independence in which Mozambique lost many skilled professionals. This was then followed by a period of socialist economic policies which inculcated a more statist view of the world before a further bitter civil war erupted between the Frelimo government and the insurgent Renamo movement, which severely impacted many aspects of development and left significant cleavages that still exist to this day. In spite of this, following the Presidential election at the end of 2014, Mozambique has now had two peaceful transfers of power (albeit within the same political party). Mozambique however, remains relatively poor, lacking a skilled workforce with a relatively small local business and political elite.

#### **3.2. Government understanding of the requirement of PPPs**

The government's commitment and approach to PPPs needs to be seen within Mozambique's historical context. Whilst key steps have been introduced to facilitate PPPs, such as the introduction of a new PPP Law, it is not clear how well government understands the full requirements of PPPs, what is possible in terms of balancing these needs and development objectives and the problems that can arise from a reliance on unsolicited / sole source project development. Taken together these issues at a minimum appear to be slowing down the progress of PPPs and risk undermining the considerable potential that they offer for Mozambique's development.

#### **3.3. Legal Framework**

The 2011 PPP Law provides a framework for PPPs as discussed in Fischer and Nhabinde (2012). While it is an important step in facilitating the development of PPPs in Mozambique, critics of the Law have argued that there is still considerable discretion for government in the selection of bidders.<sup>21</sup> In

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<sup>21</sup> Fischer, R. & Nhabinde, V. (2012), *Assessment of Public-Private Partnerships in Mozambique*.

particular, the many objectives of the PPP programme means that officials have considerable flexibility in deciding the scoring function of PPP bids, which at a minimum reduces predictability and confidence in outcomes.<sup>22</sup> Moreover, there are no detailed regulations on how to deal with unsolicited proposals, which is surprising given the reliance on this approach (see below).<sup>23</sup> According to Fischer and Nhabinde, other weaknesses affecting transparency include only the main aspects of the PPP contract being published. This combined with the institutional fragility of the bureaucracy, can create greater potential for exploitation of the bid process. Furthermore, stakeholders also mentioned that conflicts currently exist between sector legislation and PPP laws, which in turn can significantly delay the development of projects.

### **3.4. Promotion of local SOEs**

Unlike in most countries, the PPP Law provides for the state to maintain an equity interest in PPP infrastructure projects, particularly larger projects of a size greater than US\$500m (so-called “mega-projects”). For example, many high-profile infrastructure projects contain equity participation from SOEs such as CfM in transport or EdM in energy.

According to stakeholders, such involvement increases the government’s commitment to projects as they have a direct financial interest, and without this it is unlikely that the projects would receive significant political support. Whilst PPP legislation in most countries would seek to ensure that taxpayer interests were provided through concession and other fees, the objective in Mozambique would appear to be also to build up capacity in SOEs through such involvement.<sup>24</sup> This approach is consistent with many of the socialist policies that have characterised Mozambique since independence. In such a context, continued state interest may also help legitimise PPPs.

Furthermore, stakeholders noted that allowing key SOEs such as CfM and EdM to be opened up to the private sector looks highly unlikely in the near future due to their central role in each sector and their political importance.

Some stakeholders also noted that the Government has only allowed an expansion in PSP in infrastructure due to budgetary pressures, with government using its balance sheet capacity to finance high-profile projects, such as the Maputo-Catembe Bridge, which is aimed at developing a whole new part of Maputo, across the water from the existing city.

More widely, government also seeks to create opportunities for local investors.

### **3.5. Conflicts between commercial and development policies**

The government’s policies of seeking to meet wider development objectives through PPP arrangements is sometimes in conflict with the needs of the investments. Some stakeholders referred to projects where CfM have encountered substantial delays due to its lack of capacity to deliver new infrastructure. For example, the initial proposals for the rehabilitation of the Sena line and the initial export route for the Moatize coal project were for freight services only. However, the government demanded that passenger services were also provided and that both would be delivered by CfM. As a result of CfM’s involvement, stakeholders mentioned that the construction of the line has been

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<sup>22</sup> Fischer, R. & Nhabinde, V. (2012), *Assessment of Public-Private Partnerships in Mozambique*.

