UNITED NATIONS

ECONOMIC COMMISSION FOR AFRICA

Concept Note
Expert Working Group on PPPs in Africa's Electricity Sector

Introduction

This initiative is intended to launch an effort by the United Nations Economic Commission for Africa (ECA), in collaboration with the Secretariat of the Infrastructure Consortium for Africa (ICA), to identify and address the key challenges associated with public-private partnerships (PPPs) in Africa's electricity sector. Specifically, ECA and ICA propose to set up an Expert Working Group that will proactively identify issues of policy relevance and explore future research and capacity needs in this area. The work of the Expert Group will inform the ongoing research agenda, consensus building and advisory assistance to policymakers on structural transformation.

Background

The electricity sector is the proposed Working Group's initial area of PPP focus. No other infrastructure sector inhibits GDP growth across the African continent more than electricity and the sector will necessarily occupy a central role in the sustainable development and poverty reduction efforts of Africa. Energy services are important for both social and economic reasons. They enable the satisfaction of basic human needs, such as sustenance and warmth but more importantly, they also contribute to economic transformation and social development by promoting productive capacity and improved education and public health. The current continental infrastructure gap is estimated at US$48 billion[1] in new investment annually with US$29 billion (or 61 percent of that total) needed in the electricity sector alone.[2] Substantially increased investment in energy will be required to achieve the shift from low to high-value production and attain the increases in productivity envisaged by Africa's transformation agenda.

ECA proposes that the Expert Working Group focus its initial attention on two key questions and related areas. The key questions for consideration are (i) how can the private sector play a larger and more beneficial role in improving infrastructure service provision in Africa's electricity sector? (ii) Is it possible to structure such arrangements so as to maximise the benefits that will flow to governments and their citizens in terms of affordable and reliable

[1] $93b is the total estimated cost, half of which is invested on a regular basis, leaving a "gap" of $48b.

[2] Foster, Vivien and Cecilia M. Briceño-Garmendia (2010). *Africa's Infrastructure: A Time for Transformation*, AICD Flagship Report, World Bank, Washington, D.C.

power, and motivate private companies to provide these services at a profit while at the same time optimising local content?

ECA also proposes that the Expert Working Group focus on two kinds of electricity generation that require private participation to be successful. Both kinds show huge potential, but are as yet underdeveloped in Africa. As envisioned by ECA, both kinds represent forms of renewable energy.

Two Key Issue Areas

1. Large-scale Hydropower Projects. The possibility of developing regional hydropower projects in Africa is an important topic because such projects (involving two or more government "owners" of the project) would address several key problems in the sector. Large hydro projects that are done in an environmentally sensitive manner are also classified by most experts as another important form of renewable energy. AICD study recommends that large regional hydropower projects be developed as a way to facilitate more energy sector investment in Africa. But most of the economically exploitable hydro resources are located in countries like DRC, Ethiopia, and Guinea, which cannot justify the full exploitation of such resources on the basis of their own national needs, and are far removed from industrial centres where the demand for that kind of supply exists. However, if developed on a regional scale, these large hydropower schemes could be financially and economically justifiable because they are designed to anchor cross-border power transmission and trading. However, even with the analysis and prioritization offered by PIDA, regional infrastructure projects are difficult to complete successfully. This is confirmed by the track record of such projects since 1995. The World Bank's PPI Database has recorded only seven regional infrastructure projects on the African continent since 1995. Only two of these have been in the power sector—both greenfield natural gas transmission projects.[3]

One possible ground-breaking regional approach might be to expand and strengthen the role of regional power pools in the planning and development of such projects. The five African power pools were created as specialized agencies of their respective Regional Economic Communities (RECs) to facilitate regional power trading, a potentially powerful mechanism for making the generation and transmission of power more cost-effective in Africa. AICD estimates that if regional power trading were pursued to its full economic potential, it would cut US$2 billion annually from Africa's total power system development and operation costs. Much of that would result from the substitution of hydropower, generated in countries like DRC and Ethiopia, for thermal power now used in much of the rest of Africa—even accounting for the higher initial capital costs of hydro projects. Power trading of this kind would help make large hydro projects commercially viable and facilitate much needed private investment in such facilities.

