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High Ambitions and High Risks:

Programme for Infrastructure Development in Africa (PIDA)

By Dr. Mzukisi Qobo

About the Author

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Table of Contents

ACRONYMS

AfDB	African Development Bank
AU	African Union
AUC	African Union Commission
CAR	Central African Republic
EU	European Union
ECA	Economic Commission on Africa (of the UN)
ICA	Infrastructure Consortium for Africa
IFC	International Finance Corporation (of the World Bank Group)
IPP	Independent Power Producer
PICI	Presidential Infrastructure Champions Initiative
NEPAD	New Partnership for Africa's Development
ODA	Official Development Assistance
PIDA	Programme for Infrastructure Development in Africa
PAP	Priority Action Plan (of PIDA)
PPP	Public Private Partnership
REC	Regional Economic Community
REIPPP	Renewable Energy Independent Power Producer Programme

Regional Economic Communities in Africa

CEN-SAD	The Community of Sahel-Saharan States
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
IGAD	Intergovernmental Authority on Development
SADC	Southern African Development Community
UMA	Arab Maghreb Union

1. Overview

According to the World Bank's claim, Africa's infrastructure funding gap is $93 billion per year until 2020, and 40% of this is for power needs. Of this total, about $66 billion per year represents Sub-Saharan Africa's funding gap until 2020. Africa can bridge this gap if it doubles its spending on infrastructure (investment plus operations and maintenance) to about 15% of the continental GDP. Importantly, if Africa recovers the approximately $50 billion in illicit financial flows that leave the continent each year, it would go a long way toward financing its broader development agenda.[1]

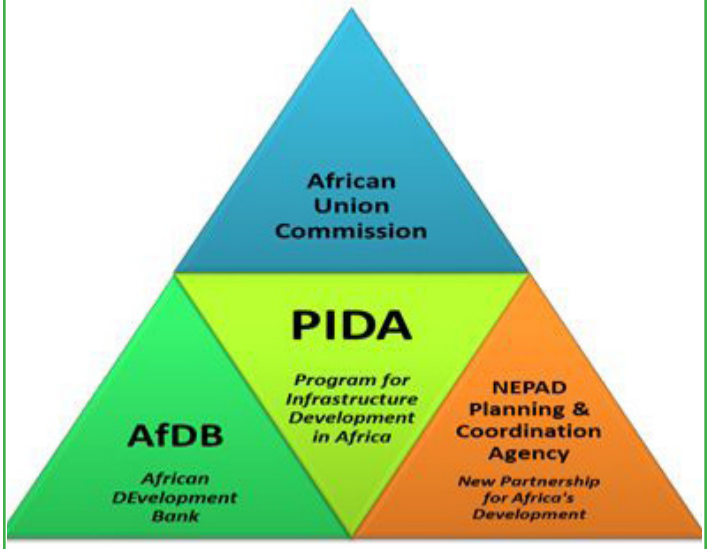
In justifying a major expansion in spending, a World Bank's study, "Infrastructure: A Time for Transformation", conducted in 24 African countries, estimates that the poor state of infrastructure in Sub-Saharan Africa cuts national economic growth by 2 percentage points every year and reduces business productivity by as much as 40 percent.[2] Accordingly, infrastructure improvements are associated with increased economic growth rate, and with little consideration of negative environmental and other externalities.

African Leaders support the recommended scaling-up of infrastructure development and called for the creation of the Programme for Infrastructure Development in Africa (PIDA), as the blueprint for the continent.[3] This programme weaves together two plans: the New Economic Partnership for Africa's Development (NEPAD)[4] and the Infrastructure Master Plan of the African Union (AU) in a single, inter-regional, and overarching framework for infrastructure development for Africa.

In 2012, African Heads of State adopted PIDA as a strategic framework that will run through 2040 in order to develop continental (cross-border) infrastructure (Energy, Transport, Information and Communication Technologies (ICT) and Trans-boundary Water Resources). PIDA's main purpose is to strengthen the consensus and ownership of large cross-border infrastructure project that integrate energy, transportation, and water development on a continental scale.

PIDA is spearheaded by three pivotal African institutions: the African Union Commission (AUC), the New Partnership for Africa's Development Planning and Coordination Agency (NEPAD Agency), and the African Development Bank (AfDB).

Chart 1: Key Institutions Driving PIDA



PIDA's projects are estimated at $360 billion up to 2040. For its 51 priority action projects (PAP), the cost estimate stands at $68 billion from 2012 to 2020, or $7.5 billion in expenditure per year.[5] Since PIDA spending represents about 17% of the anticipated $45 billion annual increase in infrastructure spending, the manner in which it complements other infrastructure spending on the continent is critical. See Annex II for maps of PIDA's energy, water and transportation projects.

PIDA is also intended to support economic integration of Africa and its nine regional economic communities

1 Fioramonti highlights the risks of preoccupation with GDP to the exclusion of a variety of other social dimensions for policy making. He lays out his argument perspicaciously in "Gross Domestic Problem: The Politics of the World's Most Powerful Number." London: Zed Books, pp.50-81.

2 Foster, Vivien and Briceno-Garmendia, C, "Africa Infrastructure: A Time for Transformation." Washington D.C: World Bank, 2010. Middle income countries spend about $16bn from domestic sources, often representing 5-6 percent of GDP, whereas low-income countries spend $1.4 to $6.7bn, which represent 6% to 10% of GDP.

3 OECD: Mapping Support for Africa's Infrastructure Investment (2012)

4 NEPAD's Short Term Action Plan and its Medium to Long Term Strategic Framework.

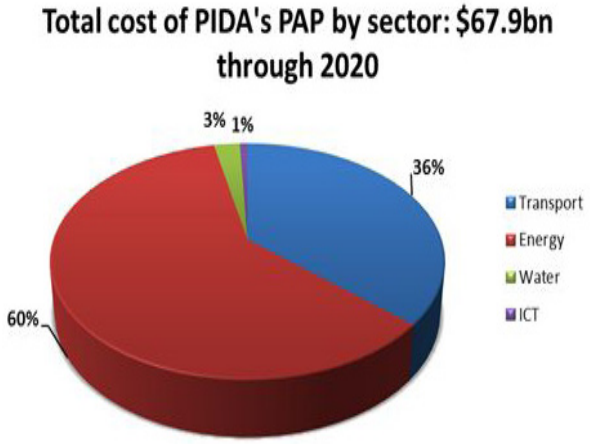
5 World Economic Forum, Strategic Infrastructure in Africa: A Business Approach to Project Acceleration (2013).

(RECs). Infrastructure deficiencies are seen as competitive disadvantages as they hinder intra-regional trade flows and make it harder to take advantage of regional markets.

Currently, the bulk of infrastructure spending in African countries, about two-thirds, comes from domestic sources. African governments, infrastructure users, the private sector, and external sources (outside of official development assistance (ODA)) are said to contribute a combined $45bn.[6] With respect to the four areas of prioritisation, PIDA highlights: energy, which takes the lion share at $40 billion (60%), followed by transport (roads, railroads, ports and airports) at $25.4 billion (37%), and water at $1.7 billion (2.5%). ICT sector accounts for only $0.5 billion.[7] These areas are regarded as both public and private sector challenges.

PIDA's blueprints assume that "the average economic growth rate for African countries will be 6% a year between 2010 and 2040, driven by a surging population, increasing levels of education and technology absorption."[8]

Chart 2: Sectors and Funding Gap



This report describes PIDA in the context of Africa's infrastructure needs; its vision; its projects; its aspirations to attract private financing; and the way that external actors, including public and private lenders and investors, relate to PIDA and infrastructure investment opportunities more broadly. This is especially critical since the financial architecture for infrastructure is undergoing dramatic changes that present high risks as well as opportunities for the continent.

PIDA will funnel resources from a new generation of development finance institutions is being launched, including the Asian Infrastructure Investment Bank, and a BRICS Bank (led by Brazil, Russia, India, China, and South Africa) which may invest heavily in African infrastructure. There are also private equity funds that are both listed and unlisted, and with the intention to invest in Africa's infrastructure. Sovereign wealth funds too are mobilised to augment Africa's infrastructure. Importantly, each of the BRICS countries, especially China, has a rising investment portfolio in Africa.

With the strong encouragement of the Group of 20 (G20), existing development finance institutions are re-orienting their business lines to feature infrastructure. For instance, in 2014, the World Bank Group is expected to launch a new Global Infrastructure Facility. To expand the assets of new and existing institutions, the G20 is working to mobilize long-term institutional investors, such as pension funds, to take advantage of infrastructure as an "asset class" with potential for strong, long-term returns.

This report also focuses on the challenges of infrastructure as an aspect of development, and more specifically assesses the efforts undertaken by PIDA, African policymakers and external actors to overcome these challenges. In particular, it undertakes a critical assessment of the gaps in the governance of infrastructure projects, especially: the fragmented nature of programme execution; lack of effective agency coordination; and weaknesses with respect to environment and social impacts, which are often dealt with at the domestic level where institutional capacities can be weak.

The report concludes that PIDA represents both high ambitions and high risks. It will be promising if PIDA can serve as the blueprint for multiple and competing sources to invest in sustainable and equitable infrastructure. Yet, as the conclusion describes,

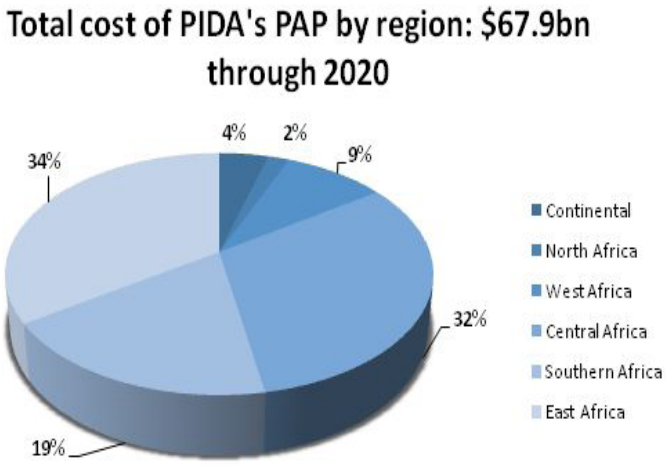
6 Foster, Vivien and Briceno-Garmendia, C, "Africa Infrastructure: A Time for Transformation." Washington D.C: World Bank, 2010, p.65.

