

Programme for Infrastructure Development in Africa

(PIDA)

Sector-specific Terms of Reference for Energy Sector

Prepared by



African Union



African Development Bank Group



NEPAD

ACRONYMS

ADB	African Development Bank
AICD	African Infrastructure Country Diagnostic Study
AU	African Union
AUC	African Union Commission
CEN-SAD	Community of the Sahel-Saharan States
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
ECCAS	Economic Community for Central African States
ECOWAS	Economic Community for West African States
IGAD	Intergovernmental Authority for Development
MDGs	Millennium Development Goals
NEPAD	New Partnership for African Development
PIDA	Programme for Infrastructure Development in Africa
PPP	Public Private Partnership
PSP	Private Sector Participation
REC	Regional Economic Community
SADC	Southern African Development Community
SC	Steering Committee
STAP	Short Term Action Plan
TC	Technical Committee
ToR	Terms of Reference
UEMOA	West African Economic and Monetary Union
UMA	Maghreb Arab Union
UNECA	United Nations Economic Commission for Africa

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These sector-specific terms of reference for the Energy sector should be read in conjunction with the General Terms of Reference for the study. These ToRs supplement the General ToRs in terms of certain specific aspects of the study which are more clearly dealt with in a sector-specific document. Similar sector-specific ToRs have been prepared for the other three sectors.

1. Context of the Study – Energy Sector

1.1 The Energy Sector in Africa

1.1.1 The African continent has abundant energy resources. The continent accounts for approximately 12% of global oil production and its reserves are estimated at 9.5% of the world total. However, the continent holds less than 4% of world's refining capacity. Oil resources in Africa are unevenly distributed: there are a small number of net energy-exporting countries, while the majority are net oil-importers. Rapidly soaring oil prices have provided windfall earnings for the exporting countries but the economies of the importing countries are now even more vulnerable. Soaring oil prices between 2003 and 2005 led to a 3.5% loss in the GDP for Sub-Saharan oil-importing countries.

1.1.2 The situation is similar for natural gas of which the continent holds 8% of the world total and accounts for approximately 6% of total world production. Over 90% of the production is from four countries: Algeria, Nigeria, Egypt and Libya.

1.1.3 Africa also has immense hydro-power potential that can be economically exploited. It would bring benefits for different regions of the African continent if it were tapped. The potential is estimated at one million GWh per annum with only 8% of it as the current annual production. Most of this potential is in Central Africa, and particularly, in the Democratic Republic of Congo with the Congo river, which alone can produce 100 000 MW including the hydro-electric site of the Inga river potential of 60 000MW. Other significant reserves are in Southern Africa, (mainly Zambia and Zimbabwe) and in East Africa (mainly in Ethiopia). Developing this potential will require a regional market that transcends national boundaries. Enormous financial resources would need to be mobilized for the production of hydropower and for grid interconnections.

1.1.4 The continent also has considerable sources of coal, 6% of total world reserves, situated mainly in Southern Africa. Coal production rose to 140 million tonnes in 2003, 40% of which went into producing electricity. The development of renewable energies, other than water (solar, wind, nuclear) is negligible.

1.1.5 Despite this energy supply situation, Africa consumes only 3% of the world's commercial energy. Its access rate to modern energy is the lowest in the world: around 500 million Africans do not have access to electricity and use wood for cooking and heating. This massive use of biomass has a negative effect on the health and living conditions of families, especially women, and poses a danger to the environment.

1.1.6 In order to contribute to the socio-economic development of the continent, the energy sector will have to surmount the major challenge of making modern forms of energy both accessible and affordable to households and for the economic sectors. This will require a continental energy development strategy through regional cooperation.

The Short Term Action Plan (STAP) and Energy

1.1.7 It was in response to such challenges that NEPAD in 2002 launched the Short Term Action Plan (STAP). This programme identified regional energy projects, studies and initiatives that would help to attain the medium and long term NEPAD objectives for energy infrastructure. The programme was expected to be reviewed regularly and updated to reflect developments in the sector and the requirements of the RECs.

1.1.8 The STAP focused on the following main components:

- regional interconnection programmes and development of regional trade, particularly through the creation of power pools and,
- regional gas and oil pipeline projects,

- studies on the development of region-wide hydropower sites (e.g. Inga) ; and
- capacity building and facilitation for energy projects.

1.1.9 Several of the interventions planned under the STAP are actually broader programmes incorporating energy policy, investment in physical regional projects and capacity building.

