

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: PIDA6662

Project Name	SAPP-Program for Accelerating Transformational Energy Projects (P126661)
Region	AFRICA
Country	Africa
Sector(s)	General energy sector (100%)
Theme(s)	Infrastructure services for private sector development (100%)
Lending Instrument	Technical Assistance Loan
Project ID	P126661
Borrower(s)	Southern African Power Pool
Implementing Agency	Southern African Power Pool Coordination Centre
Environmental Category	A-Full Assessment
Date PID Prepared/Updated	09-Sep-2014
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Decision	

I. Project Context

Country Context

Southern Africa – intended as the group of countries that constitute the Southern African Development Community (SADC) – is a large and diverse region with huge growth potential but also major development needs. The region spans a vast geographical area of nearly 9.09 million sq. km and is home to over 280 million people. A challenging economic geography poses major constraints to expanding growth and shared prosperity in Southern Africa. Out of its fifteen countries, six are landlocked, eight have populations below 15 million people, six have economies smaller than US\$10 billion per annum and several rely on transnational river basins for their water resources. Among all African regional economic communities, the SADC presents the largest concentration of middle income countries but also a striking disparity in the level of development of its members. South Africa is the economic engine of the region, driving demand and market opportunities in Southern Africa and beyond. Angola, Botswana, Namibia, Mauritius, Seychelles, and South Africa, have a GDP per capita well in excess to US\$5,000. On the opposite side of the spectrum, there are a handful of low income countries with a GDP per capita below US\$1,000 and poverty rates among the highest in Africa. However, most of these low income countries, including DRC, Mozambique, Tanzania, Zambia, and Zimbabwe are large or potentially large economies. Knitting these emerging economies more closely together and linking them to markets in South

Africa would help create a larger market and greater economic opportunities in the region.

Inadequate electricity access poses a major constraint to the twin goals of ending extreme poverty and boosting shared prosperity in Southern Africa. Electricity access in the region is around 28 percent – below the continental average of 31 percent – and would barely reach 17 percent – the lowest rate among all Africa sub-regions – if South Africa is excluded. In Madagascar, Zambia, Lesotho, Tanzania, DRC and Malawi less than 20 percent of the population has access to electricity; DRC and Malawi report rates below 10 percent. In all these countries expanding electricity access is critical to complement poverty reduction efforts and thus is at the core of their national development plans. In Malawi, an electricity access rate of 30 percent of the population by 2020 has been identified in line with the Government’s goal to reach middle income status. In Zambia, the Government aims at expanding access to 66 percent of the population by 2030. In Mozambique, the national target is in the order of 50 percent of the population, to be reached by 2023. Access goals in the Southern African countries critically hinge upon expanding electricity supply through investments in new generation capacity. In most cases, these must be associated with investments in the rehabilitation and/or expansion of the national transmission network, to allow power to flow within the country. Cross-border interconnections are equally critical to allow countries less endowed with energy resources to access more reliable and cost-efficient supply from neighbors. In the past years, deficient power infrastructure has affected poverty reduction and economic development in Southern Africa more than in other African regions. Going forward, the region may be losing up to 4 percent of GDP annually as a result of unmet power demand reducing economic investment, productivity and employment.

Sectoral and institutional Context

The total installed capacity of the region is 57.1 GW of which 51.7 GW is actually available. This is inadequate to accommodate the existing demand (nearly 53.8 GW), let alone future demand, which is predicted to increase by 3-4 percent per annum, with peak loads reaching nearly 72 GW by 2025. Electricity demand has steadily increased in the last decade, largely driven by the mining and manufacturing sectors in the region. Population growth, rural electrification and improved economic performance have also significantly raised residential demand. Conversely, excess supply capacity – which had been an enduring feature of the region’s electricity sector over two decades – has been shrinking since 2007 due to the insufficient investments in new generation capacity. As result, the region has begun to face supply deficits. In 2007, South Africa started curtailing exports to Botswana, Lesotho, Namibia and Swaziland, which had relied and continue to rely on South Africa for a significant proportion of their energy supply. As of today, all these countries continue to be short of generation capacity to meet their domestic demand.