7 "Programme for Infrastructure Development in Africa: Closing Africa's Infrastructure Gap."

8 PIDA: Interconnecting and Transforming a Continent: African Union Commission, African Development Bank, Economic Commission for Africa.

PIDA must rise to meet a range of challenges related to: political buy-in; sensitivity to environmental, employment and social questions; costs to taxpayers and users of infrastructure services; institutional capacity; technical ability to harmonize policies and regulations within and across borders; and security.

Chart 3: Regional Variations and PIDA Cost



2. PIDA Governance

The PIDA Priority Action Plan sets out the top priority regional infrastructure needs up to 2020 estimated to cost $68 billion; and rightly points out that African countries will have to mobilize most of this financing themselves from domestic public and private resources as well as through foreign private investment. National governments are expected to take action to address the many barriers to trade and investment that hold back PIDA implementation.

PIDA operational model

The governance structure of PIDA was envisaged as participatory and involves, in particular, the AU Commission, the NEPAD Secretariat and the African Development Bank, which are jointly the programme sponsors and owners. The structure claims to hinge on two main principles: i) Results-based Programme management and efficiency; and ii) the participation of each key stakeholder (See table 1) in PIDA governance organs. These stakeholders include:

- A seven-member panel of Experts (POE), which guides PIDA consultants and provides high-level peer review.[9]
- A steering committee chaired by the AU. The Steering Committee comprises representatives of the AUC, AfDB, NEPAD Secretariat, RECs and the Economic Commission for Africa (ECA). It serves as the programme orientation and approval organ of the POE. Its other functions include providing coordination; direction; and facilitating cooperation with regional and national institutions vis a vis research and data collection and navigating political and security hindrances.
- The Technical Committee is chaired by the AfDB and serves as the quality control organ. It comprises experts from the AUC, NEPAD Secretariat, AfDB, ECA and resource persons from the specialized regional and international institutions. It is a technical group, and will also be responsible for preparing meetings of the Steering Committee.
- AfDB as the executing agency is responsible for PIDA's contractual, financial and administrative management.
- A Project Management team led by division managers, including the NEPAD Division Manager, and the Regional Integration and Trade Department of AfDB.[10]

Overall political accountability of the programme falls under the AU, in particular, the AU Summit.[11]

The Presidential Infrastructure Champions Initiative (PICI)

The Presidential Infrastructure Champions Initiative (PICI) is a mechanism for consolidating support for key PIDA projects, especially to sustain political will and commitment at national levels. This mechanism uses the concept of "political championing" by individual heads of states/governments in order to accelerate the implementation of prioritized regional and continental infrastructure projects in the continent. However, this mechanism also risks marginalizing citizens and their elected representatives in parliaments. It could become too elite-driven to have resonance with citizens or even allow for accountability to national parliaments.

9 See the PIDA organisational profile at the PIDA website here.
10 Ibid.
11 Author interview with Michele Reuters, Infrastructure Specialist- Development Bank of Southern Africa, 21 March 2014.

NEPAD serves as the PICI secretariat. What this means is that NEPAD is expected to play a role as an executing agency and coordinator, while the AUC is a member of its Technical Task Team. PICI has Seven Projects for which there are "Six Champions" - namely, the "host" countries. The various projects and their champions are: the Nigeria-Algeria Gas pipeline (Nigeria); the trans-Saharan highway (Algeria); Congo-DRC rail, road and border post (DRC); North-South Corridor rail and road (South Africa); the Great Lakes optical fibre network (Rwanda); and Dakar-Ndjamena-Djibouti rail and road (Senegal). The PICI project under the responsibility of Egypt became defunct largely owing to that country's protracted political instability.[12] The projects that are performing well in PIDA are those that have active PICI Champions[13], as set out above. Those that do not have champions are laggards.

3. PIDA's Vision

Foggy Vision?

The grand vision for PIDA is that of economic integration and to act as a springboard for growth and prosperity. As noted below, PIDA's projects are implemented by the nine regional economic communities (RECs) within Africa with the goal of internal integration within each REC as well as integration among the RECs.

The core principles that guide PIDA include an integrated vision of infrastructure development; build synergies between the priority infrastructure sectors; ensure harmonised national policies, regulatory and institutional frameworks; adopt a strategic approach towards prioritisation of programmes; establish effective regional mechanisma for programme development and implementation; promote innovative financing architecture and private sector orientation; and ensure stronger partnerships and coordination.[14]

The principles lead to a foggy vision because, in the colonial era, infrastructure was used to extract raw materials from subject countries. To develop, countries have diversified through processes of industrialization (secondary and tertiary processing of raw materials) and service provision. Often, countries have pursued labour-intensive industrialization in order to absorb excess labour and expand domestic demand.

Today, the economies of Sub-Saharan Africa are still significantly dependent upon the export of raw materials. Industrialisation remains a pipedream. Instead, there has been evidence of deindustrialization in Sub-Saharan Africa to the point where today, the industrial sector has a smaller share of GDP than it had in 1970.[15]

It remains unclear how PIDA's high ambition will help pilot a development trajectory that can shift Africa away from resource-dependence towards broad diversification of economic sectors.

A set of visions for each sector was articulated in the PIDA framework.

On **water**, PIDA's vision is "to promote integrated water resources management to develop transboundary water infrastructure projects, strengthen transboundary management frameworks for regional integration and enable water security for the socio-economic development of Africa". Trans-boundary water resources are by their very nature shared resources that require regional cooperation with the purpose being to ensure food security and hydropower generation. Yet, it critical that such a vision advance access to water services and agricultural prosperity, since lack of access severely constrains quality of life, health, livelihoods, and progress. This is especially important since, due to the impact of climate change, agricultural yields could decline by as much as 50% by 2020 and millions of people could be at risk of increased water stress.[16]

Roughly 80 percent of Africa's waters are shared across borders and growing populations and climate change could, therefore, exacerbate sources of intra-

12 The department of International Relations and cooperation, "Presentation on the AU/NEPAD Presidential Infrastructure Championing Initiative (PICI) aimed at advancing Regional Integration through Infrastructure development in Africa," 3 February 2012

13 Author interview with Ms. Xolelwa Mlumbi-Peter, Chief Director: Africa Multilateral: International Trade and Economic Development Division, Department of Trade and Industry, South Africa, 25 March 2014.

14 PIDA Executive Note, "Interconnecting, Integrating, and Transforming a Continent", 1 April 2012. Unpublished Note.

15 "Industrial Policy in the African Context," Joseph Stiglitz, Justin Lin, Célestin Monga, and Ebrahim Patel, Policy Research Paper 6633, World Bank, September 2013.

16 UNCTAD, "Economic development in Africa: Structural transformation and sustainable development in Africa," Trade and Development Board, 17-28 September 2012, p. 4.

regional tensions and conflict.

From North to South, examples of PIDA water projects include:

- the North-West Sahara Aquifer System,
- Dams: Gourbassy Dam,Fomi Dam, Noumbiel Dam, Palombo Dam
- Lesotho Highlands Water Project (Phase II Water Transfer)
-

On **Information Communications Technologies**, PIDA's vision seeks to "enable Africa to build an information society and an integrated digital economy in which every government, business and citizens has access to reliable and affordable ICT networks." To achieve this PIDA sets out to double the ICT contribution to GDP from 5% to 10% by 2025; and increase access and security of access to broadband connectivity.

Regarding **transport**, PIDA's vision is to "work towards an integrated continent where the transport infrastructure and services enable the free movement of goods and passengers". It hopes to achieve this by improving interconnections of African capitals and major centres with modern paved roads and modern rail systems, amongst others. This, of course, is with a view to build functional transport corridors and facilitate trade.

Transport has importance for trade facilitation, strengthening economic relations, creating larger markets, facilitating mobility of people, and enhancing overall socio-economic development.

Currently 20 – 25 percent of roads are paved on the continent, with level of maintenance worsening since

Box 1: PIDA Hydropower Case Study

PIDA Hydropower Case Study: Ruzizi III

An example of a promising project is the Ruzizi III project , a 145 MW hydropower plant located on the Ruzizi River that flows between Lake Kivu, bordering the Democratic Republic of Congo and Rwanda, and Lake Tanganyika in Tanzania, which will cost $400million –$600 million. As is well-known, for over two decades, this part of Sub-Saharan Africa has existed under a cloud of internal and cross-border tensions that took on ethnic dimensions.

This is also an area that has high poverty levels, with countries that are characterised as "least-developed". Using low-cost renewable resource in the form of hydropower and geothermal energy promises to go a long way in generating energy that will not only be accessible to the citizens, but also hold promise for economic growth. It is also hoped that this form of economic cooperation over a resource that is vital for the three countries will act as a pivot for stability.

This hydropower plant generates electricity in equal portions for Rwanda, Burundi and the Democratic Republic of Congo (DRC). This, in a sense, is a form of regional integration arrangement, which requires a great deal of cooperation amongst the various partners to manage this critical public good. It straddles countries from the East African Community and the Common Market for East and Southern Africa (COMESA). The objectives of this project are to bridge the medium-term energy deficit; provide energy necessary for economic recovery in the sub-region; and contribute to reconstruction and rehabilitation of socio-economic infrastructure and rural electrification.

One of the signifying factors of this project is that it is the **first regional PPP in Africa** that is financed through debt and equity, and with a majority of private ownership. Significantly, it is part of the PIDA Priority Action Plan. The feasibility for the project was undertaken by SOFRECO (French) and Fichtner (German) during 2008-2011. If there is any doubt about the thrust of donor-supported infrastructure programmes in Africa, and PIDA projects in particular, the Ruzizi III project is an exhibit: these are commercially-based projects, and largely driven by the private sector. The private sector and donors tend to trust projects that are based on a transparent and clear regulatory framework that is reflected in viable PPP, i.e., underpinned by feasibility assessments ("bankability") and legal agreements. For energy projects, this is in the form of Power Purchasing Agreements by government-backed off-takers (public utilities companies).

A private consortium selected through a tender process (see below) will build, operate, own, and transfer the plant back to government after 20 years. The strength of the project so far is due to a set of conditions that have been put into place:

the 1970s and 1980s. Further, there are poor rail interconnections. Sub-Saharan Africa has a network of about 83,787km of railway lines over an area of about 30.3 million square km.[17] African economies are highly fragmented and with very low levels of intra-regional trade compared to other regions of the world. Good roads and functioning ports and rail systems are crucial for catalyzing regional integration and economic development.