1.1.10 The different reviews of the STAP that the ADB undertook in 2003 and 2004, in consultation with the RECs, revealed different degrees of progress, depending on the type of programme and whether the REC was directly involved in its implementation. The following cases provide some examples:

- **Energy interconnection programmes:** ECCAS and SADC are directly involved in the implementation of regional projects (ongoing study on electric grid interconnection, the WESTCOR/Corridor programme), and ECOWAS is involved in energy interconnection (West African Gas Pipeline, and Ghana–Togo–Benin-Nigeria electricity interconnection), whereas electricity interconnection projects in the Maghreb region (eg Algeria-Morocco-Spain Interconnection) developed without any direct involvement from the UMA.
- **Power pools:** ECOWAS and SADC helped to promote the West Africa Power Pool (WAPP) and the Southern African Power Pool (SAPP) respectively. This made it possible to prepare and adopt regional electricity master plans, and to define technical and commercial rules for regional trade. These types of mechanisms are being developed in the other RECs, respectively by Eastern Africa Power Pool (EAPP) in COMESA, Central Africa Power Pool (CAPP) in ECCAS, and Comité Maghrébin de l'Electricité (COMELEC) in UMA.
- **Capacity building and facilitation projects:** ECOWAS and SADC and their specialized institutions (WAPP and SAPP) were very active in the development of such programmes, with support from multilateral and bilateral partners. Similar programmes are being solicited by the other RECs and their power pools (EAPP and CAPP).
- Establishment in 2004 of NEPAD's Infrastructure Projects Preparation Facility (IPPF) managed by the ADB. This facility has accelerated the design and implementation of regional energy projects.

From STAP to Medium to Long Term Strategic Framework (MLTSF)

1.1.11 Right from the outset, NEPAD's approach to infrastructure development has been two-pronged: the STAP consisting of a roll-over programme of regional energy projects, and the MLTSF regional energy projects, which aims to integrate this programme within the framework of a Medium to Long Term strategy to define poles of energy policy at regional and continental levels, and strategies for implementing them. The first attempt to carry out this study was made in 2006, but could not be completed. PIDA will re-launch the initiative as a collaborative effort by the African Union, NEPAD Secretariat and the ADB.

1.1.12 Annex I gives an indicative list of sector organisations, and Annex II gives a list of reference documents.

1.2 The Scope and Specific Objective of the Study for the Energy Sector

1.2.1 The scope of the study for the energy sector will cover the supply, demand, production and transport of commercial energy (primary and secondary electricity, hydrocarbons, renewable energies) to the extent that they have a regional dimension. Much of the sector work will be with regional institutions, eg RECs, Power Pools, and Lakes/River Basin Organizations (which are cross-sectoral).

1.2.2 The General ToRs define the scope and objectives of the overall study. Sector-specific objectives to be taken into account in the case of the energy sector include:

- Promoting trade in energy at regional and continental levels, with special attention on using regional power pools to leverage economic and social development of the regions and the African continent, and their economic integration.

- Developing access to the different forms of modern energy, in particular, by promoting the use of clean, modern energy in lieu of biomass to improve living conditions in households and protect the environment.
- Mitigation of climate change impacts.
- Seeking to ensure security of regional and continental energy through trade, and regional integration, pooling of energy resources and developing them jointly;
- Developing energy resources (water, oil and gas, in particular) and their exports for intra African trade and to the rest of the world (electricity and gas interconnections with Europe and the Middle East, exports of methane gas, exports of oil and coal);
- Increasing effectiveness and competitiveness of national economies by making use of comparative advantages through trade, and in particular, by promoting efficient use of physical energy infrastructure and related services.

1.2.3 The Energy sector study will follow the key steps set out in the General ToRs. These sector-specific ToRs focus only on the scope of work in Phases I and II of the study. The Inception phase and Phase III are covered in the General ToRs

2. Description of tasks under Phases I and II

2.1 Phase I: Diagnosis and in depth Analysis

2.1.1 The General ToRs describe the Inception Phase and the kick-off workshop which provide an essential lead-in to the Phase I work. In particular:

- The Consultant will already have made contact with stakeholders to identify the nature and scope of existing information sources, so that gaps that need to be filled can be more precisely identified; and
- The kick-off meeting will have established a vision and macro framework to inform the Consultant's assumptions and projections (see task B.1. below).

2.1.2 The tasks that are described below are not necessarily sequential, and some of the tasks may overlap in terms of timescales.

A. Review and Situation Analysis.

2.1.3 The Consultant shall conduct a two-fold review of: (i) regional and continental energy policies; and (ii) development of regional and continental energy infrastructure (in operation, under implementation or planned) as well as associated services.