There are reasons for optimism regarding the possibility of realizing the potential of African power pools. All of these power pools know what is expected of them and all are actively engaged in regional power issues. They all receive support from African regional organizations like the AU, NEPAD, AfDB, as well as the RECs. Donors and MDBs have

[3] There are a number of power generation projects that sell power to other countries, and thus are sometimes classified as "regional" or cross-border projects. But most of these have been developed as purely national projects with excess capacity that is sold cross-border. Usually, the financing for such projects is backed exclusively by the government of the country in which the plant is located, and other off-takers are not typically involved in early-stage design or development.

also focused on the importance of power pools in recent years. Regional regulation is also beginning to develop, particularly in southern Africa.

One of the newest and most promising initiatives in this area is the SAPP Program for Accelerating Transformational Energy Projects. This program is a partnership between the Southern African Power Pool (SAPP) and the World Bank to implement a program designed to advance the preparation of selected priority regional energy projects in the SAPP participating countries. The World Bank is helping the SAPP set up a Project Advisory Unit (PAU) intended to accelerate the implementation of projects in the region. The overall PAU objective is "to be accountable for the preparation and implementation of selected and agreed priority regional electricity projects in the Southern African Power Pool region."

Key Working Group Questions: *Should power pools be playing a stronger role in the development of regional power projects that involve private participation? If so, what can be done to overcome some of the key shortcomings of the power pools when it comes to project development? Who should be driving this effort and how can it be financed? What can we learn about this from the SAPP-World Bank collaboration?*

2. Small-scale Renewable Energy. While Africa is waiting for large-scale hydropower generation to come on line, smaller scale renewables can also make a significant contribution to generating capacity on the continent. Small-scale renewables are beginning to be appreciated in Africa not only for climate change mitigation, but also for their ability to quickly roll out new generating capacity. Renewable energy projects tend to be smaller, much less expensive to build, and less time-consuming than large coal-fired or hydro projects. In just over two years, South Africa contracted for 4,000 MW of renewable energy, most of which will be on-line in a few years. That is more than the total available generating capacity for all of Nigeria. That accounts for why Nigeria, Uganda, and even poorer countries like Burkina Faso are now looking at renewable energy to rapidly upscale generation.

The key question here is how best to engage the private sector in developing small-scale renewables. South Africa has helped trigger a global debate about how to do this. The traditional method, endorsed by leading development agencies, is to use Feed-In Tariffs or FITs (higher than normal tariffs) to attract private companies seeking profits. South Africa tried FITs, but later switched to a tendering mechanism (potential developers simply bid for opportunities, asking for whatever tariff they think they need). The switch led to more competition and huge cost savings, and started speculation that tendering might produce lower prices for this type of power. In the last six months, Nigeria has started considering an approach using tendering for their new renewable energy program. Meanwhile, more and more developed countries are exploring tendering. The issue is not settled yet; more research and experimentation on this needs to be done.

A related issue is how much pressure should be put on the private sector to support local employment and domestic economic development when they engage in renewable energy projects. So-called "local content requirements" have been pushed much harder in this subsector than anywhere else. But there are right and wrong ways to do this. An increasing number of economists see value in what might be termed "modern" industrial policy. But the challenge is to learn from successful approaches, like those used by the advanced Asian economies, and to avoid pitfalls associated with traditional import substitution policies. As the use of renewables expands and governments start thinking harder about local content requirements, now is the time for policy clarity about the best ways of doing this.

Key Working Group Questions: *How best can we attract the private sector to help with small-scale renewables? Under what conditions does it make sense to use tendering rather than*

FITs? How far can "local content requirement" be pushed before they discourage private participation in renewable energy generation?