Examples of PIDA's transport links include: 1) Cairo to Dakar; 2) Algiers to Lagos; 3) Tripoli to Windhoek; 4) Cairo – Gabarone; 5) Dakar to N'Djameno; 6) N'Djamena to Djibouti; 7) Dakar- Lagos; 8) Lagos to Mombasa; and 9) Beira to Lobito.

It is unclear how PIDA's view of transportation connects to Africa's vision for enhancing its tiny share in world trade or benefiting the average African. It is important that efforts to improve transportation consider directly benefiting citizens within countries rather than simply focusing on the needs of corporations for large-scale projects to move, import, and export commodities and manufactured products. There should be a strong bias towards supporting public means of transport. In rural communities this should also support access of communities to markets and trading centres. Furthermore, it is important that transportation fees and tolls are not prohibitive and limit the use of transportation corridors to corporations and the privileged few.

17 African Development Bank, Africa in 50 Years' Time, p.85. http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Africa%20in%2050%20Years%20Time.pdf [Accessed: 10 April 2014].

existence of a pre-development team; good communication amongst the various countries in order to maintain support; targeted capacity building support; rapid execution of preparatory studies; and the availability of substantial project preparation funds.

The European Union supports the project through the EU Infrastructure Trust Fund, with the European Investment Bank as a lead financier. Construction was scheduled to commence in 2013 (but this has since been revised to 2016) with completion in 2016/17 (revised to 2020).

The Economic Community of the Great Lakes countries (CEPGL) is the implementing agency that plays an important role with respect to coordination amongst the various role players that are key for project success, as depicted graphically above. The private sector developers are in the form of a consortium led by US-based SITHE Power Ventures LLC; and the Kenyan company, Industrial Promotion Services. The project off-takers are the public utilities from the three countries, and agreements are structured on commercial terms to take care of risk but also with guarantees for delivery by the developer.

Some of the risk issues that are highlighted in the project include: political instability, especially because the project falls within a politically sensitive area that has a history of conflict, with rebel movements still roaming about.

The second risk that has been cited has to do with the inflation of project costs that may have an adverse effect on the tariff structure. Tariff increases would certainly bleed the off-takers and drain state resources or divert resources from other critical areas of social development. The mitigating factor here is that sponsors and lenders have imposed strictures on the developer with regards to cost over-runs, and are compelled to commit to fixed prices. Cost-control measures have, therefore, been put in place.

The third risk concerns the poor financial state of public utilities, especially those of Burundi and the DRC. Governments in these countries often default on their payments to public utilities, thereby leaving them cash-strapped. Crucially, the governance of public utilities can determine success and failure of projects, especially since the public utilities are the off-takers. Their governance only takes place at the domestic level which increases project risk. The only guarantee or risk mitigation is that governments of these countries would be liable for fulfilling payments in case of default by public utilities. This is tantamount to socialising risk, where the upside belongs to the private sector.

On the upside, the project could contribute towards maintaining peace and stability in the area. This is possible if the three countries deepen their cooperation at the political level. Already there is a great deal of political goodwill amongst the three countries with the Ruzizi III project enjoying rare political support across borders.

PAP-Energy Investment Cost: $47.1 bn

(plus Nigeria-Algeria Pipeline $ 13 billion)

Inga Hydro Phase 3	10,000	ECCAS	Central
Central African Interconnection	10,500	ECCAS	
Great Millennium Renaissance Dam	8,000	COMESA/ IGAD	Eastern
Batoka Dam	2,900	COMESA EAC	
Ruzizi III Dam	450	COMESA EAC	
Rusumo Falls Dam	350	COMESA EAC	
Uganda-Kenya Petroleum Products Pipeline	250	COMESA EAC	
North Africa Transmission	1,200	AMU	Northern
Nigeria -Algeria Pipeline	13,00	UMA ECOWAS	Northern, Western
North South Power Transmission Corridor	8,000	COMESA EAC SADC IGAD	Southern
Nphanda -Nkuwa Dam	2,900	SADC	
Lesotho HWP Phase II -hydropower component	770	SADC	
Sambagalou Dam	429	ECOWAS	Western
West African Power Transmission Corridor	350	ECOWAS	
Kaleta Dam II	1,012	ECOWAS	

Table 1: List of PIDA regional energy projects and costs
Source: NEPAD, African Development Bank

Energy: Forty percent of Africa's infrastructure needs are in the energy sector. As Foster and Briceno-Garmendia point out, power is Africa's largest infrastructure challenge, with 30 countries facing regular power shortages and rural populations lacking access to national grids.[18] Indeed, only 39% of Africa's population had access to electricity in 2009, but by 2040, PIDA promises to ensure that 70% has access.

In the area of energy therefore, the vision is to "develop efficient, reliable, cost-effective and environmentally-friendly infrastructure for the physical integration of the continent and enhance access to modern energy services for the majority of the African population." This would be achieved through: developing regional and continental clean power generation and transmission projects; implementing high capacity oil refineries and oil and gas pipeline projects; and developing renewable energy resources. More than half of Africa's population relies on kerosene or candle for lighting. The importance of shifting to a low-carbon trajectory in the continent was highlighted at the outset of the PIDA project. But this does not feature strongly in the discourse about infrastructure development; the preoccupation is more on attracting large private sector funding.

The list of PIDA's priority energy projects shows a significant reliance on large dams, some transmission and pipeline projects and few renewable energy efforts.

PIDA envisions 15 energy projects; 24 transport; 9 water; and 3 ICT projects. Some energy projects included are listed in the table above.

The above table includes 9 dams, and PIDA's transboundary water projects include 4 dams (Gourbassy Dam, Fomi Dam, Noumbiel Dam, and Palombo Dam), for a total of 13 dams.

Yet, a recent peer-reviewed article by Oxford University researchers finds that large dams are often uneconomic. The database used by the researchers includes 245 projects in 65 countries with a total cost of $353 billion (in 2010 prices). They point out that over and above the potential human impact of constructing

18 Foster, Vivien and Briceno-Garmendia, C, Africa Infrastructure: A Time for Transformation. Washington D.C: World Bank, 2010, p.1.

large dams, the endeavor itself exacts too high a cost to yield a positive return. The findings of their analysis are stunning[19]:

- Large dams suffered average cost overruns of 96%. The degree of cost overruns tended to increase with the size of projects. Even without considering social and environmental costs, large dams on average don't make economic sense.
- Project implementation suffered an average delay of 44%. The implementation schedule does not include the lengthy lead time required to prepare projects.

Moreover, the potential of climate change to wreak havoc on dams is significant. For instance, the Bujagali dam could be a costly mistake if river flows (depleted by global warming) prove insufficient to support its turbines. (See Annex I.)

Finally, large dams such as the Inga 3 Dam in the DRC do not always raise energy access levels. For instance, the World Bank has just suspended financing for Inga 3 due to an outcry from Congolese citizens. The proposed project would generate power primarily for mining companies and the South African market, but not for the more than 90 percent of the DRC population that has no access to electricity. In a letter to the World Bank, a coalition of 12 Congolese NGOs asks that the needs of the local population be prioritized in a comprehensive assessment of the country's energy needs and options. If the Inga 3 Dam were to go ahead, they state that at least 50 percent of the power generated by the dam should serve the energy needs of the population. Governments that have no proper institutions for accountability and civil society participation are likely to run roughshod over the interests of the citizens.

19 Flyvbjerg, Bent, Alexander Buzier and Daniel Lunn, "Should We Build More Large Dams? The actual costs of hydropower megaproject development," Energy Policy, Volume 69, June 2014, pp.43-56.

Box 2: Examples of Renewable Energy Initiatives: South African and Kenya

Low Carbon Trajectory: Examples from South Africa and Kenya

South Africa

So far, South Africa has made the biggest strides in designing a programme of Independent Power Producers in the renewable energy sector, and successfully attracting investors with interest in the area. Although South Africa is not part of the PIDA programme, but domestic originating, it is worth highlighting it as a positive case of prioritising renewable and clean energy. This programme is part of the country's national developmental strategy.

South Africa still relies on coal for almost 90 percent of its electricity needs. The REIPPP programme is the first noticeable step towards diversifying energy mix, mitigating climate change effects, and expressing fidelity to its international commitments on climate change. In pursuit of a low carbon track, South Africa has promulgated a Renewable Energy Independent Power Producer Programme (REIPPP) under which the private sector would generate power that would then be sold to the state utility company Eskom under a long-term power purchasing agreement. The programme is managed by the Department of Energy - a government ministry with overall authority over energy policy and regulation - with technical support from the National Treasury's Public-Private Participation unit.

The REIPPP programme targets generation of 3,725 megawatts from renewable energy sources in order to ensure uninterrupted supply of electricity at constant long-term prices. This programme has attracted a great deal of interest from foreign investors from the US, Europe, China and India, and it is based on a transparent and legally secured competitive bidding process. There are various technologies earmarked under this programme: wind power generation; concentrated solar thermal; solar photovoltaic; biomass solid; landfill gas; and small hydro. The programme was launched in earnest in August 2011 when Independent Power Producers were invited to a compulsory bidders' conference hosted by government.

Bidders had to meet qualification criteria related to environment; land; commercial and legal; economic development; financial; and technical considerations. For wind developers, 12 months of wind data for a site is required. Economic devel-

opment requirements called for 12% of a project's company shares to be held under the ownership of by black South Africans, including 3% to be allocated to local communities. One percent of revenues are channelled towards socio-economic development.

As a result of this programme, South Africa is now regarded as a standard setter in the African continent. It is also in the top 10 of global investors in renewable energy ahead of Brazil and France. So far the programme has attracted a total of $5.7bn of new investment into South Africa's renewable energy sector.

Kenya

More recently, Kenya has successfully attracted an investment to the tune of $870m in the wind power sector as part of the Lake Turkana Wind Power Project, making it the largest wind power project in the continent.1 Such projects, as well as many other infrastructural projects, are most successful when they are part of a country's national development strategy, and underpinned by risk guarantees from development finance institutions.2The AfDB offered a partial risk guarantee to this project to assure both the state utility and project sponsors. Since 2008, with the formulation of its national environmental policy, Kenya has sought to put in place adaptation and mitigation measures so as to respond to risks associated with climate change while maximising opportunities for investment in renewable or clean energy infrastructure.