A.1. Regional and Continental Policies

2.1.4 This review will be an evaluation of regional policies implemented to date. It will address as precisely as possible the following questions:

- What is the scope of existing regional and continental policies?
- To what extent have the policy objectives been achieved?
- What are the limiting factors that impede the achievement of these objectives?

2.1.5 The work plan will be constituted by two distinct levels of analysis:

- a. **Statement concerning the level of achievement of policy objectives.** The analytical framework should specify (i) the manner in which the Consultant intends to assess the level of achievement of each of the policy objectives (econometric methods, utilization of indicators and other analytical approaches) (ii) indicators used for the evaluation; and (iii) the sources of information and documentation which the Consultant plans to use. In order to facilitate comparative analysis and

maintain consistency, selected indicators will also be used in the projection and the establishment of the outlook for the future mentioned below.

- b. **Causal Analysis.** This level of analysis will concern the reasons and factors ('the constraints') which limited the level of achievement of the policy objectives. The Consultant's analytical framework will describe the manner in which the causal analysis will be carried out¹. The Consultant's detailed analysis in this evaluation will be informed, among other things, by international references and quantitative data, and illustrated by analyses of specific successful ('success stories') or unsuccessful ('failure stories') measures.

2.1.6 The causal analysis is especially important in identifying the reasons for delays, conflicts and failures. The results of this analysis should feed into both the prioritisation of projects and programmes, and into the implementation strategies and processes. The results of the 'Revision of the AU/NEPAD African Action Plan' study, and the 'Implementation progress review of the NEPAD STAP' study should provide a useful starting point, but the Consultant should build on these and other studies to develop a sound analytical framework that links the causal analysis with the strategic framework and infrastructure development programme. To the extent that the harmonization of regulatory frameworks and administrative procedures, and other "soft interventions", are constraining factors, the Consultant's recommendations and proposals must address these issues.

2.1.7 The output of this task will form part of the Phase I report (see B.3. below).

A.2. Regional Infrastructure for Energy

2.1.8 This second part of the review will analyse existing regional and continental infrastructure and associated services, those under implementation and those that are in the pipeline. It will essentially address the following objectives:

- (i) Contribute to the review of regional and continental policies mentioned above;
- (ii) Determine the potential for improving the performance of the existing infrastructures for longer term development prospects;
- (iii) Formulate the measures to be taken to improve the efficiency of implementation of programmes for the development of regional and continental infrastructures; and
- (iv) Enrich the Client's information base.

2.1.9 The analysis will be guided by the status of projects considered.

- a. **Existing Infrastructures.** The analysis will partly cover existing regional and continental infrastructures. The Consultant shall take into account and build on existing or ongoing studies, in particular those listed in Annex II. This analysis will aim at: (i) assessing the contribution of these infrastructures to reaching policy objectives; (ii) highlighting how various factors constrain the efficiency of these infrastructures (e.g. the quality of physical infrastructure, the quality of the institutional and regulatory environment, the structure of infrastructure services markets, financial constraints); (iii) determining the potential for improving the efficiency of these infrastructures and the role they could play in the future; and (iv) drawing lessons from the construction and operation of these infrastructures. This analysis will include:

- Reviewing and analysing the existing regional programmes and projects, both included in the STAP and other regional programmes/projects,
- Reviewing processes and criteria used for project prioritization,
- Illustrating the implementation and sequencing of priority projects through maps and diagrams,
- Conducting a detailed analysis of a group of projects, including the STAP flagship projects.

¹ The Programme Concept Note provides some methodological indications for reference on a possible analytical framework (annex 1).

b. **Infrastructures under execution or preparation:** The Consultant shall perform the following tasks:

- b.1. **Making an inventory of all projects under implementation and preparation:** The inventory will be based on documentation provided by the Client and the Consultant's own investigations. The Consultant shall prepare a sheet ('project sheet') for each of the projects using a format that will be agreed upon with the Client during the discussion of the work plan presented in the proposal. For purely illustrative purposes, a sample format (which the Consultant is invited to comment on and review) is presented in Annex III. The Consultant shall submit the project sheets in an electronic medium and in the form of an Excel or Access file, to be agreed with the Client. The Consultant shall also provide a project brief along with the sheets, to be included in the Phase I report, which will: (i) indicate the sources of information and specify, as appropriate, the items of information; and (ii) summarize the situation of all of these projects (costs, nature, regions, status, etc.).
- b.2. **Detailed analysis of a set of projects:** The objective of this analysis will be to highlight the level of efficiency of implementation of regional and continental infrastructure programmes and the nature of limiting factors. The analysis will cover, among others: (i) the possible gaps between budgets and initial and present schedules; (ii) the factors causing such gaps; (iii) the conditions of coordination and decision-making on the key parameters of these projects (technical structure, planning, budget, role of various stakeholders in implementation); (iv) any other factor that impacted the efficiency of the process of preparation and/or implementation of the infrastructure concerned. This task should thus help learn lessons from the conditions of preparation and implementation of the projects considered. For the execution of this task, the Consultant could consult works conducted on the STAP and the evaluations of its implementation, as well as other ongoing studies mentioned in Annex II. The set of projects will be agreed upon between the Consultant and the Client and should prioritise a minimum of five projects including at least some projects retained as flagship projects in the STAP that are under preparation or implementation.

2.1.10 The output of this task will form part of the Phase I report (see B.3. below).

B. Establishment of the outlook for the future and identification of challenges

2.1.11 The objective of this stage is to establish the outlook for the future for the development of regional and continental Energy infrastructures and associated services by 2030² and assess the challenges that the regions and the continent will have to face in the sector. Such an outlook should serve as a basis for the formulation of realistic long-term objectives, to be targeted by policies and programmes at the continental level in order to anchor infrastructure development into regional integration and trade co-operation in Africa.

2.1.12 The Consultant should consider carefully the extent to which the models already developed by the AICD team can be utilised to establish the outlook for the future. They might, for example, be valuable for developing different outlook scenarios guided by political priorities.

B.1 Establishment of an outlook for the future

2.1.13 **Vision:** As set out in the General ToRs, the Panel of Experts will present, for discussion at the kick-off workshop, a preliminary draft of a Vision and Framework paper. The purpose of this paper is to provide an initial view of a macro framework, and a vision for regional integration in Africa together with the contribution of each infrastructure sector to this regional integration. The outcome of these discussions³ should be used by the Consultant as a starting point for assumptions and projections of the outlook for the future.

² The consultant may propose another horizon with justification

³ This outcome will either emerge in the form of a consensus between the Panel of Experts, the consultants, and the Client; or, in the event that no consensus emerges, the final decisions will be made by the Client.

2.1.14 **Validation workshop:** The Consultant’s projections of the outlook for the future will take place in two stages. First, the Consultant will develop their parameters and assumptions for the projections, and produce a methodological brief for discussion at a workshop which is expected to take place around 12 weeks after the commencement of work. The Consultant shall deliver their methodological brief a week earlier. The workshop will be organized by the Client and Consultant, and will bring together stakeholders (especially the RECs) and AU specialized institutions/sector organizations and resource persons (‘external experts’). The purpose of the workshop will be to discuss the methodological note, and validate the assumptions and parameters to guide the final projections. The second stage will take place after the workshop, and will involve the finalisation of the Consultant’s projections for the Phase I report.

2.1.15 **Horizons.** The projections will be established for the periods 2010-2020 and 2021-2030⁴. The Consultant shall conduct an analysis of past trends on the last ten-year period (1999-2007), identify projection works already conducted by RECs, and prepare a set of coherent data for the year 2007 envisaged as reference provided that data required for the analysis could be collected in a satisfactory way. In lieu of this, the Consultant may indicate an alternative proposal in their proposal and justify it. The outlook shall be formulated in terms of (i) indicators allowing in particular a benchmark with other regions of the world and the formulation of objectives, and (ii) an analysis of drivers and trends.

2.1.16 **The assumptions and methodology:** The Consultant shall be particularly cautious in preparing the assumptions for the establishment of the outlook for the development of regional and continental infrastructures, as well as the methodology to be used. The Consultant’s methodological brief will analyse the following points:

- a. **The Factors.** The Consultant shall identify and analyse the “dominant” factors that are likely to determine the evolution of supply and demand of regional and continental infrastructure services by 2030 for the definition of basic assumptions and parameters on which the prospects will be established. For example, such factors may include:
 - Endogenous factors such as the future localization of the continent’s major natural resources (including hydroelectric potential, coal and hydrocarbon reserves, and electro-nuclear potential), demographic and migratory factors, economic development of nodal points and increased trade potential following national policies that encourage opening to international trade;
 - Exogenous factors such as the price evolution of different forms of energy, the growth or emergence of development poles outside Africa, the technological changes including in energy production and transformation.
- b. **Quantified assumptions and parameters** through which the results of the analysis of the aforementioned factors can be reflected.
- c. **Forecast Methodology.** The Consultant shall propose and justify the most appropriate methodology for establishing the outlook for the future. This could be based on the formulation of scenarios, in which case the choice of the scenarios to be retained should be justified in relation to the analysis of trend factors and the study objectives. The Consultant shall describe **precisely** the forecast and analysis models and other tools used.

