# NILE BASIN INITIATIVE SHARED VISION PROGRAM REGIONAL POWER TRADE PROJECT

# Part I: Minutes of the High-Level Power Experts Meeting

Dar es Salaam, Tanzania February 24–26, 2003

March 2005





Copyright © 2005
The International Bank for Reconstruction and Development/THE WORLD BANK 1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

All rights reserved Manufactured in the United States of America First printing March 2005

ESMAP Reports are published to communicate the results of ESMAP's work to the development community with the least possible delay. The typescript of the paper therefore has not been prepared in accordance with the procedures appropriate to formal documents. Some sources cited in this paper may be informal documents that are not readily available.

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, or its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. The World Bank does not guarantee the accuracy of the data included in this publication and accepts no responsibility whatsoever for any consequence of their use. The Boundaries, colors, denominations, other information shown on any map in this volume do not imply on the part of the World Bank Group any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

Papers in the ESMAP Technical Series are discussion documents, not final project reports. They are subject to the same copyrights as other ESMAP publications.

The material in this publication is copyrighted. Requests for permission to reproduce portions of it should be sent to the ESMAP Manager at the address shown in the copyright notice above. ESMAP encourages dissemination of its work and will normally give permission promptly and, when the reproduction is for noncommercial purposes, without asking a fee.

# **Contents**

Acknowledgments	V
Abbreviations and Acronyms	vii
1. Opening Ceremony	1
2. Session 1	3
3. Session 2	5
4. Session 3	7
5. Session 4	13
6. Session 5	17
Annexes	
Annex 1: Agenda	19
Annex 2: Participants	23
Annex 3: Session 1 Presentations	29
Annex 4: Session 2 Presentations	35
Annex 5: Vision Exercise	39
Annex 6: Session 3 Presentations	45
Annex 7: Regional Power Trade Project Profile	53

## **Acknowledgments**

This report compiles the minutes of the High-Level Power Experts Meeting (Part I) and the First Meeting of the Nile Basin Ministers Responsible for Electricity (Part II) organized under the leadership of the Nile Basin Initiative Secretariat under the guidance and with the support of the Nile Basin Council of Ministers and Nile Technical Advisory Committee. The meetings took place in February and May 2003, respectively, in Dar Es Salaam, Tanzania.

The high-level power experts' meeting served to prepare the ministers meeting and develop a long-term vision for the Nile Basin Power Forum. The Nile Basin Ministers Responsible for Electricity unanimously adopted the Dar Es Salaam Declaration, which recognizes the significant socioeconomic and power-system benefits that can be realized from regional cooperation. The declaration also adopts the Long-Term Vision for the Nile Basin Power Forum and approves the Regional Power Trade Project Implementation Plan, including the establishment of the Nile Basin Power Forum. The power forum provides an important means for cooperating in the development of electric power resources in the Nile Basin.

The Nile Basin Initiative Secretariat team included former NBI Executive Secretary Meraji Msuya, Senior Program Officer Hamere Wondimu, Helen Bugaari, and Barbara Matovu.

The World Bank team included David Grey, Barbara Miller, Mangesh Hoskote, and Alexandra Planas. External consultants Moses Thompson, Anton Eberhard, and Mark Davis provided support by facilitating the discussions and providing background papers and presentations for the meetings and Andrea Heggen formatted the reports. Marjorie K. Araya from ESMAP coordinated the publication process.

The organizers also would like to express their gratitude to the government of Tanzania, especially the Ministry of Energy and Minerals, for hosting the two events. Financial support for the two meetings was provided by the Energy Sector Management Development Program (ESMAP) under the Nile Basin Initiative Regional Power Trade Project, Phase II activity funded under ESMAP's UK trust fund.

## **Abbreviations and Acronyms**

EEPCO Ethiopian Electric Power Corporation

ENSAP Eastern Nile Subsidiary Action Program.

ESMAP Energy Sector Management Assistance Programme ICCON International Consortium for Cooperation on the Nile

IPP Independent power producer

KPLC Kenya Power and Lighting Company

MOU Memorandum of understanding

NBI Nile Basin Initiative
NBTF Nile Basin Trust Fund

NEC National Electric Power Corporation

NELSAP Nile Equatorial Lakes Subsidiary Action Project

NEPAD New Partnership for Africa's Development Nile-COM Nile Council of Ministers of Water Affairs

PEWG Power Experts Working Group
PIP Project implementation plan
PMU Project management unit
RPT Regional Power Trade

SAP Subsidiary Action Program
SAPP Southern Africa Power Pool
SNEL Societé nationale d'éléctricité

SVP Shared Vision Program

TANESCO Tanzania Electric Supply Company Limited
UETCL Uganda Electricity Transmission Company Ltd.

1

## **Opening Ceremony**

- 1.1 At the opening ceremony, opening statements were made by Mr. Meraji Msuya, executive director, Nile Basin Initiative (NBI) Secretariat; Mr. Bashir Mrindoko, commissioner of energy and petroleum affairs, Tanzania; Mr. Leif Sauvik, minister counselor, Royal Norwegian Embassy in Tanzania; and Mr. Benno Ndulu, World Bank Tanzania country office manager. The Honorable Mr. Edward Lowassa, minister for water and livestock development, Government of Tanzania, and member of the Nile Council of Ministers of Water Affairs (Nile-COM), officially opened the High-Level Power Experts Meeting. The agenda for the meeting is included in annex 1, and the list of participants is included in annex 2.
- 1.2 The opening statements highlighted the significance of this first high-level meeting of power sector experts in engaging and building partnerships with other sectors in the NBI process. The importance of the NBI and the Regional Power Trade (RPT) Project was also highlighted in the broader context of New Partnership for Africa's Development (NEPAD) and its action plan to energize and support national and subregional efforts to eradicate poverty and collectively set Africa on a path to improved living standards and human development.
- 1.3 Mr. Bashir Mrindoko, chairman of this session, stressed Tanzania's commitment to host the project management unit (PMU) of the RTP Project, including its commitment to provide office space and pay for utilities for the PMU.

# 2

### **Session 1**

Chairman: Mr. Mihret Debebe, Ethiopia

Rapporteur: Mr. Salvator Sunzu Ntigambirizwa, Burundi

- 2.1 The first session of the meeting included the following presentations (included in annex 3):
  - An introduction of the objectives and expected outputs for the meeting
  - An overview of the NBI
  - An overview of the RTP Project
  - The potential benefits of power trade and its contribution to regional economic development.
- 2.2 The participants shared their expectations for the meeting, including:
  - Agreement on a realistic implementation plan of the RTP Project
  - Project initiation within one year
  - Determination of the date and place for the first meeting of the Nile Basin energy ministers
  - Agreement on a strong vision for the Power Forum.
- 2.3 A number of important issues were raised during this session, including:
  - Representation in the Technical Committee. As the countries move to a reformed power sector, representatives from the generation, transmission, and distribution companies may also need to be included in the project.
  - Participation of Independent Power Producers (IPPs) in the Power Forum. The participants raised the issue of the role, if any, of IPPs and the best way to involve IPPs in the Power Forum.
  - Other subregional investment projects. Some projects have already been identified at the Subsidiary Action Program (SAP) subregional level,

but other power generation and transmission interconnection projects also need to be considered.

- Tariffs.
  - There is a need for a review of tariff levels in the context of a regional power market. Pricing of transmission networks and wheeling should be a priority study for the Power Forum.
  - Tariffs for the power exchanges have to sustain investments in interconnection but also allow for financing national rural electrification projects so everybody wins.
- **Equitable distribution of benefits**. The benefits of power trade have to be divided in an equitable way among the different parties.
- Additional potential benefits of power trade. Apart from the benefits mentioned in the presentations, other nonmonetary benefits include reduced greenhouse gas emissions by using more clean, environmentally friendly energy sources, as well as communication services by using the transmission lines not only for transmitting energy but also voice and data.

### Session 2

#### Visioning Exercise

Chairman: Mr. Kabagambe Kaliisa, Uganda

Rapporteur: Etienne Tshibangu, Democratic Republic of Congo

- 3.1 A vision is a statement of long-term purpose. Whereas a statement of mission describes the operational relationship between the project team and the clients it serves, the statement of vision clarifies the aspirations and expectations a group has for the future. The mission statement defines how the project team will deliver products and services to its client in the near term. The vision explores the potential opportunity facing a group and describes this at a time in the future.
- 3.2 The meeting participants took three steps in creating a long-term, 20-year vision of a Power Forum. These steps followed the causal logic of the overall endeavor: *To achieve more productive and competitive urban and rural economies and societies, increased access to reliable, affordable, and sustainable power is essential. To increase equitable access, one of the essential enabling conditions is an effective Power Forum* (see annex 4 for the Results Framework used in this exercise). Based on this logic, the group first defined its expectations of what more competitive, productive urban and rural regional economies might look like. Second, it defined the success criteria for regional power trade in an interconnected, reformed, and competitive power market. Finally, the group described the features of an effective regional Power Forum 20 years from now. See annex 5 for group results of this exercise.
- 3.3 Working in small groups, the participants generated a set of success factors, then a set of vision statements, and finally a subgroup integrated these elements into a common statement of vision. After plenary review and refinements, the participants gave this vision statement their endorsement.
- 3.4 The final result is a vision of what a Power Forum would look like 20 years in the future, just as the regional power market is making a transition from a cooperative, self-regulated market to a competitive power exchange.

