



# INFRASTRUCTURE FINANCING IN NAMIBIA<sup>1</sup>

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<sup>1</sup> The focus of the paper is on financing of public infrastructure in Namibia.

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## 1. INTRODUCTION

- 1. The Namibian Government has identified scaling-up investment in infrastructure as one of the key enablers to achieve its development objectives as outlined in the fourth National Development Plan (NDP4).** These include achieving high and sustained growth levels to reduce poverty, income inequality and high unemployment. The specific areas where infrastructure development is required include transport (road, rail, maritime and aviation), electricity, water, housing and ICT<sup>2</sup>. The question is “how can Namibia finance these infrastructure requirements needed to unlock the potential economic benefits?” And what are the new funding mechanisms that can be employed to ensure a balance between maintenance of existing infrastructure and the expansion of new infrastructure?
- 2. Reliable infrastructure is critical for high and sustained economic growth.** The African Development Bank estimates that poor or inadequate infrastructure in sub-Saharan Africa (SSA) reduces the region’s Gross Domestic Product (GDP) by up to 40 percent. Relative to SSA, Namibia has a good core physical infrastructure, largely in terms of transport networks, electricity distribution lines, dams, and telecommunications. For instance, the 2012 DHL Global Connectedness Index ranked Namibia the 109<sup>th</sup> most globally connected country in the world out of 140 countries (Ghemawat, & Altman, 2012). Nonetheless, further investment in infrastructure could enhance economic productivity, accelerate activities in the manufacturing and agricultural sector, enhance economic competitiveness, encourage job creation and strengthen Namibia’s trade corridors. Further, improving water, sanitation, energy, housing, and transport systems could help reduce poverty; while investments in ICT could promote growth, improve delivery of health and other services and expand the reach of education.
- 3. The Namibian Government, at all levels, central, regional and local, has been investing in infrastructure.** The rate of investment, however, lags behind the levels required to propel Namibia’s economic growth to high and sustainable levels, as envisioned in NDP4. The latter can be supported by the quote from NDP4, which stressed that “if investment in infrastructure is not increased, industries across the board will be affected, including the nascent transport and logistics sector, the manufacturing sector, the agricultural sector, the mineral sector, and the tourism and hospitality sector – all of which have high potential for economic growth and job creation.”
- 4. Maintenance of infrastructure has also lagged behind.** As a result, a series of rail accidents have been witnessed in the past and the maintenance backlog on the rail infrastructure is in excess of 20 years (TransNamib, 2014). Meanwhile, Information and Communication Technology

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<sup>2</sup> See Chapter 9 of the National Development Plan (NDP4), for an extensive discussion on public infrastructure.

(ICT), especially the data network, has limited depth coverage and requires further improvements to keep abreast of international developments in this arena. Thus, the majority of the population is still excluded from vital information and other related benefits of ICT. The exclusion of rural masses may, therefore, contribute to the drag on economic performance of Namibia.

- 5. Namibia continues to be a net exporter of capital.** The large savings generated by the economy could be utilised to meet the infrastructure investment needs. However, the Namibian markets have failed to channel local funds towards highly needed infrastructure projects. There is a need, therefore, to create incentives to increase the total funding of infrastructure. Different forms of financing will be suitable for different projects in various sectors and institutional settings. As such, variant financial instruments should be developed to cater to the widespread and diverse infrastructure funding needs. This way the country could also work towards further developing the domestic financial markets in line with the aspirations of the Namibia Financial Sector Strategy.
  
- 6. This paper will analyse the state of infrastructure in Namibia, with the key focus on sources of funding, funding needs, the funding gap and possible funding solutions to complement the traditional sources of finance.** Following this introductory section, the paper is arranged as follows: Section 2 provides a detailed overview of existing infrastructure in Namibia. Section 3 outlines the existing legislative and regulatory environment with a bearing on infrastructure financing; Section 4 reviews existing practices in terms of financing infrastructure, while Section 5 estimates the infrastructure financing gap and outlines alternative funding solutions to traditional modes of funding. Lastly, Section 6 draws conclusions to the study.

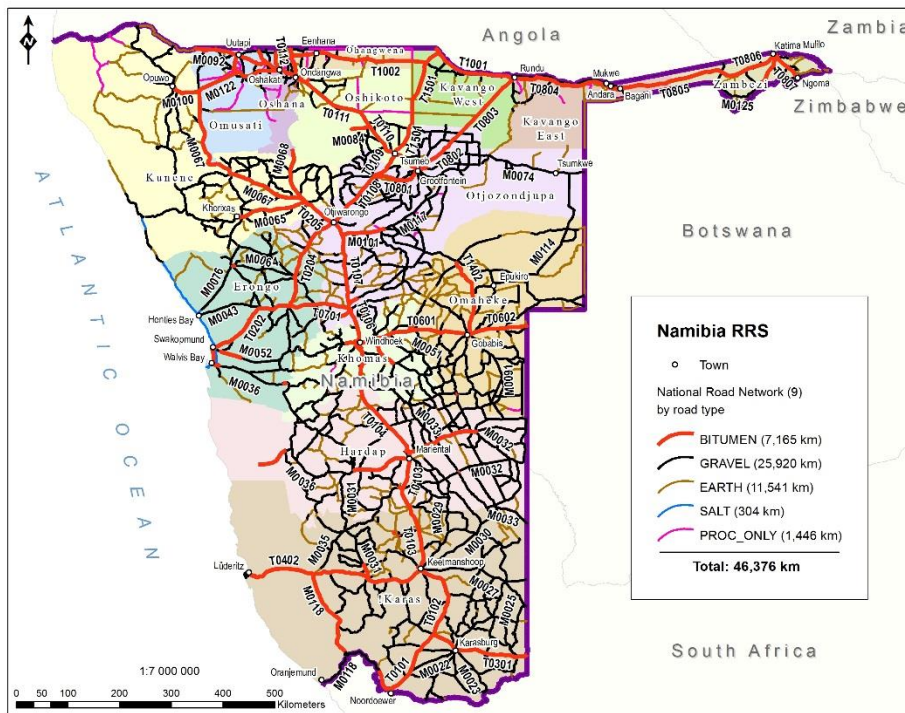
## 2. OVERVIEW OF INFRASTRUCTURE IN NAMIBIA

7. Infrastructure development and upgrading is one of the key focus areas in the NDP4, currently under implementation. This section highlights the current stock of road, railway, water, port, energy and airport infrastructure in the country, with emphasis on near-term expansion and upgrading plans.