2.1.17 **Formulation of the outlook for the future:** On the basis of the validated assumptions and parameters, the Consultant shall make projections of potential regional and continental Energy needs (making explicit such options as (i) access and connection rates, (ii) objectives related to access to modern forms of energy, (iii) energy mix, (iv) the trade potential by form of energy, in relationship with independence and energy security objectives, (v) energy conservation objectives, etc). The output of this task will form part of the Phase I report (see B.3. below).

B.2. Analysis of choices and challenges

2.1.18 **The Energy sources.** On the basis of the results of the establishment of the outlook, the Consultant shall proceed to an analysis at regional and continental levels by forms of energy. The

⁴ Ibid

Consultant shall analyse the implications on energy demand, regional energy trade and level of investments required of various projection options. The Consultant shall analyse the implications in terms of infrastructure and services of each selected option.

2.1.19 Analysis and assessment of the outlook for the future. The Consultant shall highlight and analyse the compliance of development prospects with policy objectives, analysing possible conflicts, trade-offs and alignments to be carried out between objective priorities of regional and continental Energy infrastructure and improvement of the associated services. The Consultant shall perform a high level evaluation of different outlook options in terms of investment needs, and in terms of contribution to the development of regions and the Continent.

2.1.20 Objective Setting. The Consultant shall propose a number of realistic objectives that African decision makers could set for their long term regional and continental infrastructure development policies in the energy sector. In so doing the Consultant shall formulate realistic assumptions on the level of resources that could be available for supporting the development of physical assets in the energy sector. These objectives shall be established on the basis of relevant indicators that reflect the outlook for the future and challenges identified in the preceding analysis.

2.1.21 The output of this task will form part of the Phase I report (see B.3. below).

B.3. Preparation of an outline programme for the development of regional and continental physical infrastructures

2.1.22 From (i) the review of regional and continental infrastructures and (ii) the formulation of the outlook for the future, the Consultant shall present an outline infrastructure development programme for the development and management of Energy infrastructure and associated services to the 2030 horizon, in which the following shall be highlighted:

- Investment projects by status (under execution, in current pipeline, new idea);
- Institutional and legal framework/policies and other soft interventions that are required;
- Relevant implementation stakeholders;
- First cost quantifications and estimated deadlines;
- Specific choice and decision-making issues, in particular regarding projects for which bankability is uncertain

2.1.23 The output of this task, together with the outputs of tasks A.1., A.2., B.1. and B.2., will form the Phase I report, which should be delivered to the Client 20 weeks after the commencement of work.

2.2 Phase II: Formulation of a preliminary draft strategic framework, infrastructure development programme, and implementation strategy for the energy sector

2.2.1 The aim of this phase is to help reach, through a sustained participatory and consultative process, and on the basis of previous studies, a consensus on the essential elements of a regional and continental energy strategic framework (including sector policies), infrastructure development programme, and implementation strategy and processes. The key issues that should be addressed include (but are not limited to):

- The coherent functioning of the different energy sub-sectors;
- Improving access to modern energy for the majority of the African population;
- Addressing environmental and climate change issues, notably through incorporating elements of sustainable development in energy policy;
- Energy efficiency and security for the regions and the African continent;

- The financing mechanisms and options available;
- Opportunities available for private sector participation and incentives to stimulate participation;
- Effectiveness of the institutional and regulatory frameworks;
- Healthy competition between the different forms of energy ;
- Harmonization of norms and standards;
- Capacity building requirements.

2.2.2 A core component of this phase will be the holding of a series of sector workshops involving all key stakeholders. The aim of the workshops will be to develop proposals based on outlines prepared by the Consultant. The services of the Consultant for this phase are described below.

Preparation and holding of sector workshops

2.2.3 **Structure of the workshops.** In close collaboration with the Client, the Consultant shall agree the number of workshops to be held, and the organisations to be invited to each workshop. The main workshops will be with the RECs, Power Pools and AU specialized institutions/sector organizations, but there may also be a need to consult with other stakeholders at a continental level, such as the NEPAD Head of States and Government Implementation Committee. The Consultant will also advise the Client on measures and programmes most efficiently addressed at continental level.