#### **Box 1. Long-Term Vision for the Nile Basin Power Forum**

The Power Forum is a regional, self-sustaining, legally established institution that:

- Manages and updates a database of regional power systems
- Develops regional plans for expanding generation and transmission
- Stimulates subsidiary-level project investment for regional interconnection
- Facilitates a common understanding on a power sector reform strategy and a harmonized regulatory regime
- Designs the power market and establishes standards for operation of the interconnected system
- Promotes cooperation in regional power trade, the development of a power market
- Ensures an equitable trading regime for all participants in the regional power market
- Achieves the confidence of all participants in the regional power market through a strong transparent decisionmaking process
- Facilitates a learning environment for understanding the nuances of legal, regulatory, and pricing regimes required for regional power trade
- Liaises with similar forums in other regions.

It is expected that, over time, the Power Forum will facilitate the formation of three new entities: a regulatory forum, a regional dispatch center, and a power exchange. The Power Forum will continue to function as a regional planning agency.

### Session 3

Chairman: Kenya

Rapporteur: Mr. Amin Sabri Ahmed, Sudan

- 4.1 The following presentations were made during this session (See Annex 6 for presentations):
  - Shared Vision Program (SVP):
    - Generic implementation arrangements
    - Process for launching SVP projects
    - Nile Basin Trust Fund (NBTF) and financing status
  - RPF project implementation plan (PIP)
  - PMU arrangements from host country.

#### **Shared Vision Program**

- 4.2 Requirements for appraisal and project launch were discussed. Requirements for each country include the following country confirmation letters:
  - Confirmation of Steering Committee members
  - Confirmation of Technical Committee members
  - Confirmation letter for contribution of staff time at the national level.
- 4.3 Requirements from host country—Letter from competent national authority (ministry of finance or appropriate line ministry) for contribution to support PMU.
- 4.4 The deadline for providing those letters to the NBI Secretariat is the first meeting of ministers in charge of electricity. A sample letter will be sent by the NBI Secretariat
- 4.5 Issues raised by the participants during this session included:
  - Eligibility requirements for applying to the PMU positions. It was explained to the participants that the World Bank cannot finance government officials; therefore, after the selection process is completed

and a candidate is offered the position, he or she needs to resign from his/her position in the government. The project manager for the PMU cannot come from the host country, which in this case is Tanzania.

- **Nile Basin Trust Fund**. The question was raised as to why the funds that will be provided by the development partners should be channeled through the NBTF. The NBTF provides several advantages, including:
  - Streamlining reporting procedures, instead of having to report to several development partners with different reporting procedures
  - Untying funds that allow the project to hire the best consultants available worldwide to conduct the different studies.

#### Regional Power Trade Project Implementation Plan

- 4.6 Participants raised issues regarding project design, including:
  - Phasing of the project. The participants were concerned about delaying the comprehensive basin-wide study, considering that the output of the study is important. The project is being phased for two main reasons. First, an additional US\$4 million needs to be raised. Second, similar studies are being conducted by the Nile Equatorial Lakes Subsidiary Action Project (NELSAP) and the Eastern Nile Subsidiary Action Program (ENSAP). To incorporate results of these subregional studies as well as avoid overlap, it was proposed to delay the initiation of the comprehensive study for the third year. The preliminary study could start during the second year of the project, including preparation of terms of reference for the comprehensive basin-wide study.
  - **Legal status**. The difference between obtaining legal status for the Power Forum and the memorandum of understanding (MOU) is mutually exclusive. The Power Forum will likely be a legal entity in the future as its role in power trade evolves. The MOU is not legally binding and relates to the interutility, intergovernmental agreement to put in place the architecture of the Power Forum.
  - **Funding limitations.** How will the additional financing needed for the project be raised? Donors are willing to commit additional funds, but they want to see results. Such commitments can be expected when the project is operational or at the time of International Consortium for Cooperation on the Nile (ICCON) 2.
  - **Staff time**. Four to six weeks of ministry and utility staff time for the Technical Committee per year will be required for the project.

- 4.7 The main issues raised on budget and financing include:
  - **Funding for the project.** Getting incremental funds is not likely to be a problem if the project demonstrates to the development partners that progress is being achieved.
  - Funding for the Power Forum after the project ends. In the Shared Vision Program projects are designed with a finite life, but the RPF Project is expected to continue after the initial four years. Part of the work of these first four years is to raise and define ways to make it selfsustainable in the long term. Although partner support may continue as the Forum becomes fully operational, in the long term it is expected to become self-sustaining.

#### **Final Agreements**

- 1. The project will be extended to four years within the same budget range.
- Sequencing of project components will be as follows: 2.
  - a. Power Forum activities (starting first year)
  - Preparatory phase of basin study (second year) b.
  - Full basin-wide study (third year after funding is available and fully c. operational PMU and SAP studies).
- 3. Technical and Steering Committee representatives:

<u>Country</u>	<u>Government</u>	<u>Utility</u>
Burundi	Director general of energy and water, Ministry of Energy and Mines	Director general, Regideso
Dem. Rep. of Congo	Secretary general, Ministry of Energy	Chief executive, SNEL
Egypt, Arab Rep.	Under secretary, Ministry of Electricity and Energy	Chairman, Electricity Holding Co.
Ethiopia	State minister for infrastructure, Ministry of Infrastructure	General manager, EEPCO
Kenya	Permanent secretary, Ministry of Energy	Managing director, KPLC
Rwanda	Secretary general, Ministry of Infrastructure	Director general, Electrogaz
Sudan	Secretary general, Ministry of Electricity	General director, NEC
Tanzania	Permanent secretary, Ministry of Energy and Minerals	Managing director, TANESCO
Uganda	Permanent secretary, Ministry of Energy and Mineral Development	Managing director, UETCL

4. The Technical Committee will continue with current members on the power experts working group, except as changes are needed on an individual country basis. For this RPT Project, the Technical Committee will continue to retain two representatives, one from the ministry responsible for power with broad knowledge of sector reform and deregulation, and the other from the power utility with expertise in transmission and system operations. Others (that is, from generation if utility is unbundled) may participate on the committee, but at their own expense.

#### 5. PMU staffing:

- Project manager, with power system planning expertise
- Lead specialist, power system operation with economics
- Lead specialist, hydropower planning (with water resources)
- Specialist, environment/water resources
- Other technical specialist as required, on consulting basis.
- 6. Integration and coordination with SAPs:
  - Eastern Nile Technical Region Office/Nile Equatorial Lakes Coordinating Unit (ENTRO/NEL-CU) representatives invited as observers on Project Steering Committee
  - ENTRO/NEL-CU representatives invited to Technical Committee.
  - Strongly encourage same power experts involved in SAP and SVP.

To avoid duplication of studies and take advantage of complementarities and linkages, other regional power trade initiatives in which NBI members also participate will be taken into account. Those regional power trade initiatives include:

- EAC master plan (Tanzania, Kenya, Uganda)
- SAPP (Tanzania)
- Central Africa Power Pool (Democratic Republic of Congo)
- Great Lakes Energy Organization (Democratic Republic of Congo, Rwanda, Burundi)
- NEPAD, power component
- Kenya-Tanzania Power Interconnection Study
- Tanzania-Zambia Interconnection Study
- North Africa-Arab countries connection study (Egypt)
- Kagera Basin Organization (Uganda, Tanzania, Rwanda, and Burundi).

The revised project profile, which reflects the session discussions, is included in Annex 7.

# 5

### Session 4

Chairman: Mr. Mahrez, Egypt

Rapporteur: David Ngula, Tanzania

- 5.1 Tanzania, as the host country for the PMU and the First Meeting of the Nile Basin Ministers Responsible for Electricity, reported on the two assignments agreed upon at the Arusha Power Experts Working Group Meeting in April 2002.
- 5.2 The two assignments for the host country included:
  - Establishment of an organizing committee for the First Meeting of the Nile Basin Ministers Responsible for Electricity. The host country reported that some preliminary work has been done, and a formal committee will be established after this meeting.
  - PMU office. Tanzania informed participants that office space for the PMU has already being selected within the premises of the Ministry of Energy and Minerals. The project team will provide a detailed list with office space requirements. The PMU will share some facilities, such as conference facilities, with the ministry.