Using Renewable Feed-in-Tariff (REFITT), Kenya's renewable energy programme has grown from zero in 2009 to $1.3 billion a year later, encompassing technologies such as wind, geothermal, small-scale hydro and biofuels.3 Geothermal energy accounts for 20% of total installed capacity of the Kenyan grid.

Kenya also uses co-generation between the public utility company, Kenya National Electricity Generating Company (Kengen) and Independent Power Producers (IPPs). The IPPs would then sell generated energy to the national electric grid at an agreed upon price. The national electricity grid is the monopoly of Kengen. The state utility currently has 5.1MW of installed wind power capacity, with 300 MW in the pipeline as part of Lake Turkana Wind Power (LTWP), which is a subsidiary of KP&P firm from the Netherlands.

Like South Africa, Kenya introduced PPP legislation in 2012 in order to ease private sector investment in infrastructure projects, especially in areas such as transport, energy, water and ICT. The Kenyan government hopes that this will reduce the country's funding gap for infrastructure, which is just under $40bn over the next 6 years.4 The PPP is pursued within Kenya's overarching developmental framework, Vision 2030, and aims to address socio-economic deficits in the areas of transport, water, sewage, telecommunications, energy, and social services. Further, the new PPP architecture is aimed at harness new sources of investment capital; reducing government sovereign borrowing and risks associated with it; tapping into the efficiencies of the private sector in running public services; growing the economy and stimulating job creation; and improving the quality of public services.

Both South Africa's and Kenya's renewable programmes, driven through co-generation between Independent Power Producers (IPPs) and state utility companies are designed as part of government strategy to direct investment in energy infrastructure towards renewable or clean energy. In the case of South Africa this helps to reduce the country's carbon footprint, as one of the worst polluters in the world and a leading polluter in Africa. These investments represent infant steps in shifting the growth pattern towards a lower carbon path.

Both programmes have IPPs and are underpinned by well-developed public private partnership mechanisms that are located at respective National Treasuries (Ministries of Finance). There could be lessons drawn from the two cases discussed above for PIDA, especially to give priority to renewable energy programmes or encourage countries to move in that direction.

1 "Africa's biggest Wind Power Project secures $870m Financing" Ventures Africa, http://www.ventures-africa.com/2014/03/africas-biggest-wind-power-project-secures-870m-financing/ [Accessed: 24 March 2014].
2 Government of Kenya, National Climate Change Response Strategy, April 2010.
3 Renewable Energy is Big Business in Kenya. http://www.renewableenergyworld.com/rea/news/article/2012/05/renewable-energy-generation-is-big-business-in-kenya [Accessed: 14 April 2014].
4 Public Private Partnerships in Kenya, Presentation by Esther Koimett, Investment Secretary Ministry of Finance, Kenya. http://www.cbcglobal.org/images/uploads/library/KIS2012_Public_Private_Partnerships_in_Kenya_Esther_Koimett.pdf [Accessed: 13 April 2014].

PIDA relies heavily on hydropower projects and neglects the fact that decentralized, renewable energy is often the most cost-effective and practical way to reach rural communities. Above, box 2, discusses the potential for a low-carbon trajectory in South Africa and Kenya.

Regional variation

The condition of infrastructure in the African continent varies from region to region, and from country to country. Some countries are relatively better off than others. The Southern African Development Community (SADC) is arguably in an advantageous position in comparison with the East African Community (EAC), the Economic Community of West African States (ECOWAS), and the Central African Republic (CAR).

SADC has relatively better paved roads, ICT and power infrastructure; and has a per capita income five times that found in other parts of the continent.[20] The top 10 countries that are ranked favorably on infrastructure development, over the period 2000 – 2010, according to the African Development Bank's Africa Infrastructure Development Index 2013 are, in this order: Seychelles, South Africa, Egypt, Libya, Mauritius, Tunisia, Morocco, Algeria, Cape Verde, and Botswana.[21] Many of these countries are regarded as middle-income countries. It is clear that the countries that are most vulnerable are least developed countries with weak institutions.

4. PIDA's Project Cycle

PIDA's Priority Action Plan includes a set of 51 priority infrastructure projects and programs to be implemented up to 2020 at an investment cost of $68 billion. The "2020" PIDA projection is its short term goal benchmark, with 2030, and 2040 being the medium and long term objectives respectively. According to the representative of the African Development Bank interviewed for this report, these 51 projects have been further disaggregated to 83 specific components.[22] In terms of the needs by regions through to 2020:

- Southern Africa will require $12.6.bn in infrastructure funding
- West Africa: $6.2 bn
- East Africa: $23bn
- Central Africa: $21.5bn
- North Africa: $1.3bn
- Continental: $3bn

Project Preparation

The following is a list of criteria used for the selection of PIDA projects:

- **Readiness for implementation**: can the projects be implemented in actual terms?
- **Contribution to regional integration**: do projects help to promote regional integration? This is especially important since poor transport infrastructure is a constraint to beneficial integration.
- **Environmental impact**: Are projects environmentally sustainable?
- **Synergy with other infrastructure sectors**: are projects aligned with or reinforce other infrastructure projects?
- **Can the project be completed by 2020**? The year 2020 is designated as short-term, high priority, with projects in implementation every 5 years.

The cost of project preparation is estimated at between 3 – 3.5 percent of the total project costs. It is often difficult for countries to raise this portion as risk is quite high at this point. Donors have their own criteria and preferences before committing to project preparation support.[23] Further, the private sector is sensitive to a country's perceived risk profile, including the level of financial sector development, transparency of its regulations, policy predictability, and sovereign credit. The private sector is mainly driven by the need to generate satisfactory returns on investment at minimum risk.

The table below (page 16) provides a summary of the processes involved from project identification to implementation.

20 Yepes, Yito, Justin Pierce and Vivien Foster, "Making Sense of Africa's Infrastructure Endowment: A Benchmarking Approach". World Bank Policy Research Working Paper WPS4912, April 2009, p.7.

21 African Development Bank, The Africa Infrastructure Development Index, May 2013.

22 Interview with Mr. Mtchera Johannes Chirwa, Chief Infrastructure and PPP Specialist at African Development Bank, 26 March 2014.

23 Ruiters, Michele, "Africa Infrastructure Rising," GLOBAL Insights, Volume 2 No. 7, October 2013.

Table 2: Milestones of the Project Cycle
PIDA Inception Report, May 2010

Steps in the Project Cycle	Milestone
1. Project Identification	Pre-feasibility report
2. Project Preparation	Feasibility report
3. Project	Financing agreements
4. Beginning of project implementation	Award of major contract
5. End of implementation	Commissioning of project
6. Project Evaluation and Monitoring	Monitoring and Evaluation (M& E) report
7. Project Operation and Maintenance	M&E report

Unfortunately, insufficient attention is given to the importance of participation in project identification, even though this is an essential element in the OECD Principles for Private Sector Participation in Infrastructure. According to these principles, where infrastructure involves the construction of large physical assets a process of prior consultations with the potentially affected communities is called for in order to ensure that the interest of affected communities, including their human rights, will be taken into account and duly protected.

Project Implementation

It could be important to increase citizen participation in the RECs as key stakeholders working closely with their member states and AU specialized institutions/sector organizations. Whereas political endorsement of PIDA at AU level is paramount, RECs are additionally the lynchpins in the implementation of the PIDA because they are expected to implement projects and undergo economic integration. RECs that are covered by PIDA are grouped into five geographic regions as set out below.

Table 3: RECs covered by PIDA

Region	Regional Economic Community
North Africa	UMA, CEN-SAD
West Africa	ECOWAS (WAEMU), CEN-SAD
Central Africa	ECCAS (CEMAC)
East Africa	COMESA, EAC, IGAD
Southern Africa	COMESA, SADC

Chart 4 (right) depicts a graphic illustration of the PIDA Priority Action Plan funding by region, with illustration of the bulk of spending towards energy on the right grid.

The various stages a project goes through, according to Priority Action Plan Stages (and their estimated costs):[24]

S1 – Early concept proposal ($17.2bn)
S2 – Feasibility needs assessment ($22.7bn)
S3 - Programme/Project structuring and promotion to obtain financing ($6.6bn)
S3 to S4 transition ($13.3bn)
S4 - Implementation and operation ($8.2bn)

Many projects in the continent lie between S1 and S2, and still need to be up-scaled. A few examples include:

- the North-South Power Transmission Corridor, costing $6bn, and involving Kenya, Ethiopia, Tanzania, Malawi, Mozambique, Zambia, Zimbabwe and South Africa. This project is at S2 stage;
- Central Africa Interconnection, costing $10.5bn and involving South Africa, Angola, Gabon, Namibia, and Ethiopia; and this is at S1. This particular project entails a 3,800 km transmission line from the DRC to South Africa through Angola, Gabon, Namibia, right up to the north connecting to Equatorial Guinea; Cameroon; and Chad.
- Those that are at S4, include Uganda-Kenya Petroleum Products Pipeline; and Great Millennium Renaissance Dam.

24 Mayaki, Assane, "Bolstering Regional Infrastructure in Africa through the Implementation of PIDA," Presentation at the United Nations, 15 October 2012.