2.2.4 **Preparation of briefs for the workshops.** In close collaboration with the Client, the Consultant shall prepare briefs to contribute to the workshop discussions. Such briefs, prepared on the basis of the Phase I report, will be specific to each region. They will include summaries of:

- The conclusions of reviews of regional policies and the implementation of infrastructure development programmes;
- The conclusions of projections of needs in regional energy infrastructure and associated services, and an analysis of coherence with sector policies and economic guidelines;
- A set of recommendations aimed at strengthening regional and continental policies on energy infrastructure and associated services development and management;
- The issues that should be addressed in the strategic framework for the energy sector, both to prioritise projects and programmes, and to ensure successful implementation;
- Outlines of specific regional and continental infrastructure development programmes for energy sector management, including analyses of new projects; and
- Outlines of an implementation strategy and processes.

2.2.5 Briefs for the preparation of the sector workshops will be delivered to the Client 5 weeks after Phase I validation.

2.2.6 **Participation in and/or facilitation of workshops.** The Consultant shall assist the Client in preparing, organizing and implementing the workshops by:

- Proposing the structures of workshops (notably plenary and regional sessions) and a method of facilitation. Such proposals will be discussed and validated with the Client;
- Preparing the detailed agenda;
- Presenting briefs, and taking part in workshop proceedings, especially by clarifying the assumptions chosen during discussions and further analyses to be made consequently;
- Contributing to workshop proceedings, especially by ensuring that discussions effectively lead to the formulation of conclusions relevant to the strategic framework/sector policies, infrastructure development programme, and implementation strategy and processes;
- Playing the role of the facilitator and/or advising the Client on such a role in order to structure the conduct of the workshops and summarize the various conclusions.

2.2.7 At the end of the workshops, the Consultant shall prepare a report highlighting: (i) the guidelines formulated by participants on the strategic framework/sector policies, infrastructure development programme, and implementation strategy and processes; (ii) the agreed appropriate levels at which the measures and initiatives should be undertaken: continental or regional; (iii) the interfaces between the regional and continental levels on which to undertake these measures and initiatives (iv) issues on which participants could not reach a consensus, and (v) additional analyses brought forward and necessary for the consolidation of results.

2.2.8 Reports on the sector workshops will be delivered to the Client within 1 week of each workshop being completed.

Formulation of a preliminary draft strategic framework (including sector policies)

2.2.9 The Consultant shall:

- Carry out additional analyses needed to validate assumptions adopted during the workshops;
- Assist the Client to address issues on which agreement was not reached during the workshops;
- Review and if necessary reformulate the strategic objectives and sector policies after discussion during the workshops;
- Finalize a preliminary draft of an African energy sector strategic framework (including sector policies) on the basis of the guidelines formulated by the workshops and further analyses as necessary;
- Outline the measures and other propositions where a consensus was not reached.

2.2.10 The strategic framework/sector policies will provide the basis on which the infrastructure development programme can be developed, as well as addressing the issues relating to successful implementation.

2.2.11 The output of this task will form part of the Phase II report.

Formulation of a preliminary draft infrastructure development programme

2.2.12 The preliminary draft infrastructure development programme will be phased into the short term (2010-2015), medium term (2016-2020) and long term (2021-2030). It will include options and their rationale as may be necessary. The programme will stem from the strategic framework/sector policies, and particularly: (i) the establishment of the outlook for the future, and the identification of strategic objectives and policies for the sector, and (ii) the strategic guidelines and criteria formulated during the workshops, especially for the prioritisation of projects and programmes.

2.2.13 This task will necessitate the following analyses:

- The coherence of projects and programmes with the policy and strategic objectives of the sector.
- Preliminary assessments of the financial and economic viability of projects/programmes to provide an initial criterion for their prioritisation.
- Refinement of the prioritisation criteria to include other relevant factors including (but not limited to): (i) the contribution of each project/programme to the attainment of objectives; (ii) the stage of development of each programme (according to defined milestones); (iii) an assessment of "soft interventions" such as the difficulties of harmonising regulatory frameworks and administrative procedures; (iv) the prospects for financing.
- Role of stakeholders in programme implementation, together with human resource availability and capacity building requirements..
- The need for complementary policy, institutional, or regulatory measures required to enable efficient and fruitful implementation.
- Potential impact on the environment and climate change.

- Other risks and challenges to implementation.