### 2.1. Road Infrastructure

8. **Namibia has a well-established road infrastructure network of about 46,376 kilometres, some of which need urgent rehabilitation.** The majority of towns and communities can be reached by a network of quality bitumen and gravel trunk, main and district roads (see Fig. 1). The country is linked by all-weather bitumen roads to Angola, Zambia, Zimbabwe, Botswana and South Africa. Major roads provide a fast and comfortable road link between Namibia's port of Walvis Bay on the Atlantic coast and landlocked neighbouring countries. This extensive road network facilitates trade between Namibia and its neighbouring countries. In particular, the Trans-Kalahari Highway links the port to Botswana and the Gauteng province, the industrial heart of South Africa. Similarly, the Trans-Caprivi Highway links Namibia's landlocked neighbouring countries, including Zambia and Zimbabwe to the port of Walvis Bay. The Trans-Cunene further links the port of Walvis Bay to neighbouring Angola. Despite such extensive road network, most of the country's road infrastructure has been in existence prior to independence and are in urgent need of rehabilitation and maintenance, as outlined in NDP4 document.

Fig. 1: Road Network Map



Source: Roads Authority

**9. The management of the national road network is entrusted to the Roads Authority (RA) in terms of the Roads Authority Act 18 of 1999.** The RA manages the Namibian road user charging system by securing and allocating funding for the achievement of a safe and economically efficient road system. Funding is allocated to projects and programmes for the preservation and development of the national road network and major urban arterials. In carrying out its mandate of ensuring the development of the road infrastructure, the RA uses its Road Management System to monitor the condition of the roads and to ensure that roads that need urgent rehabilitation, resealing and re-gravelling will be attended to when funds are available. A number of major road upgrade and rehabilitation projects are underway and several are planned in the coming years – see Table 1.

**Table 1: Major road projects underway and planned between 2014 and 2030**

	Distance (km)	Implementation year	Estimated cost (N\$ mill)
Windhoek-Okahandja	97	2014 - 2019	2,867.9
Oranjemund- Roshpinah	100	2014 - 2018	547.3
Gobabis-Aminuis-Aranos	245	2014 - 2018	1,241.6
Otjinene-Grootfontein	231	2014 - 2018	593.1
Liselo-Linyanti-Kongola	205	2014 - 2017	338.0
Omafo-Ongenga-Outapi	98	2014 - 2018	856.5
Omakange-Ruacana	85	2014 - 2018	338.1
Bridges on Rehoboth-Mariental road	-	2014 - 2016	52.6
Swakopmund-Walvis Bay rehabilitation	30	2014 - 2018	886.9
Swakopmund-Walvis Bay upgrading	44	2014 - 2018	1,317.3

Swakopmund-Henties Bay-Kamanjab	402	2014 - 2019	546.5
Ongwediva-Ondangwa-Omuthiya	142	2014 - 2019	3,486.2
Okahandja-Otjizondju-Okandjato	180	2015 - 2019	629.0
Windhoek-HKIA	44	2014 - 2019	1,766.4
Grunau-Keetmanshoop-Marietal	386	2014 - 2019	373.5
Rehoboth-Marietal road rehabilitation	178	2015 - 2019	295.4
Ohangwena region	301	2016 - 2030	424.0
Omusati region	358	2016 - 2030	396.4
Oshana region	149	2016 - 2030	179.3
Oshikoto region	378	2016 - 2030	234.9
Kavango region	241	2016 - 2030	500.1
Zambezi region	84	2016 - 2030	220.4
Kunene region	283	2016 - 2030	246.3
Omaheke region	208	2016 - 2030	266.0

Source: Roads Authority

## 2.2. Railway Infrastructure

- 10. All railway networks in Namibia are managed by TransNamib in terms of Act no. 28 of 1998.** The railway network comprises of 2,382 km of narrow gauge track with the main line running from the South African boarder at Ariamsvlei via Keetmanshoop to Windhoek, Okahandja, Swakopmund and Walvis Bay. Northern section links up with Omaruru, Otjiwarongo, Otavi, Tsumeb, Oshikango and Grootfontein (Fig. 2). The east is linked from Windhoek to Gobabis, while the South from Windhoek-Keetmanshoop to Lüderitz.
- 11. Railway transport constitutes an important element of Namibia transport infrastructure, especially for bulk freight.** Rail in Namibia transports in excess of 1.8 billion tonnes of freight every year and a substantial number of passengers. There has been a recent extension project of the northern railway from Tsumeb to the Angolan border, catering for both freight and passengers. Other projects yet to be undertaken include plans to upgrade the railway lines from Rehoboth to Keetmanshoop (410 km), Keetmanshoop to the South African border (361 km), Keetmanshoop to Aus (226km), Windhoek to Usakos (210km), and Walvis Bay to Tsumeb (600 km).

Fig. 2: Railway Map



Source: TransNamib

**12. Although the railway sector has seen more investment in the recent past, it still requires substantial funding.** In this regard, work on a number of crucial projects has started recently. These include, the 400km Kranzberg-Tsumeb Railway Rehabilitation Project, expected to be completed by March 2015; the conversion of 30 cattle wagons into containers project which will cost N\$6 million; and refurbishment of fuel rail tank cars. TransNamib also plans to implement other projects between 2015 and 2017, such as commuter passenger trains to ease congestion on the roads, particularly in the Khomas Region. The trains will cover the City of Windhoek and also connect Windhoek to Okahandja, Windhoek to Rehoboth and Windhoek and the Hosea Kutako International Airport (HKIA).

**13. The Governments of Namibia and Botswana also signed an agreement to build the Trans-Kalahari Railway (TKR).** This consists of a 1,500 km heavy-load railway line linking Botswana's coalfields and Namibia's railhead at Gobabis. Alongside the construction of the new railway line connecting the two countries, the TKR project will also involve the overhaul and refurbishment of the railway line between Gobabis and Windhoek. The TKR project is expected to cost about N\$100 billion, which will be sourced mainly from the private sector. The basic aim of the TKR project is to expand freight capacity on congested transport corridors within the SADC region and offer increased trading opportunities for landlocked countries.