Review and Finalization of Preparations for First Meeting of Nile Basin Ministers Responsible for Electricity			
Objectives of the Meeting	<ul> <li>Endorse the vision for the Nile Basin Power Forum</li> <li>Approve the RPF Implementation Plan</li> </ul>		
Venue	Dar es Salaam, Tanzania		
Output	Signed agreed minutes or agreed declaration (?) (to be finalized during preparatory meeting)		
Dates	<ul> <li>May 19 for preparatory meeting</li> <li>May 20–21 ministerial meeting (second day to be confirmed)</li> </ul>		

Rev	Review and Finalization of Preparations for First Meeting of Nile Basin Ministers Responsible for Electricity			
Participants	<ul> <li>Nile-COM chair (1)</li> <li>Nile-COM member host country (1)</li> <li>Ministers responsible for electricity (9)</li> <li>Power Experts Working Group (PEWG), permanent secretaries, chief executive officers (participants of Feb 24–26 meeting, Dar es Salaam) (4 x 9 = 36)</li> <li>Nile Technical Advisory Committee member of host country (1)</li> <li>ENSAP and NELSAP representatives (4)</li> <li>Nile-SEC (3)</li> <li>Partners supporting the project (4)</li> <li>World Bank (5)</li> <li>Eritrea minister responsible for electricity and an adviser (observer) (2)</li> <li>Host ministry (3)</li> <li>Tanzania organizing committee (?)</li> <li>About 70 persons</li> </ul>			
Organizers	Nile-SEC with the committee organized by Tanzania and the World Bank Office (Tanzania)			
Financing	Project will cover participants and organizing costs			
Invitation	Ministers responsible for electricity will be invited jointly by Nile-COM chair and the minister of energy and minerals of the host country.			
Proposed Agenda	<ul> <li>Opening Ceremony         <ul> <li>Welcome by the chairman of the Nile-COM</li> <li>Statement by partners</li> <li>Welcome by the minister of Energy and Minerals</li> <li>Tanzania (meeting chairman)</li> <li>Official opening of the meeting</li> </ul> </li> <li>Country energy ministers' statements</li> <li>Presentation and update on NBI by Nile-SEC</li> <li>Presentation by the ENSAP &amp; NELSAP focused on power projects</li> <li>Special presentations</li> <li>Role of power trade in regional economic development</li> <li>Experience from other power pools and interconnections (for example, SAPP, Electrical Interconnections in the Middle East, Baltic)</li> <li>Presentation and endorsement of long-term vision for Power Forum</li> <li>Overview and approval of the Nile Basin RPT PIP</li> <li>Launching of the project and next steps</li> <li>Closing ceremony</li> </ul>			

# Review and Finalization of Preparations for First Meeting of Nile Basin Ministers Responsible for Electricity

### Other issues and premeeting actions

- Pre-meeting briefings to the ministers by PS
- Commitments of the energy ministers to participate
- Country commitments (bring to meeting)
- PMU confirmation letter
- Country confirmation letters (one from ministry & one from utility, including)
- Steering Committee nomination
- Technical Committee nomination
- Commitment for staff time
- Frequency of ministers meeting (one time or regular)—to be discussed during first meeting

# 6

# **Session 5**

### Follow-up Actions and Launching of RPT Project

Follow-Up Actions	Responsible Party	Targeted Time 2003
Finalize draft project appraisal document (PAD) and PIPs		Mar 21
Review draft PAD and PIP	PEWG, Nile-SEC and Nile-TAC, Send PIP to Nile-SEC and PAD to Nile Team	April 4
Final draft PIP and PAD	Nile-SEC and Nile team	April 14
Internal Bank clearance and decision meeting	Nile team	May 5
Preparatory meeting		Mon, May 19
First meeting of Ministers Responsible for Electricity		Tues-Wed, May 20–21 (2 <sup>nd</sup> day to be confirmed)
Sample to be sent to the PEWG for country confirmation letters (one from electricity ministry and one from power utility) including  Nominees for Steering Committee and Technical Committee  Commitment for staff time  PMU confirmation letter	Nile-SEC	March 7
Submission of confirmation letters (see above)	Countries	May 20 (ministers' meeting)
Appraisal	Nile Team	May 23–24
Advertise for core staff	Nile-SEC/UNOPS	June
Negotiate agreements with Bank and UNOPS	Nile-SEC	July
Sign agreement with Bank & UNOPS	Nile-SEC	Aug

Follow-Up Actions	Responsible Party	Targeted Time 2003
Host country prepare PMU for occupation	Host country	Aug
Core staff selected	Nile-SEC/UNOPS	Sep
Full effectiveness		Nov

# Follow-Up Actions for the First Meeting of the Nile Basin Ministers Responsible for Electricity

Follow-Up Actions	Responsible Party	Targeted Time
Confirm ministers' names	PS or equivalent	Feb 26
Pre-meeting briefing for the ministers, including confirming date for the meeting	PS or equivalent	As soon as possible, before March 15
Send invitation to participants	Host country and Nile-SEC	March 20
Confirmation ministers' and participants' attendance	PS or equivalent, send to Nile - SEC	April 1
Dispatch PTA	World Bank Office/Nile-SEC	May 5
Preparation of opening statements	All	Prior to meeting
Preparatory meeting		Mon, May 19, Dar es Salaam
Ministers' meeting		Tues-Wed, May 20–21, Dar es Salaam (need for second day to be confirmed)

# Annex 1

### **Agenda**

### Monday, February 24, 2003

**Opening** 

9:00-10:30 am **Chairman:** Mr. Bashir Mrindoko, commissioner for energy

and petroleum affairs, Ministry of Energy and Minerals,

Tanzania

Remarks by the SVP Regional Power Trade Host

Country, Tanzania **Introductory Address** 

Mr. Meraji Msuya, executive director, Nile Basin Initiative

Secretariat

Statement from NBI Development Partners

Mr. Leif Sauvik, minister counselor, Royal Norwegian

Embassy, Tanzania

Statement from the World Bank

Mr. Benno Ndulu, acting country manager, World Bank

Country Office. Tanzania **Opening Statement** 

Honorable Mr. Edward Lowassa, minister for water affairs and livestock development, and member of the Nile Basin

Council of Water Ministers (Nile-COM)

10:30-11:00 am Coffee

Session 1

11:00 am-12:30 pm Chairman: Ethiopia Rapporteur: Burundi

Introduction—Scope and Objectives of the Meeting

Moses Thompson, Team Technologies

Nile Basin Initiative and Shared Vision Program

Overview

Meraji Msuya, executive director, Nile Basin Initiative

Secretariat

Regional Power Trade Project Overview Henry Bidasala-Igaga, Uganda power expert Benefits of Power Trade and its Contribution in

**Regional Economic Development** 

Mangesh Hoskote, team leader RPT Project, World Bank

Nile Team

12:30–1:30 pm Lunch

Session 2

1:30–5:30 pm Chairman: Uganda

Rapporteur: Democratic Republic of Congo

"Visioning Exercise"

Moses Thompson, Team Technologies

5:30–5:45 pm Closing Round

Tuesday, February 25, 2003

Session 3

**9:00–10:30 am Chairman:** Kenya

Rapporteur: Sudan

**SVP General Implementation Arrangements and** 

**Processes** 

Hamere Wondimu, senior program officer, Nile Basin

Initiative Secretariat

**Review of Regional Power Trade Project and** 

**Implementation Arrangements**Mengesha Shiferaw, Ethiopia

10:30–11:00 am Coffee Break

11:00 am–1:00 pm Facilitated Discussion of Key Implementation

Arrangements

**PMU Arrangements from Host Country** 

Mr. Bashir Mrindoko, commissioner for energy and petroleum affairs, Ministry of Energy and Minerals,

Tanzania

1:00 pm-2:00 pm Lunch

Session 4

**2:00–5:00 pm Chairman:** Egypt

Rapporteur: Tanzania

Review and Finalization of Preparations for First Meeting of Nile Basin Energy Ministers, including

Agenda

Hamere Wondimu, senior program officer, Nile Basin

**Initiative Secretariat** 

**Report from the Host Country on the Preparatory** 

Committee

5:00–5:15 pm Closing Round

### Wednesday, February 26, 2003

Session 5

9:00–10:30 am Chairman: Tanzania

Rapporte ur: Rwanda

Wrap-Up and Next Steps:

Hamere Wondimu, senior program officer, Nile

Basin Initiative Secretariat

• First Meeting of Nile Basin Energy Ministers

• Follow-Up Actions and Launching of Regional

Power Trade Project

10:30–11:00 am Coffee Break

11:00 am–12:00 pm Closing Ceremony

12:00–2:00 pm Lunch

2:00–5:00 pm Special Session for Power Expert Working

**Group Members—Logical Framework for the** 

**Regional Power Trade Project** 

# Annex 2

# **Participants**

Burundi	Burundi
Mr. Philippe Niyongabo	Mr. Désiré Florent Nzayanga
Director General of	Director General of Energy and Water
REGIDESO	Ministry of Energy and Mines
BP 660	BP 745
Bujumbura, Burundi	Bujumbura, Burundi
Tel: 257 22 2720/210553	Tel: 257 229 555
Fax: 25722 6563	Fax: 257 229624
phniyongabo@yahoo.fr	dgee@cbinf.com
Burundi	Burundi
Mr. Nolasque Ndayihaye	Mr. Salvator Sunzu Ntigambirizwa
Director of Energy ad interim	Energy Planning and Power Expert
Ministry of Energy and Mines	Great Lakes Energy Organization (EGL)
BP 745	BP 1912
Bujumbura, Burundi	Bujumbura, Burundi
Tel: 257 22 3888	Tel: 257 22 5504
Fax: 257 223337	Fax: 257 22 4157
dgee@cbinf.com	ntigambirizwa@yahoo.fr
Democratic Republic of Congo	Democratic Republic of Congo
Mr. Etienne Tshibangu	Mr. Alphonse Muyumba Kalenge
Director Attaché	Chief Executive
SNEL	SNEL
P.O. Box 500	Kinshasa, DRC
Kinshasa, DRC	Tel: 243 817005421
Tel: 243 8189 13674	almuyumba@yahoo.fr
Fax: 243 12 33735	
etshibangu@yahoo.fr	