The region has huge energy resources, especially hydro and thermal. The challenge is that the development of most of these resources requires large generation and transmission investments of a scale that cannot be justified based on national demand alone. Arranging such investments as regional projects that accommodate demand from multiple countries is critical to make them economically viable. Regional generation and transmission projects that allow integration of the Southern African power systems and the development of power trade hold great transformational potential. The average cost of supply in the region, which is predominantly based on thermal resources and notably coal, is nearly twice the cost of supply from its major hydropower sites. With integration, centers of high demand in the south, which are or close to becoming energy constrained and have traditionally relied on expensive thermal generation, would be allowed to import more

cost-efficient electricity, and notably hydropower, from centers of supply in the north. Also, security and reliability of supply would be greatly improved by taking advantage of different resources and different peak demand times across the region and by sharing generation reserve margins among several utilities or countries. Improved reserve margins and the possibility to access peak capacity of other countries would allow postponing, reducing or avoiding large and lumpy investments in domestic generation, greatly reducing the fiscal burden of power sector development.

There are deep concerns that the regional generation and transmission investment projects that are critical to promote integration are not being developed. Their size and complexity makes implementation particularly challenging. Some projects are geographically located in more than one country, as is the case of hydropower projects using water bordered by multiple countries or most often of cross-border transmission projects. Large-size generation projects, although often physically located in one country, make sense only in the context of regional power trade. Inadequate preparation resulting in low bankability of these projects is now recognized as the main reason. Preparing projects of this kind can cost anything between 2-5 percent of a project's capital costs and in some cases reach as high as 10 percent, an amount that in most cases is prohibitive for the host countries. Structuring large energy projects so they achieve financial closure also requires a complex set of skills, including on technical, financial, legal, regulatory, environment and social management, financial management, transaction and procurement aspects. Most of Southern Africa's countries are in the early stages of developing their expertise, and do not yet have a significant pipeline of experience in their own right. The scarcity of skills for project preparation has also imposed large costs in terms of reduced confidence by the private sector and delays due to eventual re-bidding or renewed preparation of projects.

Regional integration in the electricity sector is at the core of Southern Africa's development agenda and is pursued through the Southern Africa Power Pool (SAPP), the most advanced power pool in Africa. The SADC has developed strategies and established dedicated agencies that together form a consolidated institutional architecture driving integration in the energy sector. The key actor is the Southern African Power Pool created in 1995, which is now the most advanced and organized of all power pools in Africa. The SAPP coordinates the power systems of twelve SADC countries (Angola, Botswana, DRC, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe), of which nine are operating members, namely linked to the interconnected grid that carries around 97 percent of the energy produced in the SAPP. The non-operating members – which are yet to construct transmission links to the regional grid – are Angola, Malawi and Tanzania. The SAPP has a sound governance structure, with its key establishing agreements and operating guidelines signed by both members' governments and utilities. The governance structure is also robust and clear on the functions of the various SAPP's bodies. In 2002, a Coordination Center was established in Harare, Zimbabwe to monitor operations and transactions within the Pool, including controlling dispatching operations and serving as trading center for electricity auctions. The Coordination Center is the first body with responsibility for regional power market oversight and operation established in Africa.