### 2.3. Airport Infrastructure

- 14. Namibia has eight airports, managed by the Namibia Airports Company (NAC).** Major airports in Namibia include, HKIA, Walvis Bay Airport and Keetmanshoop Airport, which are both equipped for wide-bodied aircraft. Small airports include, Rundu, Mpacha, Ondangwa, Oranjemund, Swakopmund and Eros. Air Namibia has domestic scheduled flights to Lüderitz, Mpacha, Ondangwa, Oranjemund, Walvis Bay and Windhoek. International destinations include Cape Town, Frankfurt, Johannesburg, Luanda, Maun and Victoria Falls (Air Namibia, 2014).
- 15. Crucial capital projects were carried out in the area of airport service infrastructure over the last five years.** These include the upgrading and renovation of terminal building and extension of public parking at HKIA. Going forward, the NAC is envisaging to construct a new terminal building and a second runway at the HKIA. The intention is to upgrade the HKIA to meet 4F international classification, which will enable it to accommodate larger aircrafts and more passengers. Further, there are plans to rehabilitate the runway, taxiway and apron at the Eros Airport, build a new terminal and upgrade the water reticulation network both at the Katima Mulilo and Rundu Airports. These upgrades and developments are needed to equip all airports with required infrastructures and are projected to cost an additional N\$7.0 billion.

Fig. 3: Air Routes Map



Source: Air Namibia

#### 2.4. Port infrastructure

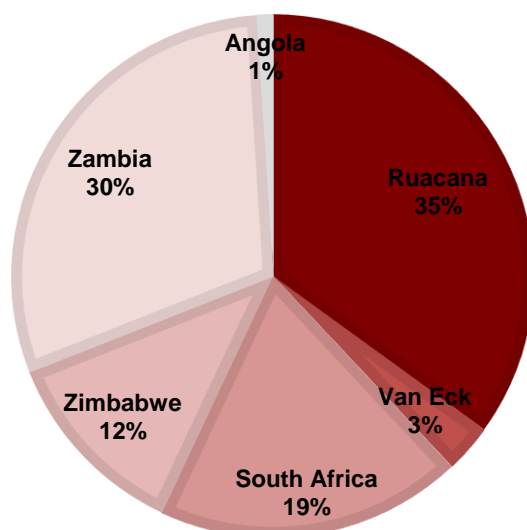
- 16. Namibia has two main ports, which are operated by the Namibian Ports Authority (Namport), namely Walvis Bay and Lüderitz.** Annually, these ports handle more than 6.5 million metric tonnes of cargo and facilitates trade with countries worldwide. Walvis Bay is the country's main port and the nation's only deep-water port. It has a depth of 12.8 metres and can accommodate container vessels with a maximum capacity of 2,400 tonnes. Walvis Bay Harbour boasts a new cargo and a container quay wall which is 500 metres in length and the channel has a draft of 8.15 metres, which can accommodate vessels up to 150 metres in length. In addition, this port handle over five million tons of cargo a year, 20 percent of which is containerized (NamPort, 2013).
- 17. The Port of Walvis Bay is one of the preferred entries in the SADC region due to its accessibility.** Namibia is linked to neighbouring countries of Botswana, Angola, South Africa, Zambia, Zimbabwe and the Democratic Republic of Congo (DRC). The port is also offering a shorter transport time, especially to West and Central Africa, Europe and the Americas. The port is currently under expansion at an estimated cost of N\$4.9 billion. The plan is to expand and deepen the harbour from 12.8 metres to 14.5 metres in order to increase capacity (NamPort, 2013). In addition, there are plans to construct a deep water terminal at the port from 2016 at a cost in the region of N\$30 billion.
- 18. Namibia's second Port of Lüderitz has seen increased activity as a result of the rise in fishing activities and developments in the mining sector.** The extensive upgrade of Lüderitz port began after an N\$85 million investment from Government as part of the NamPort four year

modernisation plan. Lüderitz, although traditionally a fishing port, has added a new cargo and container quay in 2000. The port is strategically located to cater for southern Namibia and the Northern Cape. A third harbour is planned for Mowe Bay, 500 km north of Walvis Bay. This would also serve the fishing fleet and accommodate mining activities in the north western part of Namibia.

## 2.5. Energy Infrastructure

**19. Namibia continues to be a net importer of energy.** NamPower, which manages Namibia's electricity network, is involved in generation, transmission and distribution. The main sources of power are the thermal power plants, coal-fired Van Eck Power Station, the hydroelectric plant at the Ruacana and the stand-by diesel fired Paratus Power Station. Additional electricity is sourced through imports from South Africa, Zambia, Angola, Mozambique and Zimbabwe. For instance, during 2012/2013, Namibia imported approximately 62 percent of its electrical energy requirements from countries in the SADC region, with Zambia (ZESA) being the main source (Fig. 4). Considering generally positive economic growth outlooks as well as demand-supply mismatches within sub-Saharan Africa, this situation is not sustainable for Namibia. Furthermore, power supply is critical to the economic growth of the country as lack of it can compromise investment. Mining is Namibia's heaviest energy consumer and together with manufacturing sectors drive electricity demand. With the projected increase in mining activities over the coming years, there is a need to expand power generation capacity in the country to meet such demand.

Fig. 4: Sources of electricity



Source: ECB Annual Report, 2013

**20. The demand for energy in Namibia is projected to increase, and may become critical by 2015/16.** The country's demand for electricity is projected to rise from approximately 3,500 GWh

to 7,500 GWh between 2012 and 2031 (ECB, 2013). In addition, the electricity demand per capita is estimated to increase from approximately 0.24 kW in 2011 to approximately 0.34 kW per person in 2031. Most of this expected increase in demand will be due to productive uses of electricity, such as new mining and commercial ventures (Konrad, 2012). Furthermore, just over 40 percent of households has access to electricity – if the coverage is expanded, then per capita usage will increase further. Going forward, the electricity demand is expected to outstrip supply by some 1,900 GWh by 2015 and 3,300 GWh by 2020.

**21. Significant funding is required in the energy sector to ensure uninterrupted power supply needed for investment and economic growth.** Major works will commence in 2015 to upgrade the 300MW Erongo Coal –Fired Power Station and this project is estimated to cost N\$5.0 billion. Nampower is also in the process of undertaking the 800MW Kudu Gas-to-Power project, which will cost in excess of N\$20 billion and is expected to begin construction in 2017. Plans are also underway to construct the 600MW Baynes Hydro Power Station at a cost in excess of N\$10 billion. There are also renewable energy projects to the tune of 50MW to be developed by Independent Power Producers (IPPs).

## 2.6. Water infrastructure

**22. Namibia has a wide water supply and treatment network, albeit most of it needs rehabilitation and/or upgrading.** NamWater, the only bulk water supplier in Namibia, estimated the total water consumption for municipality sector at 130 million m<sup>3</sup> in 2014. Expansion of industrial and agricultural activities coupled with population growth in the urban areas continues to put pressure on water resources (NamWater, 2014). The bulk of water supply in Namibia is sourced from the Hardap, Von Bach, Swakop, Goreangab and Naute dams. Other small dams are the Omatako, Friedenau, Otjivero and Oanob dam. These are supplemented by perennial rivers on the borderlands of Namibia's far north and south. However, these rivers are far away from the population centers; hence water supply is critical in most parts of the country.