Terms of Reference for the Expert Working Group

Activities. The Working Group is envisaged as an independent expert group established to provide advice to ECA and ICA on challenges affecting Africa's electricity sector. It is proposed that the Working Group defines both research and training needs, and evaluate research outcomes for the sector, taking into account the two issue areas mentioned above: (i) large-scale regional hydropower projects and (ii) small-scale renewable energy generation.

Research priorities will be defined by the group, but can include technological developments, demonstration effects, pilot projects and dissemination of results through innovative and traditional methods. The Working Group should consider how best to structure identified research activities in order to maximise the involvement of key actors (principally regional and national authorities) in the research, the usefulness of the knowledge, tools and techniques developed and ensure a high level of dissemination and use of the products developed. The Working Group can also consider future training needs in the power sector in order to provide input to discussions on future priorities for the ECA and ICA capacity building efforts.

To maintain focus and after wide consultations, the meeting is expected to: (i) focuses its immediate work on the lessons learned from efforts to productively involve power pools in the development of regional power projects; and (ii) review a paper by the ECA on "Enhancing Domestic Private Sector Development in Africa: a focus on Renewable Energy."

A key initial monitoring target and the principal focus of the first Working Group meeting would be the SAPP Program for Accelerating Transformational Energy Projects. What does the performance of this programme tell us about the best ways of involving power pools in the development of regional power projects? How can the lessons learned be used elsewhere? What other sources of funding might be accessed to continue or expand this work? How can ECA and ICA help with this endeavour? The Working Group can also consider training needs of the power pools in order to provide input to discussions on future priorities for the ECA and ICA capacity building efforts.

Members. To ensure a representative mix of stakeholders and expertise, it is proposed that the Working Group be comprised of 10-15 members, reflecting an institutional mix of DFIs, MDBs, donors, government officials, power pools, and private sector technical and financial experts.

Timetable. It is proposed that this be a virtual group with only one physical meeting per year. Meetings can be organized around some of the major regional meetings such as the All Africa Energy Week (bi-annual), Africa EU-Energy Partnership, etc.

Budget. ECA will cover the costs of participant travel and lodging for the first meeting, as well as the cost of the first research product to be assessed by the group (described below). Funding from other sources will be solicited to pay for the costs of subsequent meetings and research projects.

Chair. It is proposed that the first chair of the group be the Secretariat of the Infrastructure Consortium for Africa, African Development Bank. After the first year, the group would elect chairs on an annual basis.

The first meeting. It is proposed that the first one-day meeting of the Expert Working Group be held in Addis Ababa on **Tuesday, 6 October 2015**.

PROPOSED AGENDA

Inaugural Meeting of the Expert Working Group on PPPs in Africa

Addis Ababa, 6 October 2015

1) Opening Remarks

   Adam Elhiraika, Director, Macroeconomic Policy Division, ECA

   Mohamed Hassan, Manager, Secretariat of the Infrastructure Consortium for Africa, AfDB

2) Introduction of Working Group members
3) **Issue 1** - Large-scale Regional Hydropower Projects: the Challenges and Potential
   - *The SAPP-World Bank Collaboration – Expected Obstacles and Opportunities*
   - *The Project Workplan*
   - *Discussion: The Relevance for Other Power Pools*
4) **Issue 2** - Small-scale Renewables: How to Attract the Private Sector to Build Generating Capacity
   - Presentation and discussion of the Group's first research study: *Enhancing Domestic Private Sector Development in Africa: A focus on Renewable Energy.*
   - *Discussion: Tendering vs. FITs; "Local Content Requirements"*
5) *Discussion of Working Group research, monitoring, dissemination, and capacity building activities*
6) *Discussion of funding for future activities*
7) *Agreement on the date and location of the next meeting*
8) *Closure of Meeting*