The SAPP is also the power pool with the largest volume of power traded and the only one with some form of competitive power market in Africa. A Short-Term Energy Market (STEM) was introduced in 2001, which was replaced in 2009 by the Day-Ahead Market (DAM), a fully competitive auction market open to utilities, independent power producers, transmitters and distributors. Although STEM and DAM constitute notable innovations, the majority of energy sales

and purchase continue to take place through negotiated bilateral agreements. Concerns over security of supply constitute a primary reason for countries opting to trade bilaterally based on long-term power purchase agreements (PPAs). The lack of adequate transmission infrastructure also physically prevents full integration and is an obstacle to freely trading power on the spot market. As result, on average, STEM accounted for 5-10 percent of the energy traded in the region; DAM currently accounts for around 1 percent. Overall, ensuring adequate generation and transmission capacity are critical to enable further development of the regional power market based on bilateral trade and to creating more options for sale and purchase of power – thus leading to more competition in the region. The benefits attached to power trade – whether through bilateral contracts or through a more competitive market – and the prospects for trade in the near future make a strong case for regional generation and transmission projects. The focus of the SAPP has thus shifted more and more to the preparation and implementation of priority regional energy projects that further such regional integration.

Priority regional energy projects have been selected by the SAPP and endorsed by member countries at the highest levels. A Regional Generation and Transmission Expansion Plan (SAPP Pool Plan) commissioned in 2001 and revised in 2009 has identified a detailed list of priority generation and transmission projects that accommodate fast increasing electricity demand in the region at the least cost over the period from 2006 to 2025. Based on a thorough analytical methodology, the SAPP has further refined this list and selected the projects that should be given highest priority by member countries and promoted for investment. These include 21 priority generation projects, 15 of which are based on low carbon sources and alone account for 12,500 MW of new generation capacity, more than a third of what is estimated by the SAPP Pool Plan to be needed to accommodate a regional demand growth of 3 percent per year. The list of priority projects also comprises 12 transmission projects, including those to connect non-operating members of the SAPP, relieve congestion, or associated to generation projects. In May 2013, the SADC Energy Ministers formally approved the identified priority projects and committed to fast-track their implementation. The projects have been presented to potential investors at several investor conferences in Africa and elsewhere.

Advancing regional energy projects has become a top priority to the region and is being promoted as a truly regional initiative with the SAPP playing a driving role. In addition to identifying priority regional investments, the SADC has attributed to the SAPP and its Coordination Center a clear mandate for project preparation and defined governance arrangements to seek consensus and authorization at government level on the individual projects. Accordingly, the SAPP Executive Committee has expanded the functions of the Coordination Center to include project coordination on a per-project basis. Recently, the Coordination Center has served as coordinator for major interconnection projects, notably the Zimbabwe-Zambia-Botswana-Namibia (ZIZABONA) project and the Central Transmission Corridor (CTC) project in Zimbabwe. Grant funding for project preparation and packaging for specific projects has been channeled through the Coordination Center by a number of institutions such as the Development Bank of Southern Africa (DBSA), the African Development Bank (AfDB), the Government of Norway and the Swedish Development Cooperation Agency (SIDA) among others. A meeting of the SAPP Executive Committee held in March 2014 formally approved the establishment of a Projects Acceleration Team under the SAPP Coordination Center, with a mandate to carry out project preparation support at regional level. The SAPP is uniquely positioned to drive regional energy projects. As a regional organization created by the SADC, the SAPP (as well as its Coordination Center) has the same legal status of similar technical organizations. It has large convening authority among its members and can play a key

catalytic role in bringing together national and regional stakeholders. It is heavily involved in the coordination of sub-regional power planning and now has an established role in supporting the development of regional projects and especially interconnections between its members' respective networks. Its Coordination Centre is a credible and trusted partner to the utilities in the region.

Supporting preparation of regional projects as a regional initiative is a more efficient and effective choice. A regional approach to energy development allows centralizing decision making and achieving a more rational planning of generation and transmission investments in the region. It is also more suitable for the development of regional energy resources and infrastructure, which entail large positive externalities and benefits to be shared among multiple countries. The scale of resources and skills needed for preparing regional energy projects can be better leveraged at regional level. Obtaining funds is not straightforward and implies agreements with each of the individual countries involved. Entrusting regional organizations with the implementation of grants for project preparation greatly facilitates the process. It centralizes management of funds, procurement and financial management activities, as well as coordination of consultants. Carrying out preparation activities at a regional level is also more efficient than attempting to cultivate the scarce skills available in the individual countries repeatedly at the national level.