**23. Water supply is more critical on the coastline in light of increased developments in the mining sector.** NamWater projects that water supply shortage at the coast will increase from about 400 thousand m<sup>3</sup> to more than 15 million m<sup>3</sup> by 2018. The widening water deficit is mainly as a result of the demand pressure especially from the mining sector and the situation is estimated to remain critical for the next 5 years. In this regard, NamWater has been sourcing water from the Areva Desalination plant to supplement its own sources.

**24. Upcoming water infrastructure developments are focused on averting potential water shortages in the main economic centres of the country.** Every year NamWater undertakes

several new and rolling-over water projects. Most of the major projects are in phases that cut across a number of years, mainly due to lack of funding. The main project involves building a system of pipelines and canals from the Kavango river to the central region, desalinating seawater to increase bulk water supply for industrial use and boreholes. Moreover, construction of the N\$2.4 billion Neckartal Dam is currently underway and the dam will hold an estimated 85 million m<sup>3</sup> at full capacity. This dam will cater for both developmental, particularly irrigation activities, and household needs. The discovery of substantial ground water in the north of the country provides additional alternative sources.

**25. During 2014, for instance, the cost of water projects is estimated at N\$104 million.** The main projects include Von Bach Windhoek transfer capacity increase and Calueque pump station upgrade, which collectively account for about 81 percent of the total cost. Other prominent projects are planned for the next three years and will collectively cost about N\$1.5 billion. These include, Otjimbingwe rural water supply, Swakop South water supply, Kuiseb collector-Schwarzekuppe-Swakopmund pipeline replacement, OMDEL-Swakopmund pipeline replacement and Ogongo-Oshakati canal rehabilitation (NamWater, 2014).

### 3. THE STATE OF INFRASTRUCTURE FUNDING IN NAMIBIA

**26. As outlined in the preceding section, Namibia has a wide network of infrastructure in place, whose construction were mostly funded by the Government.** The main sources of infrastructure funding the Government has been budget financing, external concessional loans, Development Finance Institutions (DFIs) loans and issuance of bonds. This Section reviews expenditure on infrastructure, those undertake directly by the Government as well as those expedited by State Owned Enterprises (SOEs).

**27. Government investment in infrastructure development as a percentage of GDP hovers around 5.0 percent.** This is much lower when compared to growing economies such as China that invest about 9.0 percent of their GDP in infrastructure development (Zhang *et al*, 2012). Namibia’s current infrastructure investment-to-GDP ratio is an indication that more investment in infrastructure is required to make a significant impact on economic growth. Over the past three fiscal years, for instance, the Government allocated a total of N\$23.6 billion (Table 2) for maintenance and upgrading of existing infrastructure and construction of new infrastructure.

**Table 2: Infrastructure Funding by the Government<sup>3</sup>**

<b>Sectors (N\$ millions)</b>	<b>2010/2011</b>	<b>2011/12</b>	<b>2012/13</b>	<b>Total</b>
Transport Infrastructure	3,487.5	11,319.6	5,227.0	20,034.0
Energy Infrastructure	119.9	411.2	232.0	763.0
Water Infrastructure	748.7	-	-	748.7
Social infrastructure <sup>4</sup>	1,938.0	-	122.7	2,060.7
<b>TOTAL</b>	<b>6,294.1</b>	<b>11,730.8</b>	<b>5,581.7</b>	<b>23,606.4</b>

Source: Development Budget 2010-2014/15 and authors’ own calculations.

**28. In addition to direct Government funding, SOEs also undertook major infrastructure projects.** Most of the projects were funded through direct transfers from the national budget to SOEs complemented by their own sources and borrowing on the balance sheet of SOEs, mainly from DFIs – see Table 3. In some instance, the Government provided further support through issuances of guarantees. Guarantees issued to support infrastructure development rose from N\$189.6 million in 1995/96 to N\$4.2 billion at the end of 2013/14. The Government also borrowed

<sup>3</sup> Figures were extracted from the Annual Development Budget books, by selecting infrastructure related projects in Ministries of Works and Transport (Transport Infrastructure), Mines and Energy (Energy Infrastructure), Agriculture, Water and Forestry (Water Infrastructure) and Regional and Local government (Social infrastructure).

<sup>4</sup> This comprises development spending on health facilities, education and housing. The government is currently focusing on increasing the number of health care facilities as well as mass housing projects. Therefore the projects included here are those mainly related to upgrading and improving services in district hospital as well as building houses for lower income groups.

funds on their balance sheet for purposes of on-lending to SOEs at a non-market rate of 3.0 percent. The size of such on-lending activities grew from N\$384.2 million in 2003/04 to N\$626.8 million at the end of 2013/14. Nonetheless, owing to poor repayment by SOEs, the practice of on-lending has been discontinued and SOEs are encouraged to access funding using their own balance sheets, and where need be, the Government will provide a guarantee.

**Table 3: Funding of Selected Infrastructure Projects (1993-2013)**

	Project name	Year	Cost	Type of funding
<b>Power infrastructure</b>	Caprivi Link Interconnector	2007-2009	N\$3.21 billion	Bond issuance, own funds
	Ruacana fourth turbine	2012	N\$750 million	Own funds, DFI loan
<b>Water infrastructure</b>	Neckartal Dam	2013-2015	N\$2.4 billion	Government funding
	Omdel Dam	1996	N\$49.5 million	Government Funding
	Omdel Swakopmund pipeline	2009	N\$30.6 million	Own capital
	Opuwo treatment plant	2009	N\$5.36 million	Own funds
	Swakopmund Mile 7 water supply	2009	N\$7.1 million	Own funds
<b>Transport infrastructure</b>	Tsumeb-Oshikango Railway	2006-2008	N\$1.4 billion	Government funding
	Trans-Kalahari Highway	1992-1997	N\$850 million	Government funding, DFI loan
	Rundu-Elundu Road	2009-2012	N\$1.1 billion	Government funds, DFI loan
	Kamanjab – Omakange Road		N\$286. million	Government funding.
	Okahao-Omakange Road	2009 - 2012	N\$182.9 million	Government funding
	Gobabis-Otjinene road	2012	N\$381 million	Government funding
	Okahandja-Karibib road rehabilitation	2008-2012	N\$424 million	Government funding
	Walvis Airport	2013-2014	N\$68 million	Own funds
<b>Housing infrastructure</b>	Otjomuise land servicing	2012-2014	N\$250 million	Own funds, PPP

**29. The Government also undertook multilateral and bilateral concessional loans to support infrastructure funding.** To this effect, long-term foreign loans incurred by the Government for purposes of advancing infrastructure projects is in excess of N\$2.0 billion (Table 4). The advantage of this source of funding is that it is cheaper than market-based funding sources, especially when accessed by the Government as they occasionally contain an in-built grant component.