2.2.14 The output of this task will form part of the Phase II report.

Formulation of a preliminary draft implementation strategy and processes

2.2.15 The Consultant shall prepare a preliminary draft implementation strategy and processes, based on analyses of the potential barriers to implementation. The successful implementation of the infrastructure development programme will depend on building a consensus among all stakeholders around a realistic platform of measures and projects. The implementation strategy and processes will involve the development of priority measures, resources and tools to support the successful implementation of PIDA, including:

- a. **Priority actions to be undertaken in the period 2010-2015** in terms of both physical investments and associated measures required to secure successful implementation (e.g. policy, institutional, regulatory, financial, legal). This set of actions shall form the Priority Action Plan, which will replace the NEPAD STAP, and should be designed in a form to be a roll-over action plan.
- b. **Respective roles of regional and continental entities and institutions** in the implementation of the Priority Action Plan, and more generally in the preparation and implementation of further investment programmes as well as in the elaboration and application of regional and continental policies. The study will review all institutional arrangements that affect the development and delivery of infrastructure services at the regional and continental levels, and will make recommendations on how they could be modified to improve infrastructure services. The recommendations will draw on the causal analysis undertaken in Phase 1.
- c. How the regional and continental policies, entities and institutions could contribute to resolving **the issue of financing proposed investments and their sustainability**, covering both construction and operation and maintenance of the infrastructure.
- d. **Mobilizing regional and external financing and private sector participation.** The study will address the mobilization of funding within the region, and from development partners and the private sector. The existing situation will be evaluated, and projections made of the likely financial resource envelopes for regional infrastructure projects, based on an analysis of past trends and other relevant factors. It is desirable to produce scenarios of future financial resources within which development projects and programmes can be prioritised. These projections should be based on realistic assumptions, and, as far as possible, innovative ways of finding solutions to these recurrent issues. The Consultant will propose measures likely to help mobilise private sector participation in infrastructure, and strengthen cooperation with international development partners.
- e. **Civil society participation** in the preparation and implementation of proposed measures in terms of policies as well as physical investments. In this context, the Consultant shall propose communication and dissemination measures that regional and continental entities and institutions shall undertake in order to enhance civil society participation.
- f. **Defining an implementation and monitoring process:** This involves proposing to stakeholders, the mechanisms and tools to: (i) review and update over time the strategic framework and infrastructure development programme; and (ii) actively manage the roll-over Priority Action Plan. With respect to the action plan, this will mainly consist of knowing how to initiate and complete an action, as well as how to monitor the progress of the action. This process will include:
 - **Capacity building:** The formulation of recommendations for the institutional capacity building of continental and regional entities responsible for monitoring, coordinating and managing the implementation of the agreed measures and actions (while implementation of the recommendations will be the direct responsibility of the entities concerned, and will be carried out outside this study).
 - **Monitoring mechanism.** Starting from the work already done to design the NEPAD Project Management System (NPMS), and the upgrading of this system under

MLTSF, the Consultant will assess the adequacy of the present data base as an effective monitoring mechanism, and formulate observations, comments and recommendations on its upgrading to the extent that this is assessed to be necessary. The final design and implementation of any improved monitoring mechanism will be carried out separately from this study.

2.2.16 The output of this task will form part of the Phase II report. The full report Phase II report will be delivered to the Client 24 weeks after Phase I validation, and will contain:

- Preliminary draft strategic framework (including sector policies)
- Preliminary draft infrastructure development programme
- Preliminary draft implementation strategy and processes.

INDICATIVE LIST OF SECTOR ORGANISATIONS

1. SAPP Southern Africa Power Pool (Pool énergétique de l’Afrique australe)
2. CAPP Central Africa Power Pool (Pool énergétique de l’Afrique centrale)
3. WAPP West Africa Power Pool (Pool énergétique de l’Afrique de l’Ouest)
4. COMELEC Comité maghrébin de l’électricité (Algeria, Libya, Mauritania, Morocco, and Tunisia)
5. EAPP East Africa Power Pool
6. EGL Electricité des Grands Lacs
7. AFREC African Energy Commission
8. UPDEA Union of Producers, Transporters and Distributors of Electric Power in Africa
9. AFUR African Forum for Utility Regulators
10. APPA Association des Producteurs de Pétrole Africains
11. AFSEC Commission électrotechnique africaine de normalisation
12. LCBC Lake Chad Basin Commission
13. NBA Niger Basin Authority
14. NBI Nile Basin Initiative
15. KBO Kagera River Basin organization
16. OKACOM Okavango River Basin Commission
17. OMVG Organisation de Mise en Valeur du fleuve Gambie
18. OMVS Organisation de Mise en Valeur du fleuve Sénégal
19. ORASECOM Orange-Senqu River Basin Commission
20. VBA Volta Basin Authority
21. ZAMCOM Zambezi River Basin Commission
22. CICOS Commission Internationale du bassin Congo-Oubangui-Sangha

LIST OF REFERENCE DOCUMENTS

In order to inform the study, the Consultant shall research any other available information on the topic either from institutions working on Africa (RECs, UNECA, World Bank, etc.), from other regions, or from the web.