Democratic Republic of Congo	Egypt
Mr. Cifarha Male Andre	Eng. Ezzat Abd-alla Mehrez
Director Assistant to Deputy	Vice Chairman
Chief Executive & Energy Expert	Egyptian Electricity Transmission
SNEL	Company (EETC)
P.O. Box 500	Cairo, Egypt
Kinshasa, DRC	P.O. Box Abbasia
Tel: 243 081700 55 10/089 13 027	Tel: 7610573/761 0575
Fax: 243 12 33735/33734	Fax: 7610573
maleif@yahoo.fr	
Egypt	Ethiopia
Eng. Ahmed Abd El-Magid Khattab	Mr. Teferra Beyene
General Director for Interconnection	Project Manager MSHPSP
Studies	Ministry of Water Resources
Egyptian Electricity Holding Company	P.O. Box 23847-Code 1000
EEHC	Addis Ababa, Ethiopia
Abbassia, Egypt	Tel: 251 1 457 7890
Tel: 024029814	Fax: 251 1 461176
Fax: 024011630	Ggbg1@telecom.net.et
kyassin@moee.gov.eg	
Ethiopia	Ethiopia
Mr. Miheret Debebe	Mr. Mengesha Shiferaw
General Manager	Director, Civil Work Projects
Ethiopian Electric Power Corporation	Administrative Department
Addis Ababa, Ethiopia	Ethiopia Electric Power Corporation
P.O. Box 1233	P.O. Box 1233
Tel: 251 1 56 0041	Addis Ababa, Ethiopia
Fax: 251 1 552345	Tel: 251 1 526 519
eelpa@telecom.net.et	mengesha84@hotmail.com
Kenya Mr. Joel Imitira	Mr. Albert Mugo
Economist	Power System Development Manager
Ministry of Energy	KPLC
P.O. Box 30582	Nairobi, Kenya
Nairobi, Kenya	Tel: 254 3201 4306
Tel: 254 2 244211	amugo@kplc.co.ke
Fax: 254 2 240 910	amago o aproto mo
imitira@yahoo.co.uk	

Kenya	Kenya
Mr. Kirimi Guantai	Mr. John Githinji
Head Planning	Power Expert
Ministry of Energy	(Ag. Chief Engineer)
P.O. Box 30582	Ministry of Energy
Nairobi, Kenya	P.O. Box 30582,
Tel: 254 2 316199	Nairobi, Kenya
Fax: 254 2 316 199	Tel: 254 2 330048
dce@energymin.go.ke	Fax: 254 2 240910
dec & energymm.go.ke	power@energymin.go.ke
Rwanda	Rwanda
Mr. Makuza Kanamugire	Mr. Leopold Mugabo
Director of Energy	Director General
Ministry of Infrastructure	ELECTROGAZ
P.O. Box 24	P.O. Box 2094
Kigali, Rwanda	Kigali, Rwanda
Tel: 250 08506664/250 583706	Tel: 250 0830 5440
Fax: 250 583706	Fax: 250 573 802
mkanamugire@yahoo.fr	Mgaborw@yahoo.fr
Sudan	Sudan
Mr. Amin Osman Mohd El- Bashari	Mr. Amin Sabri Ahmed
Power Expert	Secretary General
National Electricity Corporation	Ministry of Electricity
P.O. Box 6608	P.O. Box 1380
Khartoum, Sudan	Khartoum, Sudan
Tel: 0123 90744	Tel: 249 11 783074
Fax: 024911 795362	Fax: 249 11778036
Aminosman18@hotmail.com	aminsabri@yahoo.com
Sudan	uganda
Mr. Makkawi Mohd Awad	Mr. W. K. Kiryahika
Managing Director	Ag. Managing Director, Uganda
National Electricity Corporation	Electricity Transmission Co. Ltd.
P.O. Box 1380	P.O. Box 7625
Khartoum, Sudan	Kampala, Uganda
Tel: 249 11 770 686	Tel: 256 (006) 41 349 126
Fax: 249 11 773714	Willy.kiryahika@uetcl.com
makkawi@necsudan.com	

Uganda	Uganda
Mr. F. A. Kabagambe-Kaliisa	Mr. Henry Bidasala-Igaga
Permanent Secretary	Principal Energy Officer
Ministry of Energy and Mineral	Ministry of Energy & Mineral
Development	Development
P.O. Box 7270	P.O. Box 7270
Kampala, Uganda	Kampala, Uganda
Tel: 256 41 234 733	Tel: 256 41 235889/257863
Fax: 256 41 234 732	Fax: 256 41 349342
kkaliisa@energy.go.ug	igaga@energy.go.ug or
	bidasala@hotmail.com
Uganda	Tanzania
Mr. Esimu Michael Elimu	Mr. Bashiri Juma Mrindoko
Senior Engineer (Generation)	Commissioner for Energy & Petroleum
Uganda Electricity Generation Company	Affairs
Ltd.	Ministry of Energy and Minerals
P.O. Box 1101	P.O. Box 2000
Jinja, Uganda	Dar es Salaam, Tanzania
Tel: 256 43 121 416/077 510421	Tel: 255 222 139455
Fax: 043 123154	Fax: 255 022 2120799
mesimu@hotmail.com	Mrindoko-mem@raha.com
Tanzania	Tanzania
Mr. Rudy Huysen	Mr. Mathew Mbwambo
Managing Director	Executive Engineer (Sr.)
TANESCO	Ministry of Energy & Minerals
P.O. Box 9024	P.O. Box 2000
Dar es Salaam, Tanzania	Dar es Salaam, Tanzania
Tel: 2451159	Tel: 211715618
rhuysen@cats-net.com	Fax: 2120799/2137169
	mbwambo@hotmail.com
Tanzania	Tanzania
Mr. David Ngula	Mr. Jimmy Adamson
Manager, Research & Development	Deputy Manager Director
TANESCO	TANESCO
P.O. Box 9024,	P.O. Box 9024
Dar es Salaam, Tanzania	Dar es Salaam, Tanzania
Tel: 022 245 1210	Tel: 022 245 1984
depngula@cats-net.com	Fax: 022 245 1984
	jadamson@cats-net.com

Tanzania	Nile-SEC
Mr. Julius M. Mihayo	Mr. Meraji Msuya
Assistant Director, Water Resources	Executive Director
Ministry of Water & Livestock	Nile Secretariat
Development	P.O. Box 192
P.O. Box 35066	Entebbe, Uganda
Dar es Salaam, Tanzania	Tel: 256 41 321424
Tel: 2450005/0744-494 697	mmsuya@nilesec.org
Fax: 2451457/2450005	- Indicate of the second of th
Dwr-maji@intafrica.com	
Nile-SEC	Norway
Ms. Hamere Wondimu	Jan Erik Rasmussen
Senior Program Officer	1 <sup>st</sup> Secretary
Nile Secretariat	Royal Norwegian Embassy
P.O. Box 192,	P.O. Box 2646
Entebbe, Uganda	Dar es Salaam, Tanzania
Tel: 256 41 321424	Tel: 211 3366
hwondimu@nilesec.com	Fax: 211 3367
	Jan.rasmussen@norad.no
Sweden	World Bank
Ralph Karhammar	Ms. Barbara Miller
Regional Infrastructure Adviser	SVP Coordinator, AFTNL
SIDA/Swedish Embassy	World Bank Nile Team
P.O. Box 9274	1818 H Street, NW
Dar es Salaam, Tanzania	J-11
Tel: 255 22 2111235	Washington, D.C.
Fax: 255 22 211 3420	Tel: 1 202 473 2451
Ralph.karhammar@sida.se	bmiller@worldbank.org
World Bank	World Bank
Mr. Mangesh Hoskote	Mr. Arne Hoel
Task Team Leader, RPT Project	World Bank Nile Team, AFTNL
World Bank Nile Team, AFTEG	1818 H Street, NW
P.O. Box 2054	J-5
Dar es Salaam, Tanzania	Washington, D.C.
Tel: 211 4575/7	Tel: 1 202 458 0227
Fax: 211 3039	ahoel@worldbank.org
mhoscote@worldbank.org	

World Bank	World Bank
Ms. Alexandra Planas	Rosalie Ferrao
World Bank Nile Team, AFTEG	Executive Assistant
1818 H Street, NW	World Bank
J-9-900	P.O. Box 2054
Washington, D.C.	Tel: 211 4575/7
Tel: 1 202 473 6772	Fax: 211 3039
aplanas@worldbank.org	Dar es Salaam, Tanzania
	rferrao@worldbank.org
World Bank	World Bank
Immaculata Yanga	Marietta Faransa
Team Assistant	Program Assistant
World Bank	World Bank
P.O. Box 2054	P.O. Box 2054
Dar es Salaam, Tanzania	Dar es Salaam, Tanzania
Tel: 2114575/7	Tel: 211 4575/7
Fax: 211 3039	Fax: 211 3039
iyanga@worldbank.org	mfaransa@worldbank.org
Consultant	Consultant
Mr. Isaak Masalla	Moses Thompson
Consultant	Team Technologies
P.O. Box 956	P.O. Box 2033
Dar es Salaam, Tanzania	Middleburg, VA 20118
Tel: 255 741 338 749	Tel: 540 687 8300
<u>ilmasalla@hotmail.com</u>	mthompson@teamusa.com
Consultant	Consultant
Mark Davis	Andrew Ellis
Consultant	Consultant
ECON	ECON
Oslo, Norway	Paris, France
Mark.davis@eon.no	Tel: 33 (0) 1 44 61 97 22
	Fax 33(0) 1 48 87 44 82
	Andrew.ellis@econ.fr