The proposed Project supports Southern Africa's priorities for energy development and its regional approach to the preparation and implementation of critical energy investments. The Project's design is intended to respond to the region's request for support on two main fronts: first, help the SAPP become a true catalyst for priority regional energy projects consistent with the mandate and the role it has been attributed by the SADC; and second, provide much needed financial resources to advance project preparation. Analytical support under the Project will also be deployed to enhance regional planning capacity, ensure better selection and coordination of investments, increase project sustainability as well as improve information available for decision making.

The Project can bring significant added value compared to existing project preparation facilities and will provide a platform to channel donor's support. Regional energy projects generally require large financial and technical support to the public sector to make them bankable and able to attract private sector participation. In the SAPP region, grant funding for preparation is therefore critically important to support the public sector. Support under the existing project preparation facilities (PPFs) is not sufficient. Most of these PPFs are relatively small in size and highly fragmented. They have focused only marginally on early-stage preparation, which is paramount for complex projects, and to a limited extent on transaction support to governments in negotiating with private sponsors. A source like IDA is among the few that can mobilize financial support at the scale required for large transformational energy projects. The proposed operation allows the region to efficiently tap into IDA and potentially other large sources of funding in a form that is simply not an option with the existing PPFs. Working directly with the SAPP provides political legitimacy, acceptability by the public sectors in the member countries and access to the SADC Secretariat and SADC energy ministers as required. As implementer of the Project, the SAPP has access to the funds envisaged for the preparation of priority regional energy investments, which saves the concerned countries from applying for financing. A number of donors are committed to support preparation of regional energy projects but have not found a coordinated modality to date. The implementation structure envisaged under the proposed Project will provide a suitable regional 'platform' to leverage funding from multiple donors. The 'platform' modality is more efficient than other options. The experience of cross-border project suggests that trying to arrange co- or parallel financing by different sources on a project-by-project basis may impose prohibitive transaction costs and insurmountable

coordination hurdles. Conversely, the platform structure will allow the SAPP to work more flexibly with a number of partners and well beyond the duration of this Project.

II. Proposed Development Objectives

The Project Development Objective is to advance the preparation of selected priority regional energy projects in the Southern African Power Pool participating countries.

III. Project Description

Component Name

Setting up the Project Acceleration Team

Comments (optional)

This component will finance the establishment of a Projects Acceleration Team (PAT), a high caliber core team in charge of moving forward the preparation of the regional projects identified as priorities to the SAPP region. The PAT will respond directly to the SAPP Coordination Center and will consist of a Coordinator and a number of key personnel covering all the key functions needed to prepare regional energy projects (including technical and financial analysis; legal and transaction advisory; environmental and social management; procurement; financial management; etc.). The PAT will assess and adjust to the type of role it needs to play on a specific project.

Component Name

Project Preparation Funds

Comments (optional)

The funds in this component will be managed by the PAT and will be used for a variety of tasks related to preparation of large and complex energy projects, including technical, economic and financial feasibility studies; environmental and social assessments; preparation of legal documentation and financial transaction advisory services, especially related to PPA negotiations; etc. Significant technical and legal support is likely to be required as well as stakeholder events, roadshows, etc. There will be some flexibility in use of funds as long as they are clearly used to improve the quality of project packages and enable sponsors and credit committees of banks to commit commercial equity and debt.

Component Name

Regional analytical support

Comments (optional)

This component will support analytical work that the SAPP judges important for advancing preparation of critical projects. This includes building a solid knowledge base for investment decisions and helping ensure long-term sustainability of investments. A key task will be the update and revision of the SAPP Pool Plan, to be supported and complemented by a number of studies potentially including: (a) a review of the generation and transmission expansion plans of the various SAPP members; (b) a mapping of the energy resources available to the SAPP region with a specific focus on renewable resources; and (c) major regional environmental and social impact studies. A key study will concern the link between water use and energy development in the region.