Chart 4: PIDA Priority Action Plan by Region
Source, NEPAD 2012

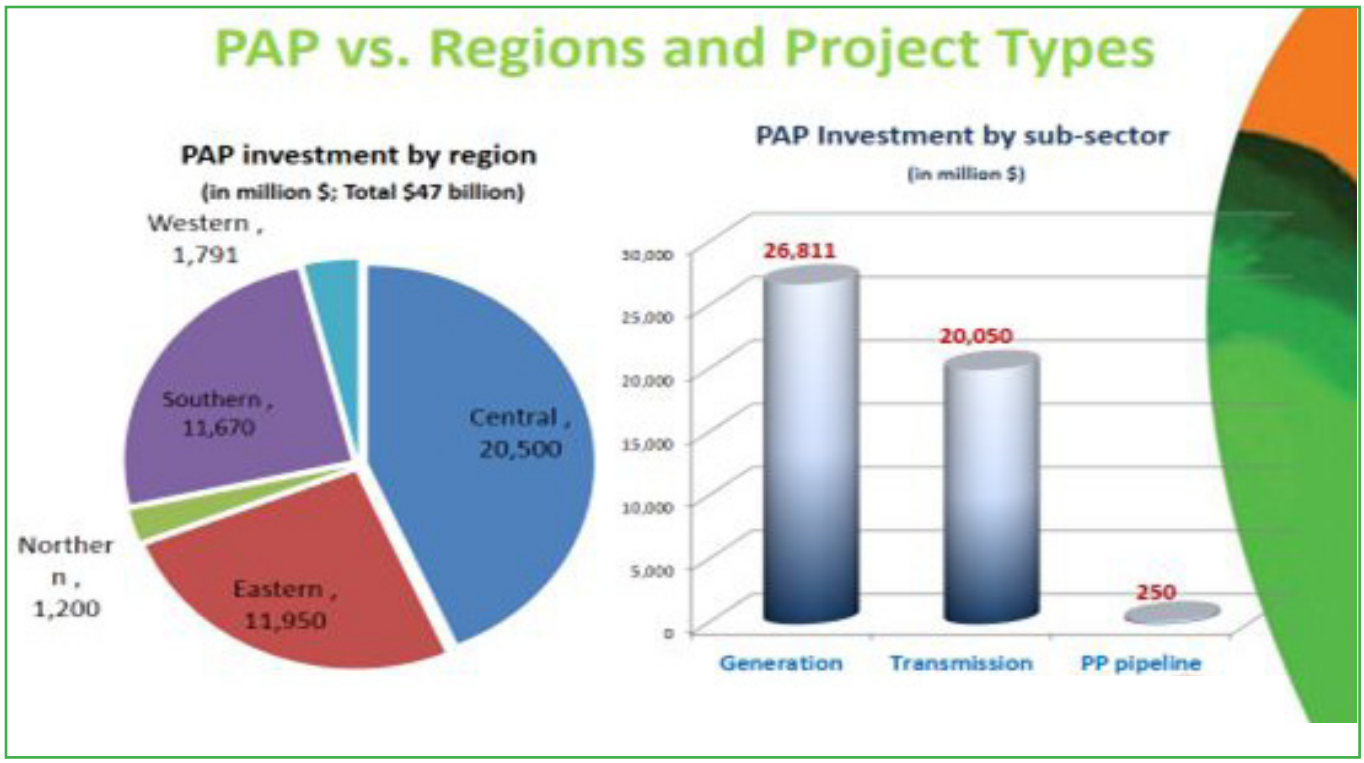
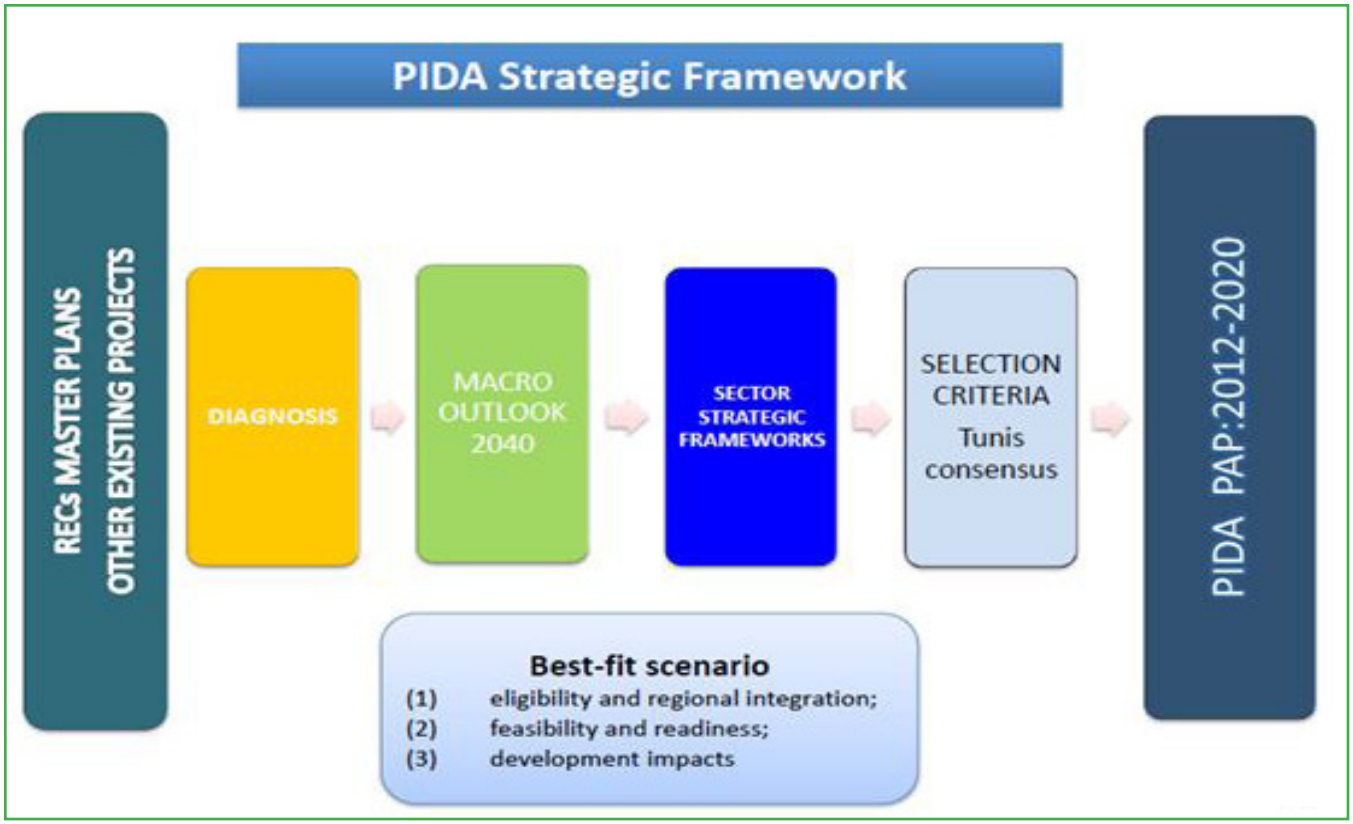


Chart 5: PIDA Strategic Framework
Source: NEPAD 2012



5. The Role of the Private Sector

Harnessing PPPs and mobilising resources for PIDA more broadly became a dominant theme among policymakers in July 2013 in Tunis when AU summit pledged support towards the Africa50 Fund promoted by the AfDB to address infrastructure gaps, and by extension PIDA work on the continent.[25] The Fund promises to be innovative in that it seeks to leverage resources from African central bank reserves, pension funds, sovereign wealth funds, as well as the African Diaspora and high net worth individuals on the continent for infrastructure financing.[26] At this point this is all aspirational, and there is yet to be a concrete expression.

However, as PIDA is envisioned, delivery hinges on effective public-private sector partnerships (PPPs) rather than just on the public sector or donors. A clear and transparent regulatory framework; good governance policies; and prevailing stability among others, set the stage for a conducive business environment. In a word, the institutional and regulatory environment has to be seen as conducive by investors, and this presents an enforcement challenge for PIDA.

At least two conditions have to be in place. The first is the existence of "bankable" projects; and the second is security of investment, something that is a function of a country's legal framework especially its ability to enforce commercial law. As noted above ("Project Preparation"), infrastructure projects in the African continent require project preparation to make them bankable, at which point it becomes easier to mobilize financing.

Historically, private sector finance in infrastructure has been low or non-existent in the case of low income countries.[27] In 2009, the private sector invested $12 billion in Sub-Saharan Africa – mostly in the ICT sector.[28] In the future, private investment will be ramped up as many countries adopt the PPP model as a magnet to attract private capital. It is worth highlighting that PPPs are not without risks, as cost overruns can have fiscal implications. There is no free lunch for government. Governments tend to be the ultimate guarantors of risk in case there is failure to raise the expected returns. Infrastructure commitments could have a long-term negative effect on other social programmes if the PPP does not perform as expected.

Public-Private Partnerships are complex legally, financially and technically, and often depend on how effectively the contract establishes expectations of private and public actors; how risk burdens are shared; and how well programmes are designed and prepared.[29] Even for developed countries, such as the U.K, many PPPs have been a disaster.[30]

Many countries on the continent lack the technical capacities for negotiating such contracts or effectively preparing and structuring PPPs. One factor that is often taken for granted is that governments in general, and on the African continent, in particular, have limited experience in working with the private sector and lack appreciation for private sector's low risk tolerance and the implications for public budgets. Few countries in the continent would have mature debt markets for local currency infrastructure bonds or ring-fenced project finance or sovereign wealth funds to buffer risk.

In low-income countries, fiscal space has declined as spending growth has not been matched by increased revenue mobilization. Revenue mobilization may continue to be challenging for countries dependent on the export of primary commodities since their prices are trending downward.[31] This again is an institutional challenge, as revenue collecting authorities lack efficiencies in many countries. The fiscal incentives and risk guarantees that underpin the PPP model could be potentially problematic for countries that have a constrained fiscal capacity.

For instance, the Bujagali Dam in Uganda is a cautionary tale. The contractor's cost for Bujagali increased from an initial $460 million to $860 million, plus another $74.7 million for transmission lines. A megawatt at Bujagali costs $3.6 million – three times the $1.2 million cost of a megawatt at the Three Gorges

25 See The Southern African Development Community, SADC Today, Vol. 16, No. 2, February 2014 p. 5.
26 Ibid.
27 Webber, Barbara and Hans Wilhelm Alfen, "Infrastructure as an Asset Class." West Sussex: Wiley, 2010, p.2.
28 OECD, "Mapping Support for Africa's Infrastructure Investment," 2012.
29 See Weber, Barbara and Hans Wilhelm Alfen, "Infrastructure as an Asset Class: Investment Strategies, Project Finance and PPP." West Sussex: Wiley, 2010, pp.62-80.
30 See "Responsible Investment in Infrastructure," Heinrich Boell Foundation-North America (2013).
31 IMF, Fiscal Monitor, April 2014.

dam in China. In the same period, the cost of building a dam in Sudan and Ethiopia was $1.3 million and $1.1 million per megawatt, respectively. Moreover, climate change is affecting water levels in Lake Victoria raising questions about the dams future viability. (See Annex I.)

In another case, a PPP "model" hospital built in Lesotho is currently consuming more than half of the country's entire health budget. The government pays the private consortium led by South Africa-based Netcare, which is also the biggest private healthcare provider in the UK. According to Oxfam's "A Dangerous Diversion: Will the IFC's flagship PPP Bankrupt Lesotho's Ministry of Health," the government is cutting spending in education, agriculture and other health projects to keep the hospital afloat.