## **Session 1 Presentations**



**NILE BASIN INITIATIVE** SHARED VISION PROGRAM

**HIGH-LEVEL POWER EXPERTS MEETING** 

INTRODUCTION TO THE REGIONAL POWER TRADE PROJECT

#### PROJECT IDENTIFICATION AND **PREPARATION**

- Scoping study
- · Collaborative, multicountry participatory
- Power Experts Working Group (PEWG)
- · Reflects riparian perspective on national and regional needs
- Project components are deemed to be implementable, confer real benefits
- · Integrate lessons from other trading development arrangements

## PROJECT IDENTIFICATION AND **PREPARATION**

- Three meetings of PEWG: December 1999, July 2000, and October 2000
- Detailed project document presented at the First ICCON Meeting.
- Consensus among PEWG for the establishment of a Power
- Forum to:

   Facilitate continued dialogue and cooperation among power utilities
- Collect and exchange information
- Share experiences
- Increase awareness

- Support technical meetings
   Review and analyze common issues of interest
   Commission special studies relating to power trade
   Assist in developing the strategic framework and agreements for advancing power trade in the region

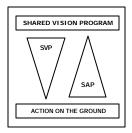
# OBJECTIVE OF THE REGIONAL POWER TRADE PROJECT

- Establish the institutional means:
  - To coordinate the development of regional power markets among the Nile Basin countries
  - -Build analytical capacity
  - Provide technical infrastructure to manage Nile Basin resources in keeping with the NBI-SVP Vision

#### PROJECT COMPONENTS

- Three main components:
  - Regional coordination and project management
  - Establishment of a Nile Basin Power Forum
  - Comprehensive basin-wide analysis of longterm power supply, demand, and trade opportunities

#### FROM VISION TO ACTION



# SUBSIDIARY ACTION PROGRAMS

- Two Subsidiary Action Programs
- Identified the first set of cooperative projects to be prepared
- Preparatory activities in the power subsectors have already started.

#### NILE EQUATORIAL LAKES SUBSIDIARY ACTION PROGRAM (NELSAP)

- Three studies will be undertaken over the next two years:
  - Strategic/Sectoral Social and Environmental Assessment of Power Development Options in Burundi, Rwanda, and Western Tanzania
  - Review of Rusumo Falls HEP Studies
  - Strategic/Sectoral Social and Environmental Assessment of Power Development Options in the NEL Region

#### EASTERN NILE SUBSIDIARY ACTION PROGRAM (ENSAP)

- Two projects have been identified as a priority in the Hydropower Development and Regional Power Trade Subprogram:
  - Ethiopia-Sudan Interconnection Project
  - -Eastern Nile Investment Program

# STATUS OF PROJECT PREPARATION

- Implementation arrangements
- Host country commitments
- Appraisal: June 2003Start-up: October 2003



NILE BASIN INITIATIVE SHARED VISION PROGRAM

# HIGH-LEVEL POWER EXPERTS MEETING

The role of power trade in regional economic development

#### Presentation outline

- Potential benefits
- Practical experience
- Implications for the Nile Basin project

#### Potential Benefits to Power Sector

- · Lower operating costs
- Lower investment costs
- Stimulate investment in system expansion
- · Increased reliability
- Increased energy security

#### Requirements to Achieve Benefits

- To get the full benefits of interconnected networks:
  - Operational standards established
  - Bilateral exchanges facilitated
  - Compatibility in power sector structure and regulation
  - Common use of system conditions and terms
  - Common market trading platform
- Market barriers:
  - Institutional and public policy barriers
  - Technical barriers
  - Commercial and financial

#### Potential Economic Benefits

- · Stimulate economic activity
- · Rural electrification
- · Social and multisectoral benefits
- Environmental benefits
- Multipurpose benefits
- · Contribute toward regional cooperation

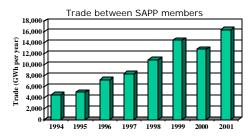
#### Practical Experience

- Range of trading systems
  - Common Baltic Electricity Market
  - Central Asia
  - Euro-Mediterranean power market
  - Mekong power market
  - Southern African Power Pool
  - SIEPAC Central America
  - Snowy River, Australia
  - South American Power Market
  - Tennessee Valley
  - West African Power Pool
  - UCTE, NORDEL, U.K. and U.S. pools, etc.

#### Southern African Power Pool

- Bilateral trade has taken place over four decades
- Institutional set-up imposes obligations and rights
  - Contribute to system reliability
  - Allow member access
- · Range of trading mechanisms
  - From firm long-term to interruptible short-term
  - STEM week/day/hour ahead market

#### Southern African Power Pool



#### SAPP: Primary Power Sector Benefits

	SNEL	ZESCO Zambia	ZESA Zimbabwe	BPC Botswana	Eskom SouthAfrica	Tanesco Tanzania	General
Increase use of existing surplus capacity	✓						
Increased viability of interconnections		✓				<b>(√)</b>	
Reduction of power system losses		✓					
Advantage from wheeling		✓	✓	✓			
Postponement of new generation development			✓	✓	✓	<b>(√)</b>	
Lower cost alternative supply sources			✓	✓	✓	<b>(√)</b>	✓
Increased reliability of supply							✓

#### Wider Benefits of SAPP

- Exporters (DRC & Zambia)
  - Capital inflows
  - Increased investment
  - Increased employment
- Importers (Botswana & Zimbabwe)
  - Reduced unit electricity costs leads to lower variable costs
    - 36% of Zimbabwe industrial energy demand
  - Income effect leads to increased output

#### Other Markets

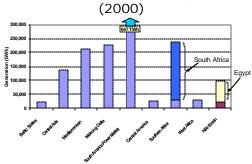
- · Baltic States
  - Highly integrated network based on bilateral trade
  - Main focus today centers on:
    - Institutional and sector reforms
    - · Establishment of power pool
    - Baltic Ring
  - Too soon to see wider benefits of power trading
- SIEPAC Central America
  - Institutional set-up being established
  - Infrastructure projects outlined
  - Potential benefits from:
    - Increased reliability, reduced operating costs, and optimized investments

#### Overview of Power Trading Benefits

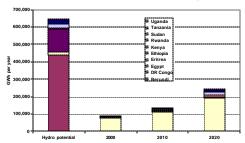
Trading system	Power sector benfits	Other benefits	GDP (1995\$ bill.)	Benefits/ GDP
Baltic Ring	\$110 mill. per year	Pollution control	20	0.55%
Central Asia	Increased reliability		48	
Euro-Med		Integration with EU	345	
Mekong Delta	\$520 mill. per year	Pollution reduction	437	0.12%
SAPM	\$1,080 mill. per year		1,439	0.08%
SAPP	\$52 mill. peryear		195	0.03%
SIEPAC	\$5-50 mill. per year		60	0.08%
Snowy River	Regional electricification	Irrigation manageme	ent	
Tennessee Valley Author	ril Rural electricifation	Flood management		
MANDD	Dural alastricifaction		62	

- There are real benefits to the power sector, but the wider benefits are longer term
- SAPP experience points to win-win situation:
  - □ Exporters gain from access to larger market and increased investments
  - □ Importers gain access to lower cost electricity

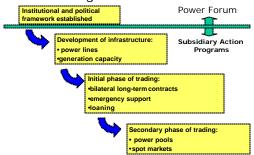
## Power Generation by Region



## Hydro Potential and Electricity Demand in Nile Basin Region



#### Path to Regional Power Markets



## Potential Cooperation Benefits in the Nile Basin Power Sector

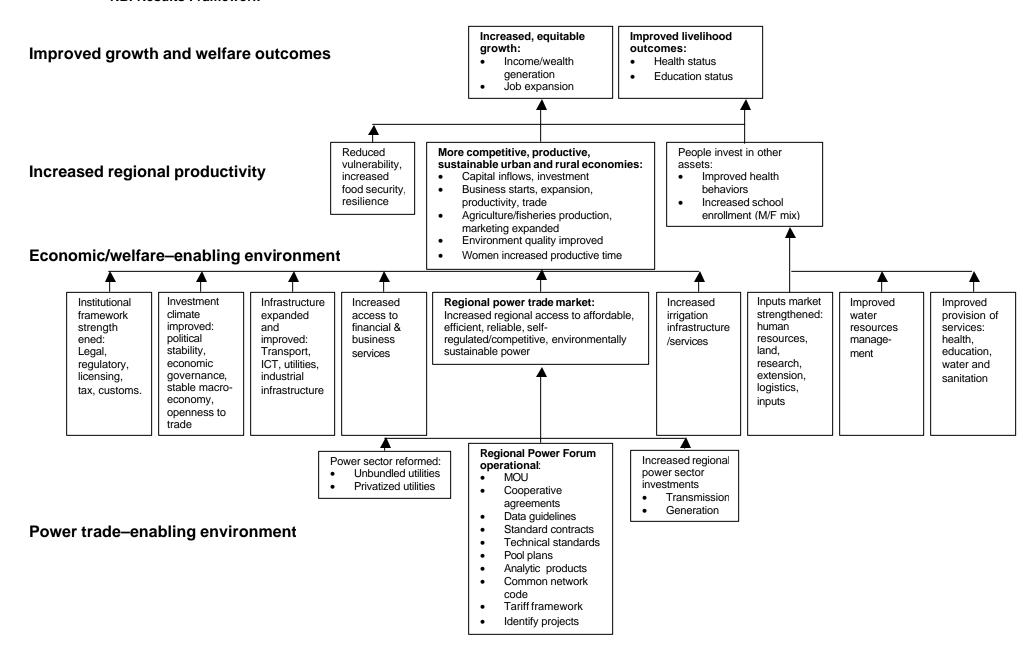
- · Power sector benefits
  - Increased reliability, reduced costs
    Lower prices & quality of supply
- Broader benefits
  - Long-term economic growth & investmentPoverty reduction & rural electrification