Documents related to the NEPAD infrastructure programme

- 1 STAP analysis & measures to accelerate its implementation-Energy Sector June 2007, Draft Report
- 2 Infrastructure Development Gaps, Draft Discussion Paper, June 2007

Africa Infrastructure Country Diagnosis

The Africa Infrastructure Country Diagnostic (AICD) is a project designed to expand the world's knowledge of physical infrastructure in Africa. AICD will provide a baseline against which future improvements in infrastructure services can be measured, making it possible to monitor the results achieved from donor support.

Background papers

	Date of posting on AICD site
General	
Fiscal costs of infrastructure	
Access, affordability and alternatives (household survey)	February 2008
Unit costs of infrastructure	
Investment Needs Studies	
Power	
State of the Sector Reviews	
Power	
River basin management	Phase II

Working Papers

	Topic	Authors	Date of posting on AICD site
Infrastructure and Growth in Africa	Macro/ Growth	Calderon	February 2008
Making Sense of Sub-Saharan Africa's Infrastructure Endowment: A Benchmarking Approach	Macro/ B'mkg	Yepes/ Pierce/ Foster	February 2008
Building Sector Concerns into Macro-Economic Financial Programming: Lessons from Senegal and Uganda	Macro/ fiscal	Estache/ Munoz	March 2008
Impact of Infrastructure Spending in Sub-Saharan Africa: A CGE Modeling Approach	Macro/ fiscal	Perrault/Savard	March 2008
Fiscal Costs of Infrastructure Provision: A Practitioner's Guide	Macro/ Fiscal	Briceno	
Electricity Reforms in Mali: A Micro-Macro Analysis of the Effects on Poverty and Distribution	Energy/ Impact	Boccanfuso/ Estache/Savard	March 2008
Electricity Reforms in Senegal: A Micro-Macro Analysis of the Effects on Poverty and Distribution	Energy/ Impact	Boccanfuso/ Estache/Savard	March 2008
Impact of Infrastructure Constraints on Firm Productivity in Africa	Micro/ PSD	Escribano/ Guasch	March 2008
Potential for Local Private Finance of Infrastructure in Africa	Finance/PSD	Manroth/ Irving/Carter	
Electricity Tariffs and the Poor: Case Studies from Sub-Saharan Africa	Energy/ Poverty	Wodon/Briceno	
Paying the Price for Unreliable Power Supplies: Own Generation of Electricity by Private Firms in Africa	Energy/ PSD	Foster/ Steinbuks	February 2008

Are Electricity Distribution Companies Efficient: Evidence from Africa	Energy	Estache/Tovar
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Web Tools

	Date of posting on AICD site
<i>On-line interactive databases</i>	
Fiscal costs of infrastructure	
Household survey data	
Power sector performance indicators	
River basin management sector performance indicators	Phase II
Urban infrastructure sector performance indicators	Phase II
<i>On-line interactive simulation models</i>	
Investment needs for power	
<i>GIS Africa infrastructure atlas</i>	

Other documents relevant to the Energy Sector

- 1 Continental Policy on Electricity, AUC, 2008
- 2 Oil & gas in Africa, AUC & ADB, 2008
- 3 Integrated African Energy Vision 2035, AUC, ECA & UNIDO, 2009

Indicative format for project record sheet

1	Project number (according to NPMS referencing system as far as possible)
2	Title
3	Funding requirement - Pre-implementation (USD)
4	Funding requirement - Implementation (USD)
5	Sector (Energy, etc.)
6	Nepad Priority
7	Beneficiaries
8	Implementation stage (last stage/milestone reached, date, and narrative description)
9	RECs involved (leader and other RECs/other regional organisations involved)
10	Countries
11	Next stage/milestones scheduled dates (incl. Start and end dates)
12	Background
13	Expected Results (outputs, outcomes, impact)
14	Regional significance
15	Project assumptions and risks
16	Role of key players
17	PPP viability
18	Private sector involvement
19	Implementing agency
20	Project type (physical project, capacity building, other soft interventions)
21	Project manager (contact details)
22	Site Manager (contact details)