<sup>23</sup> Fischer, R. & Nhabinde, V. (2012), *Assessment of Public-Private Partnerships in Mozambique*.

<sup>24</sup> Extractive concessions will also be subject to a bespoke taxation regime.

significantly delayed, which in turn has meant Vale has not been able to increase the amount of coal it can export and therefore has been missing out on considerable amounts of revenue. This will no doubt have had a substantial negative impact on Vale's finances.

More generally, labour laws in which ten Mozambicans need to be employed for every expatriate whilst understandable from a development perspective, can also create significant challenges for investors.

### **3.6. Reliance on unsolicited approaches**

Although the issue of transparency regarding how development rights to projects have been obtained and by whom was raised in other countries studied, transparency regarding the provision of development rights and its implication for the project development process and financing in general is a particular issue in Mozambique. The lack of open, solicited procurement was noted by several interviewees.

A typical approach to project development in Mozambique involves a local private party putting together a consortium to develop an opportunity and then approaching government to obtain the development rights. If the government is convinced of the consortium's ability to develop the project successfully, it will sign a Memorandum of Understanding (MoU) with the party that then has a given period of time to develop the opportunity, if it is not successful or is taking too long, such rights will be revoked or amended (as they have been in the case of Mphanda Nkura).

Most developer consortia in Mozambique therefore tend to include a major international investor or investors, a smaller minority interest from the Mozambican private sector and the relevant sector SOE. The international party will typically be responsible for most of the funding of development cycle activities. At financial close, when the bulk of financing is committed to the project, the private investor will either take a carried interest in the project or else exit with a developer fee. The SOE will either have its participation funded by the rest of the equity interests or else seek finance from other sources, often donors through sovereign loans.

Furthermore, many stakeholders highlighted that those that have acquired the development rights for projects are often closely connected to politically exposed persons (PEPs). Whilst this is often a feature of the project development landscape in Africa, the limited size of Mozambique's local business and political elite perhaps magnifies the issue.<sup>25</sup> The problem this poses is that it makes donor support more problematic, given the increasing need to demonstrate transparency to their national parliaments, press and voters in the provision of all types of support.<sup>26</sup> Indeed, as one Mozambican interviewee noted, the involvement of PEPs in project companies is not recent and has been found previously in competitive allocations of development rights, without complaint; as such it is the approach of donors that has perhaps changed. Where any form of opacity is present, however, at a minimum donors need to take additional steps to mitigate reputational and other risks, which means that supporting competitive processes is easier for them.

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<sup>25</sup> And not just limited to Africa. At the time of writing, two prominent UK senior, ex-government ministers have been found seeking to use their political position to further the interests of private parties.

<sup>26</sup> For example, the UK's CDC has faced parliamentary and press criticism due to the involvement of a particular party in one of its transactions.

The challenges created also extend to financing of projects for both DFIs and increasingly commercial banks, who will all have to satisfy their different ethical policies. Both stated their preference for open solicitation of project opportunities. In summary, the problems are not insurmountable, especially where finance is being provided on commercial terms, but it is not difficult to see how the provision of a donor subsidy in such a situation would need to be handled especially carefully to ensure that it was target groups who were the beneficiaries and not private shareholders.

While the lack of transparency can create challenges for traditional sources of finance, stakeholders highlighted that such constraints have not prevented Chinese investment taking place and in some cases this has worked to their advantage. For example, the basis on which the government brought the Chinese into the Mphanda Nkura project, at the expense of the Brazilian developer, is unclear.

### **3.7. Capacity within the government to prepare / develop PPP projects**

All of the above are illustrative of either a limited understanding of the requirements of PPPs and / or desire to pursue a unique Mozambican approach, irrespective of international best practice. Whether this is purely a question of a lack of capacity or deliberate policy approaches is therefore difficult to determine.

A lack of capacity within government to prepare and negotiate PPP projects was, however, raised on several occasions by stakeholders. Whilst the PPP concept is understood to a degree, the requirements of complex project finance transactions are not. Several stakeholders noted that the government can enter complex negotiations with the private sector without the legal and other technical support that it needs to fully protect its position. There is a lack of understanding of key concepts, some relatively basic, and an unwillingness to learn from international experience and precedence. In particular, there is a shortage of key skills in the middle technical ranks of public service, although it was noted that many civil servants are experienced working with donors and obtaining concessional loans.