  - Security of supply
  - Water management & flood controlEnvironmental benefits

  - Contribute to institution building & integration in region

# **Session 2 Presentations**

#### **NBI Results Framework**



#### **Core NBI Power Trade Project Logic**

# More competitive, productive, sustainable urban and rural economies:

- Capital inflows, investment
- Business starts, expansion, productivity, trade
- Agriculture/fisheries/et al production, marketing expanded
- Environment quality improved
- Women increased productive time

## Regional power trade market operational:

Increased regional access to affordable, efficient, reliable, regulated, environmentally sustainable power

## Power sector reformed:

- Unbundled utilities
- Privatized utilities

## **Regional Power Forum operational:**

- MOU
- Cooperative agreements
- Data guidelines
- Standard contracts
- Technical standards
- Pool plans
- Analytic products
- Common network code.
- Tariff framework

Increased regional power sector investments

- Increased transmission
- Expanded generation

## **Vision Exercise**

# Economic and social development: more competitive, productive urban and rural economies throughout the region

- Global competitiveness
- Regional economic integration
- Improved health care, use of health services, improved health of children and women
- Increased rural agricultural production, food production
- Reduced environmental degradation, pollution control, less pressure on forests, less deforestation
- Increase in social benefits: improved access to education, better facilities, increased enrollments
- Increase in promotion of trade, use of ICT, increased communication
- Increased production in industrial sector, introduction of more electricity-dependent industries
- Improved profitability
- Improved quality of services (communication, health, transport)
- People will generate wealth in rural areas and remain there, productive
- Creation of more jobs, better wages, better style of life
- Introduction of improved methods of production in the rural areas
- Increased climate of confidence, improved conflict resolution, sharing of interests, experiences, and information
- Traction industries
- Expansion of road networks and commerce transported on them
- Reduced gap between rich and poor

- Sustained cultural heritage
- Reallocation of funds to other enabling conditions (government services).

### An effective power trade market

### Five years from now:

- 1. Agreed institutional and investment framework
- 2. Strengthen existing and initiate new transmission lines
- 3. Power trade agreements concluded
- 4. Agreed technical operational standards
- 5. Strengthen professional networking, common database
- 6. Power Forum established, operating; ideas on transmission tariffs, operating standards, study on demand & supply in region completed
- 7. Regional power project identified and study started
- 8. Preparation of documents for financing completed and design started
- 9. Infrastructure: feasibility studies, new transmission lines
- 10. Trade: bilateral linked to new transmission lines
- 11. Intergovernmental agreements
- 12. Interutility agreements
- 13. Nile Basin regulatory forum (pricing, standardization, reforms)
- 14. 4+ bilateral links established (Ethiopia-Sudan, Kenya-Uganda, Rwanda-Burundi-DRC, Kenya-Tanzania, Tanzania-Uganda)
- 15. Human capacity strengthened
- 16. Agreement on power sector reform strategy.

#### 10-20 years

- 1. Improved power infrastructure in place
- 2. Improved quality of supply
- 3. Increased access of supply
- 4. Harmonize regulatory regimes
- 5. Increased cross-border trade
- 6. Agreed investment plan
- 7. Bilateral and regional PT agreements finalized
- 8. Some priority projects operational

- 9. Permanent regional (subregional) power pool established.
- 10. Loose pool (SAPP style)
- 11. Taxation tariff agreement and access terms
- 12. Standard contracts
- 13. More interconnections (E\N-NEL)
- 14. 3–5000 MW new hydro
- 15. New CCC-Ts (Egypt, Tanzania, Eritrea)
- 16. SAPP type trade
- 17. 20–40 TWh
- 18. Subregional, regional, interregional grids
- 19. Regional grid control center established
- 20. Regional electricity market established

### 20-50 years

- 1. Vibrant, free competitive power market in place and working
- 2. Transregional and intercontinental power trade
- 3. Well-developed infrastructure
- 4. Universal access to electricity
- 5. Least cost power supply
- 6. Full network integration
- 7. Implementation of short term energy market (STEM)
- 8. Linked to SAPP, Euro Med, West Africa
- 9. Real time market
- 10. Competitive generation
- 11. Consolidation at a business segment level: regional genco, regional transco

## An effective regional power forum

#### 5-20 years

- 1. Forum established, operational
- 2. Has a finite life in initial stages: well-established, functioning regional institution providing a learning environment, setting institutional and regulatory framework
- 3. Will evolve into a regulatory forum, regional dispatch center, and regional planning

- 4. Setting investment plans
- 5. Managing institutional issues
- 6. Identify generation projects
- 7. Make the collaborative market work smoothly
- 8. Successful in mobilizing funds
- 9. Managed good database
- 10. Database, plans, and priorities for power plant, for example, time schedule for financing, implementation, etc.
- 11. Managing power tariffs, cost database
- 12. Common regulations for the integrated system during this period
- 13. Legally binding agreements in place
- 14. Strengthening human capacity
- 15. Confidence of all players in industry: strong, transparent, effective decisionmaking.

#### 20-50 years

- 1. No power forum, but a power exchange
- 2. Strong regulatory institution
- 3. Handling all regional matters.

#### A Power Forum vision—elements of a statement

- 1. An efficient marketplace for power trade that stimulates investment in the region
- 2. Legal, recognized, self-sustaining institution responsible for capacity building, general planning, and regional power market facilitation and monitoring
- 3. A market allowing for trade in power at competitive prices for sustainable development in the region
- 4. Efficient promotional institution for the power trade in the region
- 5. Technically and institutionally formulated and functioning Forum that will lead to the emergence of spot power market
- 6. To be a stock market for power trade for users, transmitters, and customers
- 7. Would use an electric system completely interconnected and reliable and would satisfy the same norms as production and connection projects that would be planned through a long-term development plan; trade would be governed by a competitive (also to other markets, other regions) but equitable system for all parties involved

- 8. Facilitating sensitization of various actors, developing tools for exchange, facilitating other structures in the trade of electricity
- 9. Institution to facilitate bilateral trading leading to integration and development of the regional power markets
- 10. Well-established, self-sustainable institution that establishes a learning environment, sets institutional and regulatory frameworks, conducts regional planning, and facilitates investment.

#### Draft statement of a vision

The Power Forum is a regional, self-sustaining, legally established institution that:

- Manages and updates a database of regional power systems;
- Develops regional plans for expanding generation & transmission;
- Stimulates subsidiary-level project investment for regional interconnection;
- Designs the power market and establishes standards for operation of the interconnected system;
- Promotes cooperation in regional power trade, the development of a power market; and
- Facilitates a learning environment for understanding the nuances of legal, regulatory, and pricing regimes required for regional power trade.

It is expected that, over time, the Power Forum will facilitate the formation of three new entities: a regulatory forum, a regional dispatch center, and a power exchange. The Power Forum will continue to function as a regional planning agency.

## **Session 3 Presentations**

Nile Basin Initiative



## **Shared Vision Program**



- Generic Implementation Arrangements
- Process for Launching SVP **Projects**
- > NBTF & Financing Status

Nile Basin Initiative



#### **Developing SVP Implementation Arrangements:** A Consultative & Participatory Process

- Nile-COM discussion & endorsement of general
- Principles ( Aug 2000; Mar 2001; Jun 2001)
- Lessons from other regional programs, adapted to NBI
- Preference for decentralized approach Use of project services agency

#### Riparian consultations

- Advisory group meetings (Power, Applied Training, Benefits, Agriculture)
  Country visits (Environment, Confidence Bldg, Water)

#### • Partner consultations

- Implementation Review Meeting (Entebbe, Oct 2001)
- Partners Meeting (Oslo, Dec 2002)
- World Bank consultation & approval (Sr Mgt Meeting, Jan 2003)

#### **SVP Implementation Arrangements: Key Features**

- · NBI execution, thru executive arm the Nile-SEC
- UNOPS to support NBI in procurement & FM, and build capacity
- Grant financed thru multidonor Nile Basin Trust Fund (>60%), GEF, WB, ADB & bilateral support
- SVP Coordination Unit at Nile-SEC (program coord., financial mgmt & procurement, knowledge mgmt & information sharing, monitoring and evaluation and training)

Ownership, flexibility, effective delivery & quality

- For each project
  - ✓ Regional PMU (decentralized across basin)
  - ✓ Project Steering Committee

Overall guidance, direction & oversight, approve annual work plans, review annual reports

- ✓ National project coordinator
  - supervise and coordinate the project activities in each country
- ✓ Focus on staff from the region
- · National NBI Office, govt funded,

Supports the Nile-TAC member & counterpart to the Nile-SEC

Facilitates effective interaction among the various ministries

#### Nile Basin Initiative

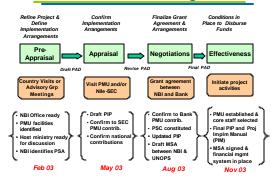


## **Shared Vision Program**



- Generic Implementation Arrangements
- Process for Launching SVP Projects
- > NBTF and Financing Status