**Table 4: Government external loans for infrastructure projects**

Sectors	Amount (N\$)
ICT infrastructure	18,659,949
Road infrastructure	1,649,124,916
Rail infrastructure	262,049,078
Airport infrastructure	135,745,526
Water infrastructure	140,715,749
Port infrastructure	32,488,013

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**Total**

**2 238 783 232**

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Source: Ministry of Finance

**30. Due to steady growth in the economy and aging stock of infrastructure, there is an emergent need for further infrastructure financing to complement Government efforts.** The Government, SOEs as well as the private sector need to combine resources. The participation of the private sector and foreign investment in infrastructure development has been limited. On its part, the Government drafted a Public-Private-Partnerships (PPP) policy in 2013 and is setting up the required institutional and legal structures to implement the PPP policy. The objective is to make the best use of the resources of both the public and private sector for infrastructure delivery (see Section 4 for further details on the PPP policy).



#### 4. LEGISLATIVE AND REGULATORY ENVIRONMENT

- 31. Namibia has limited regulation explicitly targeted towards private and/or public participation in infrastructure funding.** The State Finance Act of 1991 and the Sovereign Debt Management Strategy (SDMS)<sup>5</sup> have a bearing on infrastructure funding by the Government. The State Finance Act permits the Minister of Finance to undertake borrowing for the Government. Such borrowing, however, is undertaken in line with the prudential limits established in the SDMS document. The key benchmark in the SDMS is the strategic target aiming to keep national debt within 35.0 percent of GDP. The SDMS further stipulates that Government guarantees may not exceed 10.0 percent of GDP. These prudential limits may inhibit the Government from financing bulk infrastructure projects. The stock of Government debt stood at 25.0 percent of GDP, which leaves permissible borrowing by the Government for both infrastructure and other requirements at 10.0 percent of GDP (N\$14.1 billion). Similarly, the Government has room to issue about 6.0 percent of GDP (N\$5.8 billion) in guarantees for infrastructure as well as other funding needs.
- 32. There are, nonetheless, broader regulations pertaining to retaining domestic resources in the country with a view to finance productive investment by the private sector.** These includes the *Namibian Pension Fund Act of 1956* as amended and the *Long-term Insurance Act of 1998* as amended. The two laws prescribes that Pension Funds and Long-term Insurance companies should invest in domestic assets not less than 35 percent of the value of their assets<sup>6</sup>. The assets of Pension Funds and Long-term Insurers were estimated at N\$141.7 billion in 2013. Hence, N\$49.6 billion should be invested in Namibian assets. There was a recent amendment to the two Acts, which stipulates that only 10 percent of the domestic assets can be in dual listed stock, to be phased in over a 5 year period. Essentially, this frees up more funds for exclusively Namibian assets. The requirement on domestic assets, however, only applies to investments in listed instruments. Since Namibia does not have an Infrastructure Fund listed on the stock exchange, the country has been unable to direct such funds towards infrastructure funding. This is one constraint that can be addressed through creating an infrastructure fund and/or privatising certain public entities (see Section 5 for further exposition on this issues).

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<sup>5</sup> The SDMS is not a law but rather it is a document approved by cabinet which outlines prudential measures and benchmarks around which Government borrowing is conducted.

<sup>6</sup> The necessity of such a regulation stems from the free movement of capital within the Common Monetary Area (CMA), to which Namibia is a member. Namibian institutions tend to invest their portfolios in South Africa, due to better developed financial markets.

**33. The Government also has laws in place pertaining to unlisted investments.** Regulation 15 of the Long-term Insurance Act and Regulation 28 of the Pension Fund Act further compel insurance companies and pension funds to invest a minimum 1.5 percent and maximum 3.5 percent of their assets in alternative or unlisted investment vehicles. 'Unlisted investment' are defined as an investment that takes the form of equity or debt capital in a company incorporated in Namibia and not listed on a stock exchange. In essence, it implies that unlisted investments must be in the form of equity participation and that debt, such as bonds, will not qualify. At present, less than 2.0 percent of the pension and insurers funds are invested in unlisted investments. Therefore, there is still room to encourage private sector investment in infrastructure. This will require creating a regulatory and structural framework to make infrastructural projects attractive and accessible to institutional investors.

**34. The Namibia Stock Exchange (NSX) can serve as a platform to raise funds for infrastructure.** The Development Board on the NSX has lenient requirements, thus making it easier for companies to raise funding. Furthermore, local companies are allowed to raise capital through the listing of debt instruments such as bonds, if they do not wish to list on the NSX. Some of the SOEs such as NamPower, Telecom and the Road Fund Administration have already listed bonds on the NSX to fund some of their infrastructure projects.

**35. The Government is in the process of creating a PPP Act to induce and govern private sector participation in infrastructure funding.** The objectives of the PPP Policy are among others, to encourage private sector investment, encourage innovation, ensure rigorous oversight and governance, and provide the principles, framework and guiding procedures to assist agencies in applying PPPs.

#### **Box Article 1: Namibia Public Private Partnership (PPP) Policy**

Namibia Public Private Partnership (PPP) is defined as a medium to long term contractual relationship between the public sector and other private partners in the sharing and transferring of risks and rewards and in the provision of infrastructure and/or services in the performance of a Government function. PPP projects include economic projects, social projects, municipal assets and industrial infrastructure. PPP applies primarily to projects above the threshold level of N\$10 million though projects below N\$10 million may also be considered. The Policy will apply to the central government as well as to the regional and local authorities; however, application of the Policy to State Owned Enterprises (SOEs) will be determined by individual jurisdictions. The PPP policy is 'fused' in Vision 2030 and the National Development Plans.

Once enacted, the PPP will comprise of the Line Agency, the PPP Committee and the Central PPP Unit. The PPP Committee will operate under the Ministry of Finance and consists of its Permanent Secretary, as the Chairperson; representatives of the Ministries of Trade and Industry, Works and Transport, line ministry, representative from the National Planning Commission, Attorney-General's Office; and at least two representatives from the lead industry bodies, and/or multilateral agencies, and/or eminent persons with specialist skills in the PPP arena.