A lack of technical understanding and experience within specific sectors is also missing within the government. For instance, such constraints have resulted in significant delays implementing the necessary legal framework for given sectors – such as liquefied natural gas (LNG), with the recent decree allowing for international companies to conduct exploration of offshore resources being delayed by nearly 18 months.

The main internal source of support on PPPs is a small team set up in the Ministry of Finance. Despite these capacity constraints, however, several stakeholders noted that it is not actively seeking advisory support in either the economic infrastructure or the extractive industry sectors, although it continues to obtain support from donors for social infrastructure sectors. It is not clear why there is this apparent aversion to seeking external support, although reasons provided by several observers included frustration with previous donor-provided advice or through fears of outsiders wanting to exploit Mozambique's resource potential for their own gain.

While the government capacity has been an issue for increasing PSP in infrastructure, a number of stakeholders felt that this is likely to change with the appointment of the new government in 2015. For example, early signs suggest that the new government is far more pluralist than the previous regime and therefore may be more willing to listen to external advice. In future, increasing public scrutiny may also lead to a change in approach.



### **3.8. Ability to charge cost-reflective tariffs**

As set out, one of the key factors that enables a project to be bankable is the ability to charge tariffs that are sufficiently high enough that costs of providing infrastructure services can be recovered with investors obtaining an adequate return and lenders having their covenants met. However, many stakeholders noted that charging these tariff levels is unlikely to occur in the near future due to individuals in Mozambique being unable or unwilling to pay these higher prices. Take electricity as an example, stakeholders noted that EdM is currently charging customers an average tariff of US\$0.08 per kWh, which the government has not allowed EdM to increase further (although post the presidential elections it is anticipated that this will be increased soon). Although it is only paying around US\$0.02-3 per kWh for the electricity being generated from the Cahora Bassa dam, EdM currently has a significant backlog of payments to HCB.

As regards other projects, wholesale tariffs are often as high as US\$0.15 per kWh, resulting in EdM making losses on the power being purchased from these projects. Without increases to retail tariffs, EdM will not be able to afford to enter into further power purchase agreements (PPAs) with IPPs.

### **3.9. Creditworthiness of state-owned companies**

The inability to charge cost reflective tariffs and operational inefficiencies have placed considerable strain on EdM and as a result it has been facing financial difficulties, with recent estimates suggesting that it currently has debts of over US\$115m.<sup>27</sup> A large amount of this debt has been provided by donors and development banks at concessional rates and is often guaranteed by the government. However, the extent to which EdM can borrow at these concessional rates in future is severely limited as donors and development banks are reaching their country exposure limits and as a result are unable to provide further support.

As an SOE, EdM is also limited from borrowing on capital markets. As a result of this, many stakeholders mentioned that commercial financing for IPPs where EdM is the sole off-taker is unlikely without a government-backed guarantee or a partial risk guarantee (PRG) from institutions such as the World Bank or AfDB, with donor PRGs usually being counter-guaranteed by sovereign governments. However, according to stakeholders the government rarely wants to commit to PRGs as this reduces its International Development Association (IDA) and African Development Fund (ADF) allocation that can be used for direct investments. Another stakeholder commented that it is not clear that the government fully understands how such instruments work.

The financial pressure currently facing EdM and the lack of demand for power in Mozambique has resulted in several of the large scale electricity generation projects relying on South Africa's Eskom to purchase its power. According to stakeholders, having South Africa as a neighbouring country allows projects to become bankable because lenders perceive Eskom as a relatively credible off-taker whose customers are willing to pay higher tariff levels. Without the benefit of neighbouring South Africa, stakeholders mentioned that Mozambique would not be able to develop its generation potential as domestic demand would not be sufficient. Examples of generation plants where Eskom has PPAs in place includes the Cahora Bassa dam, which it currently accesses 1,200MW of the plant's current capacity of 1,500MW, and the remainder is purchased by EdM.