According to the IMF, some 55% of all PPPs tend to get re-negotiated, on average every 2 years, in ways that favour the private partner. Renegotiations tend to increase tariffs (62% of renegotiations), provide an automatic pass-through to tariffs of increases in cost (59%); postpone and decrease private sector obligations (69%), and decrease the concession fees paid to the government (31%).[32]

One of the approaches that are gaining currency within the African Development Bank is to "de-risk" infrastructure, in the words of a senior official interviewed by the author.[33] At the same time, "de-risking" the private sector cannot be undertaken by placing excessive risk on the backs of African taxpayers and users of infrastructure services. Development finance institutions should not be so eager to crowd-in more private sector financing that they neglect the debt and fiscal limits of countries as well as long-term cost of infrastructure maintenance which will likely fall on the shoulders of the taxpayers.

Other countries, especially those that have recently discovered oil and gas resources, such as Uganda, Chad and Mozambique are hoping to leverage windfalls from these resources towards infrastructure projects.[34] This too will require development of politically insulated institutions that could efficiently manage such windfalls and channel them towards infrastructure and social development.

6. PIDA Norm diffusion

The trend of norm diffusion can be viewed as having started from the initial policy conceptualisation and development of PIDA through cross pollination of ideas and norms from these institutions. Secondly, the AU Summit endorsement by implication binds PIDA's main stakeholders to a shared strategic vision of both infrastructure development and regional economic integration. Thirdly the synergies of processes between private sponsors and the AUC, NEPAD and the AfDB lead to knowledge exchanges on policy formulation, strategy and programming. It must, however, be acknowledged that in most instances, norm diffusion is neither clear nor inevitable because the harmonisation of national, regional and continental policies and programmes in practice is greatly varied, despite best efforts of PIDA stakeholders.

PIDA projects should adhere to requirements set forth to ensure that infrastructure projects are undertaken with respect for norms relating to land acquisition, transparency, community participation, human rights, gender equity, environmental integrity, and social inclusivity. Benefits should be harnessed towards improving quality of life,

There is rhetoric or an expressed commitment in PIDA about the environmental and social impact of infrastructure projects, with claims that are not often backed up that these projects will lead to reduction in green-house-gas emissions. The reality is that since projects are undertaken at the domestic level, it is difficult to impose environmental and social measures, especially in contexts where there are no institutional or regulatory mechanisms to ensure environmental and social governance.

Regional mechanisms for social and environmental imperatives either don't exist or are unenforceable. Increasingly, in many policy documents of the African Development Bank, there are references to green growth and inclusive growth. While this is an important

32 Maximilien Queyranne, "Managing Fiscal Risks from PPPs," IMF, Yaounde, March 2014.

33 Author interview with Mr Mtchera Johannes Chirwa, infrastructure, Chief Infrastructure and PPP Specialist, African Development Bank, 26 March 2014.

34 IMF Survey, Africa Finance Ministers: "Energy revenues to help Africa trip "infrastructure gap", http://www.imf.org/external/pubs/ft/survey/so/2014/CAR041214A.htm 12 April 2014. [Accessed: 12 April 2014].

shift in developmental discourse and a symbolic recognition of the importance of "thinking green" with regards to infrastructure development, often times the trade-offs are not spelt out in advance.

What is important to understand is that, although decisions on major infrastructure programmes are taken at the continental and regional level, it is at the domestic level where action materialises and where the impact is felt the most. Thus a great deal of attention needs to be placed on the kind of policies and institutions countries develop in order to manage environmental and sustainability issues along with the imperative to drive Africa's growth through infrastructure development. Many countries have either no clear policies or weak institutions to promote environmentally and socially sustainable policies.

Implementation linkages between national governments and PIDA and the extent to which national government's plans are shaped by PIDA varies. Successful execution hinges on how well are projects prioritised; the kinds of institutional capacity that are in place to ensure tight management and implementation; the extent to which there is national and citizen ownership; and softer factors such as commitment and leadership.

7. External Actors and PIDA

To help fund PIDA, the Africa50 initiative[35] was launched in 2014 as, a commercially-oriented financial institution, which aims to mobilize equity investments of USD 10 billion, thereby attracting USD 100 billion of local and global capital to finance and develop PIDA and related projects in the next three years. According to the AfDB, the Africa50 initiative will focus on high-impact national and regional projects in the energy, transport, ICT and water sectors, and will be structured along two pillars.

The first is project development, which will work to increase the number of bankable infrastructure projects in Africa through attracting funding at early stage of project development, as well as to mobilise legal, technical, and financial expertise at this project development phase. With regard to the second pillar, project finance, the aim is to attract additional infrastructure finance, including bridge equity, senior secured loans, refinancing transactions, and risk-mitigating measures. The targeted sources for capital raising are African countries; the AfDB and other major development financiers; and institutional investors such as the sovereign wealth funds and pension funds. It will relate to external actors, including:

ICA and EU

The G8 (plus other EU members) have made commitments to PIDA through the Infrastructure Consortium for Africa (ICA), whose membership includes the World Bank Group, the European Commission, and the European Investment Bank, amongst others. ICA members have decided to focus on the implementation of PIDA and in the medium term on PIDA's Priority Action Plan (PAP)[36]. Significantly, the EU is a member of the PIDA Steering Committee.

It is important to underline the fact that there is a shift of emphasis in the character of the EU's developmental support to Africa towards infrastructure, with the social sector still remaining an important dimension. To the extent that there is an interface between infrastructure development and enhancement of the social sector, a new norm of development assistance that encompass both is likely to evolve.

G20

The G20's major role in infrastructure development relates to its commitment to mobilize long-term institutional financing, especially from pension funds and sovereign wealth funds. Pension funds often work through hedge funds and private equity funds, so it is critical that the short-term profit-making incentives of these market actors and speculators be reconciled with the public interest.

With the strong encouragement of the Group of 20 (20), existing development finance institutions are re-orienting their business lines to feature infrastructure. For instance, in 2014, the World Bank Group is expected to launch a new Global Infrastructure Facility. To expand the assets of new and existing institutions,

35 See African Development Bank, Africa50 Infrastructure Fund.

36 ICA was launched at the G8 Gleneagles summit in 2005 with a mission to accelerate progress to meet the urgent infrastructure needs of Africa in support of economic growth and development. It addresses both national and regional constraints to infrastructure development with an emphasis on regional infrastructure. The membership of ICA also includes the AfDB and the DBSA.

the G20 is working to mobilize long-term institutional investors, such as pension funds, to take advantage of infrastructure as an "asset class" with potential for strong, long-term returns.

The BRICS Bank and Infrastructure Development

South Africa hosted the BRICS Summit on the 26 – 27 March, 2013 in Durban. Leaders promoted the creation of a BRICS development bank in order to facilitate infrastructure and sustainable development and the creation of a contingency reserve arrangement (CRA). This BRICS development bank may play a pivotal role in financing infrastructure projects in other developing countries, especially on the African continent. South Africa could possibly pressure its Summit partners to support PIDA.

The architecture of the bank is not yet clear. It is expected that the work of the BRICS development bank and the CRA will begin in earnest after the Sixth BRICS Summit in Brazil in July 2014. According to Russian officials, the Bank's draft charter is being prepared by Brazil while Russia is drafting an intergovernmental agreement on the bank's creation.[37]

The bank is not intended as a substitute for the work already undertaken by the World Bank and other regional development banks. Rather the proposed BRICS development bank aims to complement multilateral development banks, especially to fill in key deficiencies in infrastructure development. The BRICS countries may also need to find ways to work with the existing donors who are part of the Infrastructure Consortium for Africa.

Some experts have proposed the establishment of a new Development Bank for Infrastructure and Sustainable Development, as a positive external instrument which could focus significantly on African infrastructure. This bank would, amongst other things, offer credit lines as well as help to "reduce and absorb part of the upfront risk, finance key bottlenecks in the project pipeline, and generate sufficient knowledge and reputation through scale…"[38]

This bank would, in a sense, structure its funding in a manner similar to a syndicated finance, mobilizing a range of financing sources: private equity funds, sovereign wealth funds, and development finance. The net effect would be to reduce risk and uncertainty while increasing the flow of investment into infrastructure at early stages of development. This is a gap that the proposed BRICS development bank could potentially fill, except that its architecture is not yet clear. Whether or not the BRICS countries would champion high norms with regards to low emissions and resilience to climate change is a moot point given poor track record of individual BRICS countries on emissions within their national territories.

It will not bode well for Africa's development to have multiple uncoordinated or even competitive infrastructure efforts. What may compound the challenge is the fact that individual BRICS countries, such as China and India, already pursue relationships with African countries at a bilateral level, using a model that cannot be easily replicated at the regional level.

8. Conclusion: PIDA Challenges and Opportunities

Although PIDA is a worthwhile framework, making it functional would require significant capital commitment, greater coordination amongst key political actors, and engagement by a private sector that is still half-hearted about the commercial viability of Africa's infrastructure.

While PIDA's strategic context makes rational sense, its design, scale and scope is fraught with many challenges that can generally be grouped into the following six categories: political; social and environmental, fiscal, security; institutional; and technical.

At the political level, notwithstanding (AU) Summit endorsement, PIDA suffers from insufficient traction at the national and Regional Economic Community (REC) levels. Since there is no clarity on who should consistently undertake PIDA advocacy, a lack of sustained ownership and commitment to championing PIDA nationally and regionally is glaring. There is also a lack of prioritization of PIDA projects by national governments.

Sensitivity to environmental and social dimensions is critical to ensure that PIDA's mega-projects have clear

37 "BRICS development bank, currency reserve pool to begin work in 2015" by Russian Foreign Ministry Sous-Sherpa to the G8 Vladimir Lukov.

38 Battacharya, Amar, Matia Romani and Nicholas Stern, "Infrastructure for development: meeting the challenge," p.7.

developmental outcomes. For instance, PIDA should remedy the facts that: 75% of Africa's population of 800 million people lack energy access; 75% lack access to proper sanitation facilities; and 40 percent lack access to clean water.

Yet, the pipeline of mega-projects may not spread prosperity and, in the worst case scenario, could deplete the treasuries of African governments and the pockets of users of infrastructure services.