The Ministry of Finance will regulate the implementation of the Policy; provide overarching guidance and regulatory oversight; guide and regulate the functioning of the PPP Committee and the PPP Unit; provide approvals where the Line Ministry acts as the Line Agency; and provides approvals for all PPPs that have a contract value in excess of N\$150 million.

## 5. ESTIMATION OF THE INFRASTRUCTURE FUNDING GAP

36. This section presents the estimation of the core infrastructure gap in Namibia based on the survey on selected SOEs undertaken by the Bank of Namibia in August 2014 (see appendix 1). Infrastructure plans pertaining to SOEs which were not visited was obtained from their respective Master Plans. In summary, the survey was sub-divided into two parts, with Part one requesting cost of planned infrastructure projects starting 2014 and beyond; and Part two requested respondents to comment on their sources of funding, challenges and funding options. The findings from the survey are provided in the analysis below.

### 5.1. Infrastructure Funding Needs

37. The survey results indicates that approximately N\$223.6 billion<sup>7</sup> is required for infrastructure funding for the next five years and beyond (Table 5). Bulk of the funding is required in the transportation sector with a total planned projects with a financing requirement of N\$123.4 billion. The biggest chunk is required in rail infrastructure with a requirement of N\$60.7 billion, followed by port upgrading to the value of N\$34.9 billion and N\$17.9 billion in road infrastructure.

Table 5: Infrastructure Funding Requirement in Namibia

N\$ millions	2014/15	2015/16	2016/17	2017/18 – 2019/20	Grand Total
<b>Transport infrastructure</b>	<b>9,649.9</b>	<b>11,689.8</b>	<b>10,359.5</b>	<b>91,652.3</b>	<b>123,351.5</b>
Roads infrastructure	4,572.3	5,659.8	4,136.6	3,492.3	17,861.0
Rail infrastructure	2,300.0	2,500.0	2,400.0	53,600.0	60,860.0
Port infrastructure	1,967.6	2,450.0	1,012.9	29,500.0	34,930.5
Airport infrastructure	810.0	1,080.0	2,810.0	5,000.0	9,700.0
<b>Energy infrastructure</b>	<b>1,902.5</b>	<b>11,423.4</b>	<b>13,350.3</b>	<b>24,161.2</b>	<b>50,837.4</b>
<b>Water infrastructure</b>	<b>101.7</b>	<b>395.2</b>	<b>540.9</b>	<b>592.9</b>	<b>1,630.7</b>
<b>ICT infrastructure</b>	<b>737.0</b>	<b>608.0</b>	<b>642.0</b>	<b>701.0</b>	<b>2,688.0</b>
<b>Housing infrastructure</b>	<b>2,500.0</b>	<b>2,500.0</b>	<b>2,500.0</b>	<b>37,500.0</b>	<b>45,000.0</b>
<b>Grand Total</b>	<b>14,891.1</b>	<b>26,616.4</b>	<b>27,392.7</b>	<b>154,607.3</b>	<b>223,607.3</b>

38. There are also various projects in the pipeline to upgrade and develop port and railway infrastructure. For instance, Namport is constructing a new terminal at the Walvis Bay harbour at the cost of N\$4.9 billion and the project will be completed by 2017. Further to that, there are

<sup>7</sup> This figure is not inclusive of all potential infrastructure development and upgrading projects in the country, but only reflect the known projects in the pipelines of the different SOEs.

plans to construct a deep water terminal at the Walvis Bay harbour to serve as the SADC Gateway terminal. This project will commence in 2016 and the estimated cost is in the region of N\$30.0 billion. On rail infrastructure, the key project is the 1,900km Trans-Kalahari railway line connecting Botswana's Mmamabula coal fields to the port of Walvis Bay at a cost in the region of N\$100 billion. The financing of this project will be sourced through private stakeholders. TransNamib is also exploring the establishment of Commuter Passenger Trains to lessen the congestion on the roads within the City of Windhoek, as well as between Windhoek-Okahandja, Windhoek-Rehoboth and Windhoek-HKIA. Feasibility studies on the possible costs of such projects are yet to be carried out.

- 39. The funding needs for road and water infrastructure are also extensive.** On road infrastructure, the RA has plans to surface over 2,000 km under their programme of constructing gravel roads and upgrading gravel roads to bitumen standards. The projected cost of road infrastructure upgrading stands at N\$17.9 billion. There are other projects such as the expansion of the Windhoek-HKIA and the Windhoek-Okahandja roads into dual carriage way roads, which will be undertaken directly by the Government. With regard to water infrastructure, NamWater is focusing on desalination of seawater, primarily to serve the mining community along the coastline. Nonetheless, a feasibility study to determine the actual costing and set the timelines for the desalination project has not yet been conducted.
- 40. Plans are underway to upgrade major airports in the country.** This include extension and upgrading of the HKIA, to develop a new international airport with extended capacity and separate international arrivals and departure terminals, ancillary facilities, a fire station and a new air-traffic control tower. The expansion of the passenger terminal at the Walvis Bay Airport is currently underway at a cost of N\$67.6 million. Other airports in the country, such as Ondangwa Airport, are also in need of refurbishment, however, a feasibility study to establish the exact costs of this exercises are yet to be undertaken. The infrastructure financing needs for airport facilities are estimated at N\$9.7 billion.
- 41. The energy and housing sectors also have huge financing requirements of N\$50.8 billion and N\$42.5 billion, respectively.** The main project in the energy sector is the 800MW Kudu Gas-to-Power project, which if implemented at a cost in excess of N\$20.0 billion, is expected to propel the country from a net importer of electricity to a net exporter. The on-going Mass Housing Initiative is the key driver of increased funding needs in the housing sector. This projects emerges from the housing backlog in the country, estimated at around 100,000 units, and is estimated to cost N\$45.0 billion over 18 years (NHE, 2013).

**42. The survey also established the various sources of funding for infrastructure undertaking by the SOEs.** The main sources of funding were outlined to be user fees<sup>8</sup>, borrowing through loans and bond issuances and government transfers and subsidies (Table 6). From the projections of the SOEs, N\$73.5 billion of the estimated N\$223.6 billion funding needs could be financed through these three sources. The SOEs estimate to rely mostly on borrowed funds, accounting for N\$32.5 billion while user fees and government subsidy will provide N\$26.1 billion and N\$14.9 billion, respectively, of the estimated funding requirement. The portion of Government subsidy, however, results in an increased budget deficit and thus a higher borrowing requirement for the Central Government.