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<sup>27</sup> AllAfrica (2014), *Mozambique: EdM Can Only Pay Its Debts If Electricity Prices Rise*.

Eskom is also likely to off-take the majority of the power generated by the Mphanda Nkura dam once it is operational. Other projects that have relied on off-takers aside from EdM include the Moatize IPP, which will benefit from having Vale as the off-taker for most of the power. Stakeholders mentioned that if the SAPP was fully integrated, IPPs would benefit from being able to sell their power to neighbouring countries and would limit the risk associated with having to rely on a single buyer for the power, which would not only benefit Mozambique but also the wider Southern African region (although regulatory arrangements would need to provide for this).

## **4. CONSTRAINTS TO DOMESTIC FINANCE**

### **4.1. Introduction**

The macroeconomic environment in Mozambique has been relatively stable in recent years, which is highlighted by high GDP growth rates of above 7% since 2010 while inflation has remained in single digits since 2012.<sup>28</sup> Despite this, stakeholders noted that local currency lending from either Mozambican banks or international banks with a local presence is constrained by a number of factors. This section highlights these barriers.

### **4.2. Local currency financing**

While financing in local currency removes exchange rate risks for borrowers, in most African countries interest rates on these loans are normally higher than rates for international currency loans due in part to prevailing inflation rates. While Mozambique has experienced relatively low inflation in recent years, stakeholders noted that the interest rates being charged on debt financing for local currency are currently at similar levels to returns on equity investments, with borrowers experiencing rates of between 14% and 16%. Furthermore, the maximum tenors on commercial lending in local currency is 7 years, which is much shorter than the tenors required for long-term infrastructure projects. As such, there is little realistic potential for local currency to address the financing requirements of infrastructure projects.

### **4.3. Financing in international currency**

As opposed to local currency financing, foreign exchange financing in major tradable currencies such as the US dollar provide for tenor, historically low interest rates and the ability to fix rates. However, borrowing in dollars creates a problem of currency mismatches, with significant resulting exchange rate risk.

Export orientated projects in Mozambique have the potential to use dollar borrowings. For example, in the power sector, whilst EdM faces challenges of creditworthiness, other off-takers are more creditworthy. Eskom in South Africa is the main off-taker for HCB and the export-orientated Moatize coal project will provide secure off-take (an 'anchor') for the Moatize IPP (once its transport problems are addressed).

Problems arise, though, for projects which are not export orientated or where payments are less reliable. Whilst the main issues relate to project quality rather than issues associated with the ability to provide finance, a regulatory issue was identified that could create challenges for domestic projects seeking dollar finance, related to restrictions on foreign currency borrowing for non-export orientated projects.

Taking current pipeline projects as examples, the Mphanda Nkura project would be eligible for international currency financing because a significant amount of power would be exported to South Africa, while projects such as the Tete Bridge toll road are less likely to be eligible due to revenues

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<sup>28</sup> World Bank (2014), *World Development Indicators*.

being in meticaais. Whilst a number of stakeholders noted that this restriction has helped stabilise inflation rates in recent years, such policies limit the extent to which projects can be financed.

#### **4.4. Size of local capital market**

Recent projects in some of the African countries studied have included local sponsors who have provided equity finance raised on their local capital market through listings on the stock exchange. While these local companies are a long way off raising the total capital requirements for projects through corporate means, such structures may prove useful in future for raising finance that is tradable within the market. In Mozambique, companies such as CETA (a subsidiary of Insitec Group) has listed on the Maputo Stock Exchange (MSE) to increase the level of domestic investment, indicating that companies participating in infrastructure investment are looking to also raise capital in this way. However, as is the case in other countries the current size of the local capital market is not sufficient to meet the financing requirements of Mozambique's 'mega projects'. For example, in 2013 the total market capitalisation of the stock exchange was US\$1.117bn, significantly lower than the total cost of large scale projects such as the Mphanda Nkura dam.<sup>29</sup> Because of its current size, raising significant financing on the local capital market has not been possible to date. However, such financing may become available for private infrastructure as the market develops in future.

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<sup>29</sup> Macauihub (2013), *Construction of the Maputo/Catembe in Mozambique due to begin in second half*.