Projects that displace large numbers of communities, increase reliance on fossil fuels or are not climate resilient may not be in the long-term economic, social, environmental, or health interests of Africans. The health and livelihoods of communities are often directly affected by the lack of social infrastructure, including clean water and sanitation. Some rural communities are unlikely to gain energy access from the huge centralized projects, such as those PIDA envisions. For them, complementary visions of decentralized renewable energy must be envisioned and implemented.

In addition, governments should publicly disclose PPP contracts and, beforehand, seek input from citizens about all stages of the project cycle, including project identification. For affected communities, governments should abide by "best practice" and seek free, prior and informed consent (FPIC) for PIDA projects which are vast in scale and, in some cases, would displace many communities. They should also be responsible for upholding the norms and safeguards that protect human rights, gender equality, social and environmental norms. The imperative for such participation is emphasized in the OECD "Principles for Private Investment in Infrastructure."

Regarding financing, PIDA comes with a hefty price tag – most of which will be paid by African governments and taxpayers – many of which already suffer from serious fiscal and debt-related challenges. In addition, with infrastructure development, a perennial concern is corruption and capital flight which could exacerbate the problems of mobilizing the necessary financing for PIDA. Ironically, the estimated total of illicit financial outflows from Africa -- $50 billion – could finance the continent's infrastructure gap.

Finally, PPPs represent "off-budget" commitments (i.e., contingent liabilities) for African governments to compensate the private sector should certain risks materialize (e.g., demand or exchange rate risks). When such risks do materialize for mega-projects, such as those envisioned by PIDA, they can represent a significant portion of a nation's GDP.

At the institutional level, insufficient REC activism can also be attributed to a confused division of labour within RECs over PIDA processes and project implementation. Moreover there is generally low political commitment to regional integration and related projects in various regions. RECs also often fail to provide technical and institutional support to member states in implementation processes. Inadequate buy-in by national governments undermines support from development partners and the private sector, which then creates an added challenge of resource mobilisation and project execution.

RECs have varied capacities to foster implementable regional projects and programmes with necessary buy in from their partner member countries. Constant programmatic engagement with various PIDA stakeholders on the continent is potentially arduous and at the very least also makes the sharing of lessons learned on the PIDA implementation from all levels difficult. There are also no harmonized policies or regulations at the regional level. Absence of supranational authority makes progress glacial.

Harmonizing technical policies at national, regional and continental levels is arduous and remains a challenge. Importantly, since member states are the national drivers of PIDA, their technical capacities in this regard are often lacking. This is compounded by a lack of clear infrastructure plans linked to regional infrastructure and those earmarked for integration. The bigger problem is that countries often do not have clearly spelled out development plans within which their infrastructure programmes are articulated.

There are also security-related challenges. There is the risk of tenuous peace, stability and good governance in the continent. There is unevenness in performance on governance. Yet this is a basis for sound institutions which in turn ensure a conducive climate for investment. These uncertain conditions can make support for hard infrastructure investments risky, particularly for the private sector and donors. This may also lead to ineffective PPP participation overall. It must also be understood that insecurity is unlikely to breed conducive regulatory frameworks for private sector

participation and may just dis-incentivise commercial support.

Given the size, bureaucratic layers and processes inherent in PIDA, we therefore recommend that future approaches to policy review and development focus on the following:

1. Identify and implement ways to better finance and incentivize pro-poor and low or no-carbon infrastructure development- which we conclude is overshadowed by mega projects within PIDA. This should include decentralized renewable energy options.
2. Because mega-projects involve acquisition of large swathes of land, governments and regions must be sure to respect land tenure, especially of women and community property holdings.
3. Set firm ceilings on debt levels and fiscal commitments to mega-projects, including off-budget commitments that are "called" when risks to the private sector materialize.
4. Gather lessons learned from programs that undertake capacity gap analysis at REC and national levels.
5. Assess the best capacity building programs, i.e., learning by doing in order to improve region-wide collective ownership and championing of PIDA and incentivizing PPPs.
6. Adopt a programmatic approach that incorporates building local capacity as part of the PIDA program design from the AUC and the executing agency NEPAD.

In conclusion, there is no doubt that the African continent requires a significant drive for infrastructure development. There is a concerted recognition that infrastructure can in fact create conditions that could allow governments and markets to overcome social, employment, and economic challenges.

Infrastructure can help overcome economic challenges if it is harnessed to strategies that foster economic diversification and sustainable industrialization. It should not just entrench the dependence of so many African countries on commodity production and exports without necessary linkages to the rest of the economy.

The positive role of infrastructure in development should not be taken at face value: governance measures and sustainability measures need to be factored into conceptual or planning processes.

This endeavor could turn out to be a bane for the continent if it lacks the harmonized policies or governance mechanisms in place (at the regional and domestic level) to ensure that infrastructure projects are undertaken with greater sensitivity to environmental and social inclusivity, and that benefits are harnessed towards improving quality of life.

PIDA's value addition should certainly be about improving the quality of life and reinforcing the commitment to a more democratically accountable approach to governance. It should not just be up to the donors to insist on environmental and social impact in infrastructure development, there also needs to be political will and serious commitment by citizens and governments (including parliaments) to use the opportunity for infrastructure financing in ways that enhance sustainability. Success depends on productive partnerships among the stakeholders (including affected communities) and between the continent and external partners.

ANNEX I
Bujagali Dam: Case Study[1]

Shoujun Cui, Renmin University

The Bujagali hydropower project of Uganda is a 250- megawatt dam located near the Bujagali Falls on the Nile River, just downstream from two other large dams, namely Kiira and Nalubaale. Construction of the project was completed in July 2012 and operations commenced following its official inauguration in October 2012.

As Uganda faces the rapid growth of demand for electricity, power shortages become the single largest impediment to economic growth. Construction was initially scheduled to begin in January 2003, but was delayed due to protests by environmentalists and local residents. Despite the problems and uncertainties, construction was finally launched in June 2007, with investments from 12 different sources including the World Bank, the European Investment Bank and the African Development Bank. The project was established through a public-private partnership between the Ugandan government and U.S. Blackstone affiliates.

Civil society is concerned about the dam's impact on the health of Lake Victoria, which supports millions of peoples' lives and extensive biodiversity. The lake has suffered a dramatic drop in its water level partially because of the two smaller dams upstream from Bujagali. If the Bujagali dam operates at its potential, it could further reduce water levels in Africa's largest lake. As a result, energy shortages will cause economic disruption since nearly all of Uganda's electricity comes from dams. The Bujagali project could be a costly mistake if river flows prove insufficient to support its turbines – a situation that could result from climate change.

It should be noted that the contractor's cost for Bujagali increased from an initial $460 million to $860 million, plus another $74.7 million for transmission lines. A megawatt at Bujagali costs $3.6 million – three times the $1.2 million cost of a megawatt at the Three Gorges dam in China. In the same period, the cost of building a dam in Sudan and Ethiopia was $1.3 million and $1.1 million per megawatt, respectively. Corruption and mismanagement might be the reason for excessive construction costs at Bujagali. In addition, since Bujagali is a public private partnership project, the pressure to repay the loan is very high, resulting in a soaring electricity price.

Presently, the Bujagali electricity tariff for the end user is 24 US cents/ kwh, over 5 times the cost of the electricity being consumed from the Kiira and Nalubaale dams. Given that the per capita GDP of Ugandawas only $589 in 2012, according to the IMF this tariff rate means that utility bills can exceed 10% of a family's income. Therefore, Ugandan electricity users have to worry, since decent living cannot be guaranteed without enough remaining income for needs such as housing, clothing, school fees, and transport. Although Uganda needs more energy, it does not need another economically disastrous dam.

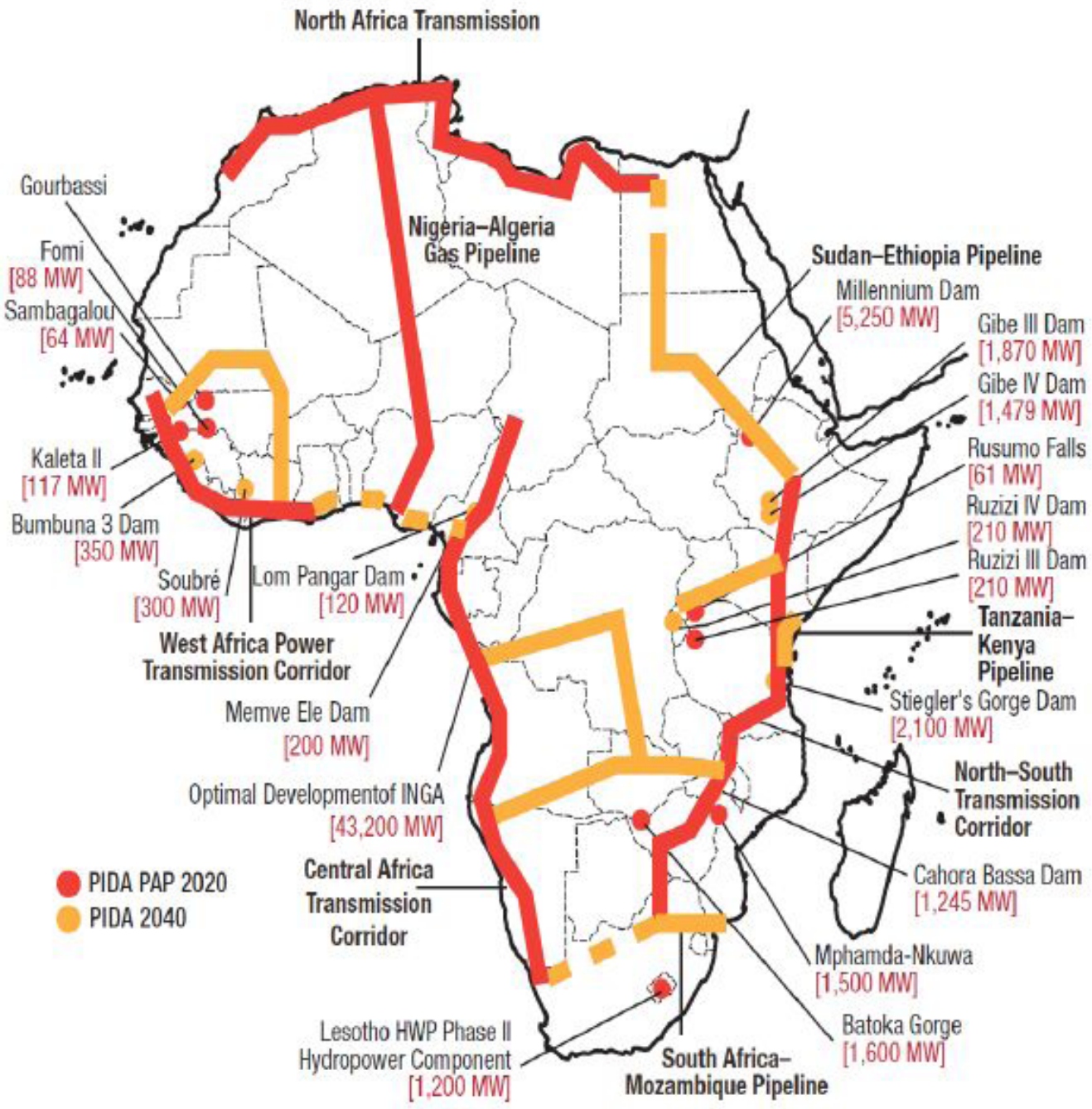
Sustainable large-scale infrastructure development requires regulatory mechanisms to mitigate the risks that arise from social and environmental impacts. In addition, technical assistance from civil society organizations (CSOs) will be essential, since they can utilize their unique flexibility, special expertise, and often their proximity to the infrastructure to promote dialogue, engagement, and support among multi-stakeholders.