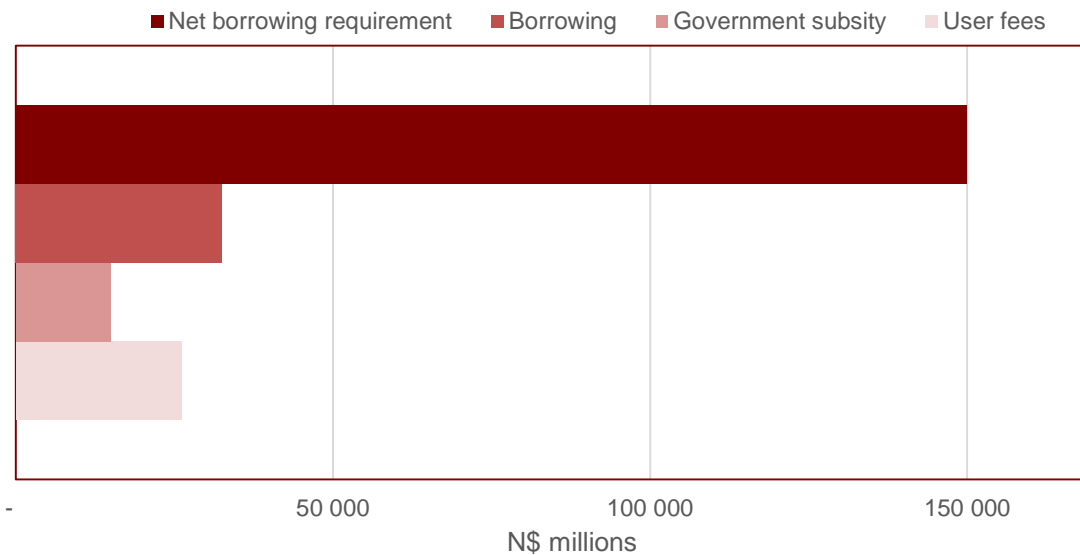
**Table 6: Sources of funds**

N\$ millions	2014/15	2015/16	2016/17	2017/18 – 2019/20	Grand total
<b>User Fees</b>	3,446.3	5,964.6	6,279.7	10,426.6	26,117.2
<b>Government Subsidy</b>	1,999.0	4,523.4	3,598.9	4,787.8	14,909.1
<b>Borrowing</b>	2,176.6	6,723.8	8,639.4	14,965.2	32,505.0
<b>Total</b>	<b>7,622.0</b>	<b>17,211.8</b>	<b>18,518.1</b>	<b>30,179.6</b>	<b>73,531.4</b>

**43. Taking into account the estimated sources of funds results in a net funding gap of about N\$150.1 billion** (Fig. 5). Some institutions, nonetheless, indicated that they do not have the capacity to borrow, owing to weak balance sheets. This is one of the main constraints that results in increased subsidy requirements from the Government. Furthermore, there is limited usage of private equity and other streams of private sector funds as a source of financing for SOEs to undertake infrastructure. This highlights a need for the Government to put in place frameworks and structures that will enable institutional investor to access infrastructure projects.

**Fig.5: Estimated Infrastructure Funding Gap**

<sup>8</sup> A significant portion of user fees are used to finance SOEs operations and maintenance of infrastructure under their mandates, implying that only a small portion is available for capital expansions.



## 5.2. Alternative funding options

**44. The above discourse, which established a net funding gap of N\$150.0 billion, makes it imperative to explore possible funding options.** Previous sections underscored that Government funding, user fees, concessional loans, guarantees, on-lending, bond issuances and loans from DFIs have been the major sources of finance for infrastructure in Namibia. Due to resource constraints and competing priorities, the public sector alone will not be able to fund all identified infrastructure projects, hence there is a need for private sector involvement. The literature provides further funding streams that can be explored for Namibia. These are the PPPs, privatisation, listed Infrastructure Funds and Pension Funds Investments. The rationale behind these funding options are summarised below.

### (a) Public Private Partnerships

**45. PPP is one of the many options, through which infrastructure gaps could be funded.** PPP refers to long-term, contractually regulated, co-operation between the public sector and the private sector for the efficient implementation of public projects. Such arrangements have gained momentum in most part of the worlds, and most countries are setting up PPP units within the public sector to attract private sector interest in the infrastructure development space. Namibia has drafted a PPP policy aiming at attracting private funds for economically viable projects. The policy will be implemented under the Ministry of Finance and plans are underway to get the PPP unit operational.

- 46. PPP arrangement delivers a couple of benefits to both institutional investors and to the public sector.** One of the advantages of the PPP approach to funding is that it pools resources from the private and public sectors and distributes project risks appropriately in line with the risk management competencies of the project partners (Hans *et al*, 2009:9). Further to that, PPPs can accelerate delivery of crucial infrastructure projects, which would be otherwise delayed due to limited funds from traditional funding sources. For the private sector, the benefits include being provided with an alternative investment vehicle, which yields diversification benefits and positive returns.
- 47. There are various considerations to be made by the Government when engaging in PPPs.** Such funding options are not necessarily cheaper than traditional funding sources. However, for the benefits outlined prior it is worthwhile to consider them. Further, the decision to choose the PPP option over public procurement should be ruled by the principle of “Value for Money” (VFM). That is, PPP should be selected only if it delivers better VFM than the public option.
- 48. In Namibia at present, there are PPP projects under execution, although on a limited scale.** A case in point is the funding of various projects by the Old Mutual Medina Fund to service land in Otjomuise and construct more than 200 affordable houses, in conjunction with the City of Windhoek and the National Housing Enterprises (NHE).

#### **(b) Privatisation**

- 49. Privatisation refers to the arrangement where ownership and control of public assets are transferred to the private sector.** This can take the form of the individual asset sales or sale of shareholding in state-owned companies. The rationale is for the Government to use the proceeds from the sales of such assets to finance critical infrastructure projects. Privatisation ideally should be considered for non-core essential services such as operation of tourism establishments, airlines and telecommunications, among others.

#### **(c) Listed Infrastructure Fund**

- 50. A Listed Infrastructure Fund is a public company listed on a stock exchange with the objective to raise funds for infrastructure financing.** This approach is geared towards attracting funds from pension funds, fund managers and long-term insurers with longer-term investment mandates. In terms of structure, a fund can have a prescribed debt-to-capital ratio, that is, there will be initial capital contribution, ideally from the Government to enhance investor confidence. Capitalisation is also crucial considering that infrastructure projects have a long-term span, and positive return are only yielded after a period of time.