## **5. OVERALL CONCLUSIONS ON KEY CONSTRAINTS TO PRIVATE FINANCING OF INFRASTRUCTURE**

Based on the constraints outlined above, stakeholders were in agreement that issues regarding the supply of bankable projects are the main causes of the limited private investment in Mozambique. In particular, government commitment and capacity to originate and facilitate the development of a private infrastructure market were often noted as a key constraint. Government's overreliance on unsolicited proposals has resulted in a significant lack of transparency in the bidding process for infrastructure projects, which makes it more difficult for donors to provide support.

Having said this, stakeholders were relatively optimistic about the new government, noting that it is more likely to seek external support where needed compared to the previous administration. As with other countries, the extent to which PSP has been adopted has varied by sector, with the telecoms sector experiencing the greatest degree of private activity.

Sectors such as water were opened up to private participation but have recently reverted back to state ownership, primarily due to the lack of government commitment to PPPs being implemented in the sector. In energy, transmission and distribution is still the responsibility of EdM, but it is currently facing huge financial difficulty due to its inability to raise tariffs, which in turn is limiting the bankability of generation projects due to risks associated with its ability to pay for power. While demand for power in Mozambique is currently low relative to its potential, a number of generation projects currently in the pipeline are becoming investable due to the proximity to South Africa where demand for power remains higher than the country's current supply. In transport, some large-scale PPP projects such as the Nacala Rail Corridor are currently in the pipeline, although they have been facing significant delays due to their scale and complexity.

Mozambique's abundance of natural resources, energy potential, and proximity to South Africa provides the country with huge opportunity for growth. While demand for such resources may not be high domestically, the revenues generated from exporting to neighbouring countries and internationally could be used to further develop the Mozambican economy. However, fiscal limits mean that these resources cannot be fully exploited utilising traditional public sector approaches, with estimates of its current infrastructure funding gap at around US\$822m per annum.<sup>30</sup> Given the constraints facing the government at present, increasing PSP will be essential to closing this gap. However, to achieve this a number of the constraints mentioned by stakeholders will need to be overcome, particularly the upstream government commitment and capacity constraints that are currently preventing projects reaching the bankability stage.

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<sup>30</sup> Dominguez-Torres and Briceño-Garmendia (2011), *Africa Infrastructure Country Diagnostic – Mozambique's Infrastructure: A Continental Perspective*.

## ANNEX A CONSULTATIONS

List of consultations held with stakeholders in the Mozambican infrastructure sector.

*Table A.1: Institutions consulted*

Institution	Individual	Position
Standard Bank Mozambique	<ul style="list-style-type: none"> <li>• Ronaldo Toledo</li> <li>• Fernando de Oliveira</li> </ul>	<ul style="list-style-type: none"> <li>• Head of Investment Banking</li> <li>• Investment Banking Officer</li> </ul>
Whatana Investment Group	<ul style="list-style-type: none"> <li>• Lan Anh Nguyen</li> </ul>	<ul style="list-style-type: none"> <li>• New Business and Investment Manager</li> </ul>
Intelec Holdings	<ul style="list-style-type: none"> <li>• Haje Pedreiro</li> </ul>	<ul style="list-style-type: none"> <li>• CEO</li> </ul>
Norfund	<ul style="list-style-type: none"> <li>• Manuel Martins</li> <li>• Tanyazi Chirwa</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Investment Manager</li> <li>• Tanyazi Chirwa</li> </ul>
World Bank	<ul style="list-style-type: none"> <li>• Isabel Neto</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Operations Officer – Africa Energy Practice</li> </ul>
International Finance Corporation	<ul style="list-style-type: none"> <li>• Jumoke Jagun-Dokunmu</li> <li>• Katia Daude</li> </ul>	<ul style="list-style-type: none"> <li>• Country Manager for Mozambique and Angola</li> <li>• Senior Country Officer</li> </ul>
Barclays	<ul style="list-style-type: none"> <li>• Bernardo Aparicio</li> </ul>	<ul style="list-style-type: none"> <li>• Director – Investment Banking</li> </ul>
Embassy of Sweden	<ul style="list-style-type: none"> <li>• Anders Kreitz</li> </ul>	<ul style="list-style-type: none"> <li>• Counsellor</li> </ul>
Soares da Costa Mozambique	<ul style="list-style-type: none"> <li>• Rui Carrito</li> </ul>	<ul style="list-style-type: none"> <li>• CEO</li> </ul>
Insitec	<ul style="list-style-type: none"> <li>• Danilo Correia</li> </ul>	<ul style="list-style-type: none"> <li>• CEO</li> </ul>
African Development Bank	<ul style="list-style-type: none"> <li>• Andre Almeida Santos</li> </ul>	<ul style="list-style-type: none"> <li>• Principal Country Economist</li> </ul>