#### **Process for Launching SVP**



#### Projected Schedule for Launching the SVP

			Project	Start-Up
PROJECT	Pre-Appraisal	Appraisal	Prelim Start-Up	Full Effectiveness
SVP Coordination	Dec-02	Apr-03	on going	Jun-03
Environment	Nov-Dec02	May-02	Jan-03	Apr-03
Confidence Building	Mar 02 Dec 02	Apr-03	May-03	Jun-03
Water Resources	Jul-Aug02	Apr/May-03	Jul-03	Sep-03
Applied Training	Jun-Jul 02 Dec 02	May-03	Jul-03	Sep-03
Power Trade	Aug 02 Feb 03	May-03	Aug-03	Oct-03
Benefit Sharing	Sept 02 Mar 03	Jun-03	Sep-03	Dec-03
Agricultural Water Use	Mar-03	Aug-03	Nov-03	Jan-04

## Requirements Specific to RPT

#### Requirements from each country

- ➤ Nomination of Steering Committee members
- ➤ Nomination of Technical Committee members
- Confirmation letter for contribution at the national level (staff time)

#### Requirement from host country (Tanzania)

- Letter from competent authority (ministry of finance or appropriate line ministry) for contribution to support the regional PMU
  - "Deadline for submitting the confirmation letters during the Energy Ministers' Meeting"

#### Nile Basin Initiative



## **Shared Vision Program**



- Generic Implementation Arrangements
- Process for Launching SVP Projects
- NBTF and the Financing Status

#### The Nile Basin Trust Fund (NBTF)

- · Nile-COM preferred mechanism for financing
- Coordinated, streamlined & cost-effective vehicle
- Multidonor (six bilaterals, WB-DGF, potentially AfDB)
- Initially administered by the World Bank, but eventually to be transferred to an NBI institution
- NBTF Committee
  - · Oversee its operation & use of resources
  - Consultative & advisory → foster partnerships & Nile ownership
  - Co-chaired by Nile -COM and World Bank
  - Participants: five NBI representatives, Development Partners, Bank

		Fet Cost	Partner Inte	erest		Funding
	Project	(million USD)*	Partner		ledge ion USD)	Status edge-Cost)
	Nile Transboundary Environmental Action	\$ 39.3	GEF/WB GEF/UNDP Canada Netherlands NBTF (Water Project	\$	39.3	\$ ٠
Project	Nile Basin Regional Power Trade	\$ 12.0	Norway Sweden ADB	\$	8.0	\$ (4.0)
	Efficient Water Use for Agricultural Production	\$ 5.0	Netherlands	\$	5.0	\$ -
	Water Resources Planning and Manageme		Denmark GEF/WB (Envir Proj) United Kingdom Germany Norway ADB	\$	23.1	\$ (5.1)
	Confidence Building & Stakeholder Involvement	\$ 15.0	Canada Norway	\$	5.0	\$ (10.0)
	Applied Training	\$ 20.0	Netherlands Norway Sweden	\$	20.0	\$
	Socioeconomic Develp	\$ 11.0	United Kingdom World Bank - DGF	\$	3.0	\$ (8.0)
	Totals	\$ 130.5		\$	103.4	\$ (27.1)



Review of the Regional Power Trade Project and Key Implementation Issues

- > Project Design
- Implementation Arrangements
- > Budget & Financing

#### **Goal and Objective**

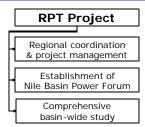
#### Long-Term Goal

 Improve access to reliable and low-cost power in an environmentally sustainable manner

#### **Development Objective**

 Establish the institutional means to coordinate the development of regional power markets among the Nile Basin countries

#### PROJECT COMPONENTS



Implemented over a three- (possibly four-) year period

#### 1. REGIONAL COORDINATION AND PROJECT MANAGEMENT

- Facilitate regional cooperation, project implementation & knowledge management activities
- Two subcomponents
  - Regional coordination
  - Knowledge management

#### **REGIONAL COORDINATION**

- Project governance, management & coordination, including:
  - -Project Steering Committee
  - -Project Technical Committee
  - -Project Management Unit
  - Coordination with other SVP Projects& Subsidiary Action Programs (SAPs)

#### **KNOWLEDGE MANAGEMENT**

- Information dissemination & stakeholder participation
  - -Project newsletter
  - -Power Forum website
  - -Stakeholder analysis
  - Communications plan, based on results of the stakeholder analysis

# 2. ESTABLISHMENT OF NILE BASIN POWER FORUM

- Establish Power Forum:
  - Define its role & functions
  - Define long-term institutional set-up
  - Initiate Forum activities
- · Includes following activities:
  - Long-term planning & analytical tools
  - Training and skills enhancement
  - Financial resource mobilization
  - Conduct special studies

# LONG-TERM PLANNING AND ANALYTICAL TOOLS

- Define role of Power Forum & long-term set-up:
  - Options for establishing Power Forum as a legal entity
  - Draft a Memorandum of Understanding
  - Develop information exchange guidelines
  - Coordinate reporting
  - Initiate long-term strategy for Power Forum
  - Create regional power sector databank
  - Working groups for demand/supply studies and methodologies
  - Convene thematic workshops and meetings

# TRAINING AND SKILLS ENHANCEMENT

- Build institutional & human capacity at regional & national levels to deal with development of trade
  - Conduct training needs assessment
  - Define & launch training program
    - For power utilities, regulators, and government ministries responsible for power
    - Conduct two study tours
  - Liaise with other SVP training programs

# FINANCIAL RESOURCE MOBILIZATION

- Resource mobilization (for RPT Project and Power Forum)
- Promote investment in the power sector
- · Activities include:
  - Establish liaison with development partners
  - Documentation for investment promotion
  - Organize investment seminars
  - Establish & manage "drawdown" facility

#### **CONDUCT SPECIAL STUDIES**

- Series of technical studies that will foster regional dialogue & common understanding of best practices
- · Following priority studies identified:
  - Best practices in multipurpose coordination regimes
  - Institutional & regulatory frameworks to support regional power trade
  - Public-private partnership models for financing & implementing hydropower projects
  - Frameworks & procedures for environmental impact assessment of power projects
- · Other studies to be identified during project

#### 3. Comprehensive Basin-Wide Study

- · Study objective
  - Analyze power supply, demand & trade opportunities in the region
  - In the context of multipurpose water resources development
- · Inception study to be undertaken first
  - Review previous studies
  - Data availability & data requirements
- Sequence full study to incorporate results of SAP studies and operate within funding constraints

#### Institutional Structure



#### THE NBI-SEC

- NBI will be the executing agency for each of the SVP projects
  - Deal with information sharing, coordination, integration, and monitoring and evaluation
- NBI will appoint UNOPS as Project Services Agency
  - Financial management
  - Procurement
  - Capacity building for project management

#### **STEERING COMMITTEE**

- Will provide strategic guidance, direction & oversight for the project
- Membership
  - Ministry & utility rep from each country
  - Nile-TAC member from host country
  - NBI -SEC representative
- Observers
  - ENTRO/NEL-CU representatives as link to SAPs, Partners (e.g. Norad), World Bank, UNOPS
- Meet at least annually in Dar es Salaam
  - PMU will act as secretary

#### **TECHNICAL COMMITTEE**

- · Technical Committee will

  - Provide technical guidance for RPT activitiesGuide & endorse work plans & terms of reference for
  - Participate in regional meetings & activities
  - Serve as national focal point for each country
- Membership
  - Ministry reps: expert in sector reform/deregulation

  - Utility reps: expert in system operation/planning
     ENTRO/NEL-CU representatives invited to participate as link to SAPs
- Meet at least twice a year in Dar es Salaam
  - PMU as secretary

#### **PMU STAFFING**

- Regional project manager
  - Provide overall leadership for project
  - Should have technical background (power system
  - Report to:
    - Steering Committee on sectoral & thematic activities
  - Nile-SEC, via SVP Coordination Unit, for coordination & integration with SVP & NBI
  - UNOPS for general management & procurement
- Lead spec: power system operations & economics
- Lead spec: hydropower planning (w/water resources)
- Specialist: environment/water resources
- Other tech specialists as required, on consulting basis
- Other staff
  - Finance/procurement specialist
  - Information officer, administrator & support staff

#### PROJECT MANAGEMENT UNIT

- · PMU's functions include
  - Coordination & implementation of project activities within the NBI countries
  - Liaison between Steering & Technical Committees
  - Liaison with Nile-SEC & SVP Coordination Unit to ensure overall integration with SVP
- · PMU will
  - Be located in Dar es Salaam, Tanzania,
  - Host country provides offices & utilities
- Operate at the basin-wide level
- Ad-hoc workgroups
  - Special, temporary ad-hoc working groups can be convened by the PMU

#### Role of Technical Committee at the National Level

- · Technical Committee members will also function as national focal points, responsible for:
  - Liaising with national ministries and institutions, Nile-SEC, Nile-TAC members, other NBI projects
  - · Facilitating national input into regional studies and
  - Helping to identify representatives on working groups & committees
  - · Providing national input to the PMU as required
- Project will provide each committee member a laptop computer, including communications package
- Country expected to contribute staff time (operating from their own offices)

#### **SVP COORDINATION**

- · Across the region SVP Coordination Unit is
  - Overall program coordination
  - Oversight of financial management
  - Knowledge management & information sharing
  - Monitoring and evaluation at the program level
- · Within each country: National NBI Office
  - Govt supported, within ministry of water affairs
  - Support to Nile-TAC
  - Counterpart to Nile-SEC at national level
  - Forum for coordination of NBI activities through interagency and intersectoral committees (likely to be composed of Steering and Technical Committee