Finally, the case of the Bujagali dam exemplifies the importance of taking social and environmental factors into account when determining the economic feasibility of a project. If the environmental and social considerations are not addressed properly, it cannot be assumed that infrastructure investment will lead to sustainable economic growth.

1 May 2013 "G20 Update," Heinrich Boell Foundation.

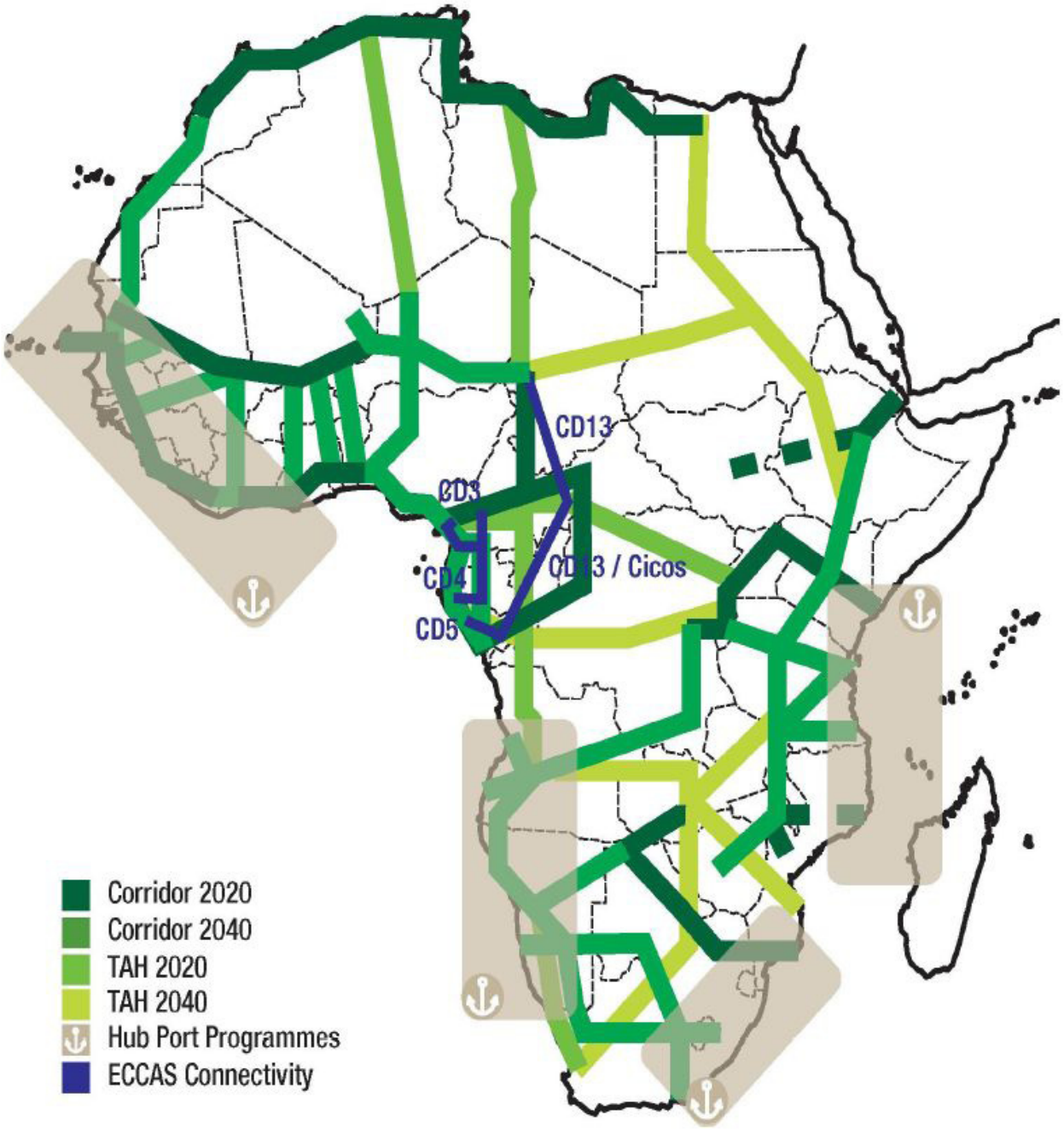
ANNEX II
PIDA's Energy, Transportation, and Water Projects on the African Continent

Source: "Financing of the Programme for Infrastructure Development in Africa (PIDA)," by the UN Economic and Social Council, Economic Commission for Africa and African Union Commission, 22-25 March 2012."



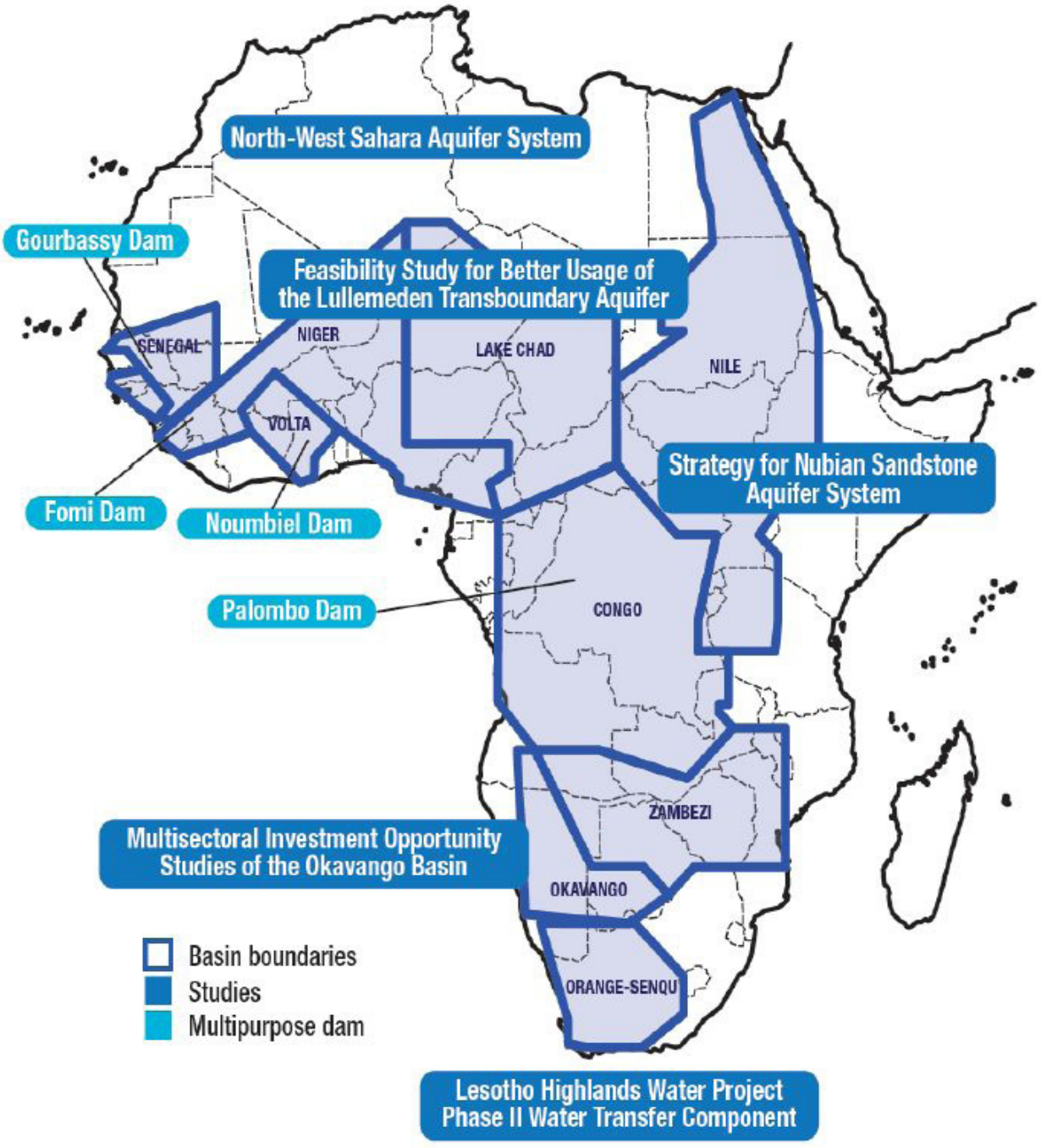
a) PIDA's energy impact

The energy infrastructure programme focuses on major hydroelectric projects and interconnects the power pools to meet the forecast increase in demand. Regional petroleum and gas pipelines are also included.



b) PIDA's transport impact

The transport programme links the major production and consumption centres, provides connectivity among the major cities, defines the best hub ports and railway routes and opens the landlocked countries to improved regional and continental trade.



c) PIDA's transboundary water impact

The transboundary water programme targets the development of multipurpose dams and builds the capacity of Africa's lake and river basin organizations so that they can plan and develop hydraulic infrastructure. It would also help address by looming food security deficit.