## **ANNEX B PROJECT CASE STUDIES**

### **B.1. Mphanda Nkura power plant**

#### **B.1.1. Overview**

The project objective is to develop a 1,500MW hydropower plant along the Zambezi river and will also construct a 1,540km transmission line so that power can be exported to southern areas of the country and South Africa. Due to the huge differences in demand between the two countries, it is expected that around 80% of Mphanda Nkura's power will be exported to South Africa, leaving around 300MW to be provided in Mozambique. The Mphanda Nkura dam is one of the major "mega-projects" in Mozambique with an current expected cost of US\$2.9bn, which according to stakeholders is now likely to be financed by Chinese investors.

The project has been in development for a significant amount of time, having to overcome a number of obstacles throughout the development process. Despite overcoming these barriers stakeholders noted that the project is a long way from reaching financial close, with many unsure of the current status given the government's introduction of Chinese entities as equity partners recently (which replaced one of the incumbent sponsors).

#### **B.1.2 Project origination and development**

The project has a very long history dating back to the colonial era, with the Portuguese wishing to construct the dam once Cahora Bassa was completed further upstream. However, after the construction of Cahora Bassa in 1974 the country obtained independence from Portugal a year later, which was followed by the 16 year civil war that devastated the economy. As a result, the project was not seriously considered until the late 1990s when the political economy of the country had witnessed a dramatic change. According to some sources, the major factors that resulted in Mphanda Nkura being placed back on the agenda included the following:

- The Frelimo government abandoned its socialist agenda and sought assistance from the World Bank, which required it to privatise a number of key sectors in the economy and implement structural adjustment programmes. As part of this, Mozambique was to attract foreign investment from its development of "mega-projects", which would involve exploiting the Zambezi River's resources.
- Given that the majority of power from the Cahora Bassa dam was being exported to South Africa, the government wanted an alternative source of power. To assist in the development of this and other projects, the government declared that activities in the Zambezi Valley would be exempt from import duties and taxes. Furthermore, the government was also able to rehabilitate infrastructure after the war ended in 1992, which would facilitate the transmission of power from the dam both internally and to neighbouring South Africa.

- The abandonment of apartheid in South Africa and the ANC government recognising that the country faced a serious power deficit, meaning that cheap alternative sources of power were pursued, with an additional dam in Mozambique being an obvious choice.<sup>31</sup>

Feasibility studies and an environmental impact assessment (EIA) for the project were conducted between 1999 and 2002 by the Technical Unit for the Implementation of Hydropower Projects (UTIP), a government regulatory body established in 1996 (which received support from international consultants). The pre-feasibility study estimated that around 3,000 jobs would be created during the construction stage, while the EIA stated that the project could be delivered with little detrimental impact to the local area in terms of environmental degradation or displacement. As a result of these studies, the government organised an investor conference that attracted organisations from Brazil, China and Europe who would become equity investors in the dam.

Despite the government launching the project in 2002, a consortium was not provided the development rights to the project until 2007. Prior to this, a MoU was signed between the government and the EXIM Bank of China to finance the project, although this was subsequently withdrawn in 2008. According to some sources, one of the main factors delaying the project was that local residents were strongly against the project being implemented due to the impact it would have on local jobs and industries such as fishing, while the benefits would not be that extensive to individuals who had no access to electricity.<sup>32</sup>

The consortium was initially comprised of: the Brazilian conglomerate Camargo Correa (40%), local investment company Insitec (40%) and EdM (20%, whose financing was to be provided by a concessional loan from AfDB). Following this, the SPV Hidroeléctrica de Mphanda Nkuwa (HMNK) was created and initial project structuring was undertaken. As a result, it was determined that the project would be delivered on a 20 year build-operate-transfer (BOT) basis with a debt-equity structure of 70:30. According to some sources, the consortium planned to obtain half of the debt finance from DFIs with the other half coming from commercial lenders.<sup>33</sup> As of 2013, the consortium were negotiating the PPA and finalising the procurement documentation.