**51. Like the PPP approach, raising capital finance is more expensive than debt finance.** The advantage for the government is the opportunity to fast track projects, which results in faster economic growth, increased tax revenue and general welfare. Partnering with the private sector also ensures that projects are executed more efficiently than if otherwise left to the public sector alone.

**(d) Pension Funds and Long-term Insurance Investments**

**52. Pension and Long-term Insurance funds provide a mechanism to utilise national savings for infrastructure development.** The interests of pension and long-term insurers and infrastructure financing are aligned in that they both have a long-term investment horizon which is accompanied by attractive yields, with potentially higher volatility. Infrastructure investments can also provide diversification to the portfolios of institutional investors.

**53. Transparent and steady regulatory frameworks are a requirement for attracting institutional investments to the infrastructure space.** Direct investment in infrastructure by institutional investors in Namibia has been limited so far. Regulation 15 and Regulation 28 prescribe that institutional investors are allowed a maximum of 3.5 percent of their portfolios into unlisted investments. Further, there are no clear frameworks of how institutional investor can participate in infrastructure financing. These constraints can be addressed through regulatory amendments as well as creating infrastructure funding instruments and structures. As mentioned before, institutions are required to invest only 35 percent of the market value of their assets in Namibia. If Namibia can offer more investable assets to these institutions, this percentage may increase spontaneously over time. The offering of investment instruments in infrastructure may play an important role in this regard.



## 6. CONCLUSION

- 54. The objectives of NDP4, sustained economic growth, employment creation and improved income equality can only be achieved through sustained investment in physical infrastructure.** This study reviewed the existing infrastructure in Namibia, the funding sources and estimated the net funding gap of known infrastructure projects. The paper concludes that Namibia faces financial constraints to expedite crucial infrastructure development and upgrading. The traditional funding sources are inadequate to address the huge infrastructure financing requirement. Therefore, the country needs to develop strategies to address the funding shortage and unlock potential economic benefits.
- 55. Although the country already has a wide network of physical infrastructure, there is a growing infrastructure gap owing to a combination of aging infrastructure, years of under-investment and the expanding population.** The total infrastructure funding requirement for Namibia is estimated to be in the region of more than N\$220 billion. The highest requirement is in the rail, energy, housing and port infrastructures. Moreover, it is projected that SOEs can only manage to raise N\$73 billion through a combination of user fee charges, Government subsidies and borrowing. This leaves a net funding gap of about N\$150 billion. There is, therefore, a need to establish additional sources of funding to complement the traditional approaches.
- 56. The Government has embraced the PPP approach to spearhead infrastructure investment by drafting a PPP policy and enacting the required legislation.** This is expected to be completed by the end of 2014.
- 57. Other funding approaches such as Listed Infrastructure Fund, privatisation and channelling institutional funds can also serve as useful funding sources for infrastructure.** There is a need, however, to establish the required regulatory framework and structure for these approaches to become viable.

## REFERENCES

- Bank of Namibia. (2010). “*Developing Namibia’s Transport Sector: Which Approach to Follow?*” Bank of Namibia Internal Research Paper.
- Della-croce, R. (2011), “*Pension Funds Investments in Infrastructure: Policy Actions*”, OECD Working Paper No.13.
- Ghemawat, P. & Altman, S. (2012). “*DHL Global Connectedness Index 2012: Analysing global flows and their power to increase prosperity.*” IESE Business School.
- Hans, W. A. (2009). “*Private Partnership in infrastructure development, case studies from Asia and Europe.*” [http://www.b-capitalpartners.com/media/dwl/PPP in Infrastructure Development.pdf](http://www.b-capitalpartners.com/media/dwl/PPP_in_Infrastructure_Development.pdf)
- Ministry of Works and Transport. (2014). “*Developing Namibia’s Transport Sector.*” Newspaper supplement: <http://www.informante.web.na/sites/default/files/ministry%20of%20works.pdf>
- European Commission. (2003). “*Guidelines for successful Public-Private partnerships.*” [http://europa.eu.int/comm/regional\\_policy/sources/docsgener/guides/PPguide.htm](http://europa.eu.int/comm/regional_policy/sources/docsgener/guides/PPguide.htm)
- Lukas, B. (2007). “*Financial Innovation for Infrastructure Financing*”. International Conference of European Asian Civil Engineering Forum, Universitas Pelita Harapan.
- Ministry of Trade and Industry. (2014). Public-Private-Partnership Policy. Windhoek, Namibia.
- National Planning Commission. (2012). “*National Development Plan 4 (NDP)*”. Windhoek, Namibia.
- Namibian Port Authority, Annual Report (2014)
- Namibia Power Corporation, Annual Report (2013/4)
- Pegasys Strategy and development (2012). “*Review of Principles and Experience for Infrastructure Finance*”. Working paper WP10465.
- Roads Authority. (2012). “*Medium To Long Term Roads Master Plan Revision*”. Windhoek, Namibia.
- Roads Authority. (2013). Annual Report. Windhoek, Namibia.
- TransNamib. (2014). “*Strategic Business Plan: 2014/15 - 2018/19.*” Windhoek, Namibia.
- Wyman O. (2014). “*Infrastructure Investment Policy Blueprint*”. World Economic Forum paper.
- Zhang, Y., Wang, X and Chen, K (2012). “*Growth and Distributive Effects of Public Infrastructure Investments in China*” Working Paper 2012-07.

## APPENDIX

### LIST OF SOEs REPRESENTATIVES INTERVIEWED

<b>Name</b>	<b>Institution</b>	<b>Position</b>
Andre Barlow	NamPower	Head of Treasury & Strategic Finance
Hanri Jacobs	NamPower	Chief Officer: Finance, Treasury and Property Management
Joe Mukena	NamPower	Snr Manager: Strategic Finance
Willem Venter	Namwater	Snr Manager: Fixed Asset Management
Cornwell Chadya	Namwater	General Manager: Finance and Asset Management
Kabende Angelina	Road Authority	Senior Transport Economist: Network Planning & Consultation
John Mugaviri	NHE	Senior Manager: Finance, HR & Administration
Matthias Ngwangwama	NWR	Senior Manager: Finance & Support Services
Thinus Smit	MTC	Chief Financial Officer
Robert Offner	Telecom	Chief Financial Officer
Fanuel Hiiko	NPC	Acting Chief National Development Advisor
George Esterhuizen	City of Windhoek	Chief Financial Officer
Immanuel Shipanga	Walvis Bay Corridor Group	Manager: Projects and Funding