IV. Financing (in USD Million)

Total Project Cost:	20.00	Total Bank Financing:	20.00
Financing Gap:	0.00		
For Loans/Credits/Others			Amount

BORROWER/RECIPIENT	0.00
IDA Grant	20.00
Total	20.00

V. Implementation

The Southern African Power Pool will implement this Project through the Coordination Center. The Project's implementation process consists of the following key steps: (a) identification of regional energy projects to be considered for preparatory support; (b) screening and selection of these projects; (c) authorization process; (d) IDA's no-objection; (e) agreement on terms on which the funds will be provided; and (f) implementation of preparatory activities.

The identification of a project to be considered for preparatory support can be initiated by the PAT, concerned countries' governments and/or utilities, or project sponsors. In all circumstances, the PAT assesses the level of priority of the project – based on the criteria already approved by the SAPP – and its eligibility for receiving preparation support, including checking that the project and preparation tasks fit within the eligibility criteria for financing of IDA and of any other donors that may offer preparatory support. Upon completion of this screening process, the Coordination Center informs the SAPP Executive Committee and the SADC Secretariat, which help bring the project to the attention of the SADC Energy Ministers. An already established requirement for regional energy projects in the SADC region is that a Memorandum of Understanding is required between all relevant governments (all countries where the project will be physically located). This requirement will be enforced. If the project is located in only one country, the interested country needs to send a consent letter to the SAPP. Once the decision to move ahead is taken, the SAPP Coordination Center seeks a no-objection from the relevant donors (initially IDA). This no objection is required for the PAT to commence activities, and may be reasonably withheld if the relevant donor has any concerns about the project. Strict criteria for use of IDA are not presented at this stage – as all projects and circumstances are different and it is valuable to preserve flexibility for the Bank to exercise discretion. However, it is clear that the Bank would not fund activities that IDA is not allowed to fund (e.g. nuclear power, IBRD only country projects, etc) and would strictly follow the World Bank strategy (for instance, regarding coal projects) and World Bank due diligence regarding potential safeguards and integrity issues. The next important step is the negotiation and agreement with project implementers of the terms on which the services of the PAT will be provided. Whilst the PAT is proposed to be funded from IDA grants, and other donors are expected to join the funding of project preparation, in most cases the SAPP Coordination Center will seek future repayment either in cash or in-kind and the funds received are expected to be re-used by the PAT to support further project preparation activities. Upon reaching an agreement on repayment, the SAPP Coordination Center sends an award letter to the project implementers, which includes the understanding of preparatory support, outputs and timeline. The preparatory support so agreed and authorized is implemented by the SAPP Coordination Center through the PAT. Once a new project is selected and approved for preparatory support, the PAT is assigned a budget approved by the Manager of the SAPP Coordination Center and subsequently engages on tasks and hires consultants as appropriate. The staff of the PAT will be built up over time. Initial hiring will focus on core staff, including a Coordinator, a Financial Management Specialist and a Procurement Specialist. Additional staff will be hired based on the needs of the projects selected for support. All PAT members will report to the Coordinator who, in turn, will report to the SAPP Coordination Center Manager.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	x	
Natural Habitats OP/BP 4.04		x
Forests OP/BP 4.36		x
Pest Management OP 4.09		x
Physical Cultural Resources OP/BP 4.11		x
Indigenous Peoples OP/BP 4.10		x
Involuntary Resettlement OP/BP 4.12		x
Safety of Dams OP/BP 4.37		x
Projects on International Waterways OP/BP 7.50		x
Projects in Disputed Areas OP/BP 7.60		x

Comments (optional)**VII. Contact point****World Bank**

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