Stakeholders have noted that the project has not progressed extensively since 2014. This has primarily been a result of the government removing Camargo Correa from the project and transferring their equity share to Chinese investors due to the lack of progress the project was making with Camargo Correa as the main sponsor. According to some sources, while Camargo Correa were compensated for its position in the project, it did not receive the amount desired. Since this happened, stakeholders involved in the project have been waiting for the government to announce its plans going forward, which has been further delayed by the recent change in government.

### **B.1.3. Key lessons**

The project highlights the central role that the political economy constraints have played in delaying the development of this project. For example, despite initially being conceived in the 1970s the project failed to progress due to the outbreak of civil war in the country and the lack of political commitment

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<sup>31</sup> Isaacman and Morton (2012), *Harnessing the Zambezi: How Mozambique's planned Mphanda Nkura dam perpetuates the colonial past*, *International Journal of African Historical Studies*.

<sup>32</sup> Isaacman and Morton (2012), *Harnessing the Zambezi: How Mozambique's planned Mphanda Nkura dam perpetuates the colonial past*, *International Journal of African Historical Studies*.

<sup>33</sup> HMNK (2013), *Mphanda Nkura Hydropower Project – Project Brief*.



to pushing the project forward. More recently, stakeholders have argued that the government's introduction of Chinese investors has delayed the project even further. The size of the project has also meant that the project's development has been slow due to the vast preparation work needed and the impacts it will have.

## **B.2. Nacala Corridor port and railway**

### **B.2.1 Overview**

The Nacala corridor is a key transport link providing road and rail services that connects Mozambique to its coast and neighbouring Malawi. The corridor also travels through the Tete region of Mozambique, which is endowed with some of the world's richest coal reserves and therefore provides extensive opportunities for both exports and power generation. Since 2004, Vale has been operating one of the coal mines in the region, and has been using the Sena rail line to export the coal from the port. However, the capacity of the line has meant that Vale has been losing significant amounts of potential revenue as capacity of the mine has exceeded the amount that can be transported.

As a result, Vale have been seeking to rehabilitate and extend the line to Nacala. The line will be used primarily to export coal from a purpose-built terminal (which is also being modernised and expanded as part of the project) and will also provide passenger services on some parts of the line. Initial structuring suggests that the total financing costs of the project will be US\$4.4bn, making it one of the largest foreign investments in Africa, and its importance is further enhanced by its link to the coal mine and the 600MW coal power plant currently being developed in Moatize.

### **B.2.2 Project origination and development**

The Nacala corridor line was initially concessioned in 2005 for 15 years to a consortium comprising CfM, US-based Railroad Development Corporation (RDC) and other investors. However, because no improvements were made to the line, cargo levels continued to decrease, which was significantly reducing Vale's mining revenues in the country. RDC left the consortium in 2008 and sold its share in the concession to Insitec, leaving the line under CfM's control. However, CfM's role as operator and rail regulator meant that independent monitoring of the line's performance was not possible, and as result cargo levels continued to fall.

In response to this, Vale purchased a 70% stake in the concession company (Nacala Logistics Corridor, NLC) in 2011, leaving CfM and Insitec as minority shareholders. According to some sources, Vale are looking to rehabilitate 682km of existing line whilst also building 218km of new track as part of the project, including parts of the line in Malawi. The project is further complicated by four different SPVs having to be created to implement the project – two for the rehabilitation of the lines in Malawi and Mozambique and two to construct the new track in both countries. More recently, Japanese conglomerate Mitsui has also taken a 35% equity share in the project, and has also purchased an 15% equity stake in the coal mine.

### **B.2.3 Project financing**

According to some sources, Vale has spent around US\$2bn on construction works along the corridor to date, and the debt financing for this project has yet to be secured. Furthermore, the project's viability is largely dependent on the international price of coal, which has significantly reduced in

recent years due to competition from alternative energy sources, which has affecting the project's overall bankability. Despite this, the project has recently attracted a significant amount of investment through the sale of 35% of the equity in the project to Mitsui for US\$313m (while Mitsui paid US\$450m for a 15% equity stake in the mine). Vale is also looking to provide a further US\$313m equity finance in the project, leaving a US\$1.7bn financing gap that Vale is hoping to close by raising US\$2.7bn in non-recourse debt (with US\$1bn of this to refinance loans Vale obtained to initiate the project).<sup>34</sup> Analysis of current sources suggests that other shareholders such as CfM will not be providing extra financing to this project, and it is unclear how much was provided for their initial equity share.

#### **B.2.4 Key lessons**

The project demonstrates how key resources in Mozambique can help trigger large-scale infrastructure investments from international organisations with balance sheets that can ensure that the project can be developed. According to some sources, Vale had around US\$8bn on its balance sheet in cash and equivalents, indicating the strength of the sponsor.<sup>35</sup> It also illustrates how such projects can also be used to improve regional connectivity, in this case with Malawi (and possibly Zambia). The project further highlights how mega-projects such as this can be highly complex (including a regional dimension), which partly explains why projects in Mozambique are taking a long time to develop.

### **B.3. Gigawatt gas power project**

#### **B.3.1 Overview**

The project refers to the construction of a 100MW gas-fired power plant in the Ressano Garcia region in the south of the country where two temporary Aggreko plants are also located, whilst also being in the vicinity of the 170MW CTGR project. While the total capacity of the plant is relatively small compared to other "mega-projects" in the country, it is an example of an IPP where private sector debt financing has been secured, with Standard Bank providing all of the US\$160m of debt to this US\$200m project. This debt financing and the equity provided by South African-based company Gigajoule will benefit from PRI cover provided by MIGA, which will cover breach of contract and other political risks.

#### **B.3.2. Project origination and development**

Following the completion of the Sasol pipeline to South Africa, the potential for gas-fired electricity generation become possible as a result of royalty gas that was negotiated as part of the transaction. Ressano Garcia, by the South African border, is a royalty point on the pipeline.

South African-based company Gigajoule and local Mozambican companies were able to obtain the rights to develop 350MW of gas power stations in the area, whilst also securing a 15 year PPA with EdM. Initial EIAs were conducted in 2008 and following the temporary Aggreko generation plants being established there, with 100MW being installed in 2012 and in 2013 an additional 130MW of

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<sup>34</sup> Vale (2014), *Moatize and the Nacala Logistics Corridor welcome new investor*.

<sup>35</sup> IJ Global (2015), *Vale's big bet on Tete's coking coal*.

capacity was brought on stream. However, the consortium was looking to develop a permanent 100MW facility to increase the amount of power being generated.

In pursuit of this, the consortium was hoping to obtain commercial financing for the debt side, and was able to attract interest from Standard Bank to lead the arranging.

### **B.3.3 Project financing**

Relative to other projects in Mozambique, the financing structure of this project is relatively simple, given the limited amount of lenders and equity investors involved in the project at close. As mentioned previously, the majority of the financing for this project has been provided by Standard Bank's senior loan of US\$160m which, along with the equity, has obtained MIGA PRI cover. As regards the equity, stakeholders noted that while the local Mozambique investors have provided bridge loans to finance their equity during the development stage, these institutions were bought out of the equity for the project at financial close by Gigajoule.

### **B.3.4 Key lessons**

The Gigawatt project is an example of where commercial banks have played a central role in the debt financing for a project, without the need for a DFI, in which both equity and debt was mobilised by PRI cover.<sup>36</sup> More widely, it shows how initially royalty gas was only taken up by temporary generation plants which can be removed in the event of non-payment.

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<sup>36</sup> It should be noted that there was an initial issue with the provision of MIGA cover due to the involvement of a politically exposed person (PEP) in the Mozambique company, although this issue was resolved once the individual had exited the company.

## **ANNEX C    REFERENCES**

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