#### PROJECT COST

Component	Cost (US\$ million)
1. Regional Coordination and Project Management	2.4
2. Establishment of Power Forum	4.4
3. Comprehensive Basin - Wide Study	5.2
TOTAL	12

#### PROJECT FINANCING

Estimated Cost	Pled	Financing Needed	
Cost	Partner	Total	Needed
	Norway	US\$ 4 million	
US\$ 12	Sweden	US\$ 2 million	US\$ 4
million	AfDB	US\$ 2 million	million
	TOTAL	US\$ 8 million	

All financing through the NBTF

#### **KEY ISSUES FOR DISCUSSION**

- · Extend project to four years, within the same budget range (yes)
- Sequence project components (yes)
  - Power Forum activities
  - Inception phase of basin study
  - Full basin-wide study
- · Project Steering & Technical Committee representatives (see list)
  - Project Steering Committee: Ministry (PS
  - equivalent); Utility (CEO equiv)

     Technical Committee: Same as working group, except as modified by individual countries

#### **KEY ISSUES FOR DISCUSSION**

#### PMU Staff

- · Currently proposed
  - Project manager
  - Two lead specialists
    - Power system operations/planning specialist
    - · Environmental/water specialist
- Possibly more appropriate (yes)
  - Project manager, with power system planning expertise
    Lead spec: power system operations & economics
    Lead spec: hydropower planning (w/water resources)
    Specialist: environment/water resources

  - Specialist: environment/water resources
     Other technical specialist as required, on consulting basis

#### **KEY ISSUES FOR DISCUSSION, cont**

- · Integration and coordination with SAPs
  - ENTRO/NEL-CU representatives invited as observers on PSC
  - ENTRO/NEL-CU representatives invited to participate on Technical Committee
  - - Encourage same power experts involved SAP and SVP

#### **KEY ISSUES FOR DISCUSSION, cont**

- · Other regional initiatives What are they and what are the linkages?
  - EAC power master plan study (Tanzania, Kenya, Uganda)
  - SAPP
  - Kenya-Tanzania power interconnection study
  - Power Pool of Central Africa (DRC)
  - Great Lakes energy project (DRC, Rwanda, Burundi, KBO (Tanzania, Burundi, Rwanda, Burundi, Uganda))
  - NEPAD, power component
  - Tanzania-Zambia interconnection study
  - North Africa countries connection study (Egypt)
  - Study of Central Africa (Egypt)

#### KEY ISSUES FOR DISCUSSION, cont

- · Other regional studies why important:
  - -Potential linkages
  - -Complementarities
  - -Avoid duplication of efforts
  - -Sharing of information (database)

## **Regional Power Trade Project Profile**

#### **Background**

Recognizing their common concerns and interests, the Nile riparian countries <sup>1</sup> have taken a historic step toward cooperation with the establishment in 1999 of the Nile Basin Initiative (NBI), which is guided by a Shared Vision "to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources." To translate this shared vision into action, the NBI has launched a Strategic Action Program, which includes two complementary components: (1) a basin-wide Shared Vision Program (SVP), and (2) Subsidiary Action Programs (SAPs). The NBI is led by a Council of Ministers in charge of Water Affairs from the member states (Nile-COM) with the support of a Technical Advisory Committee (Nile-TAC) and a Secretariat (Nile-SEC).

The SVP is a broad-based program of collaborative action to promote exchange of experience, create an enabling environment for investment, enhance capacity, and build trust. The SVP comprises seven thematic projects ready for implementation that have been endorsed by the Nile-COM. These projects include: Trans-boundary Environmental Action; Regional Power Trade; Efficient Water Use for Agricultural Production; Water Resources Planning and Management; Confidence-Building and Stakeholder Involvement (Communication); Applied Training; and Socio-Economic Development and Benefit-Sharing. An eighth project, the SVP Coordination Project, will provide oversight and ensure the effective coordination of the program.

The SVP and project documents for each of the seven SVP projects were approved in final form at the Extraordinary Meeting of the Nile Council of Ministers in Khartoum in March 2001 and were presented to the international community at the first International Consortium for Cooperation on the Nile (ICCON) in Geneva in June 2001.

Detailed implementation planning for the SVP, including the development of generic guidelines for the program as a whole and the preparation of project specific Project Implementation Plans (PIPs), began in late 2001.

53

<sup>&</sup>lt;sup>1</sup> The NBI currently includes nine Nile riparian countries: Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, and Uganda. Eritrea has participated in the Nile Basin Initiative as an observer since August 2000 and has stated its intention to formally join soon.

#### Objective

The long-term goal of the RPT Project is to improve access to reliable and low-cost power in the Nile Basin in an environmentally sustainable manner. An important element in achieving this goal is to create an effective institutional mechanism to promote and develop power trade opportunities among the countries participating in the NBI. The creation of a regional electricity market can play a key role in furthering cooperation among the Nile Basin states and in ensuring that the hydropower resources of the Nile Basin are developed and managed in an integrated and sustainable manner.

The development objective of the RPT Project is to establish the institutional means to coordinate the development of regional power markets among the Nile Basin countries.

#### Context

Adequate and reliable power supply is critical to meeting the social and economic development objectives of the Nile Basin countries. Yet in most of the Nile Basin countries, only about 10 percent of the population has access to electricity. This situation exists despite the presence of vast and as yet untapped hydroelectric and other energy resources in the Nile Basin. The present limited development of national power systems in the basin imposes a constraint on the exploitation of these resources at affordable costs at the national level. The cost of hydropower in the Nile Basin is also increased by the large seasonal variations in hydropower output, while the costs of meeting peak loads on national power systems can be high in countries where these loads are supplied from expensive thermal plants. These constraints on supplying affordable power could be overcome by expanding the market for these resources by developing power trade among Nile Basin countries.

Countries in the Nile Basin are aware of the potential benefits from trading power. Therefore, although the current level of power trade among Nile Basin countries is low, many of them are considering ways to increase this trade and are looking for suitable investments to realize this objective. A recent scoping study, Opportunities for Power Trade in the Nile Basin, which was reviewed and revised by the Power Trade Working Group of the SVP, identifies several options for increasing power trade in the region. In the short term, many of these opportunities exist at the subregional level. It also appears that it is important to evaluate power trade opportunities in the context of a broader multipurpose approach to Nile Basin water resources development and management.

The scoping study also found that a more focused and coordinated process for discussing ways to expand power trade in the Nile Basin would advance the development of power supply facilities. The study recommended that this objective be realized through the creation of a basin-wide forum of national power experts to facilitate continued dialogue in the region. Power forums are proving effective in developing power trade among other regional groups of countries, notably in the Southern African Power Pool, the Mekong Regional Power Market, and the Central American Regional Electricity Market in the Mercosur region. The establishment of regional power markets has generally improved systems reliability and economies of scale in planning, construction, and operation of the generation and transmission facilities, thereby contributing to the development and integration of regional economies.

# Expected Outputs

- An established and operating Power Forum to support continued discourse and promote power trade among Nile Basin countries.
- A completed basin-wide analysis of long-term power supply, demand, and trade opportunities to inform the planning of multipurpose river basin management in the NBI SAPs.<sup>2</sup>

#### Major Components

The project includes three main components:

- 1. Regional Coordination and Project Management. This component will focus on the overall management arrangements for the project, including a Project Steering Committee, a Technical Steering Committee, a Project Management Unit (PMU), and regional coordination across other SVP projects and the SAPs. This component also includes knowledge management activities in order to provide project participants and other key stakeholders across the basin with improved access to relevant information on the activities of the RPT Project. A stakeholder analysis and preparation of a public participation plan will also be undertaken under this component.
- 2. Establishment of Nile Basin Power Forum. The objective of this component is to establish a Nile Basin Power Forum, define its role and long-term institutional setting, and initiate its activities. The Power Forum will support continued discourse and promote power trade among Nile Basin countries. Important functions, particularly during the formative period, include:
  - Facilitating dialogue and cooperation among power utilities in the region
  - Commissioning special studies
  - Coordinating analytical activities with relevant SVP projects
  - Assisting in developing the strategic framework and agreements for advancing power trade
  - Preparing a consistent framework for forecasting power demand
  - Facilitating training programs.
- 3. Comprehensive Basin-wide Study. This component will launch a comprehensive basin-wide analysis of long-term power supply, demand, and trade opportunities to inform the planning of multipurpose river basin management in the SAPs of the NBI. Given the complexity of the comprehensive basin-wide study that has to integrate both power development and multipurpose project analysis, this activity will be launched pursuant to an initial assessment study carried out under the supervision of the RPT Project and in collaboration with the Water Resources Planning and Management Project.

In the overall framework of the NBI, the SAPs will comprise investment projects that provide mutual benefits to two or more countries. The Nile riparians have formed two subregional groupings: the Eastern Nile (ENSAP), including Egypt, Ethiopia, and Sudan; and the Nile Equatorial Lakes (NELSAP), including Burundi, Democratic Republic of Congo, Kenya, Rwanda, Tanzania, and Uganda in the equatorial lakes region, as well as Egypt and Sudan as downstream riparians.

### Key Implementation Arrangements

#### **Regional Level**

Project Steering Committee. A Project Steering Committee will be established to provide strategic guidance, direction, and oversight to ensure that the project objectives are achieved, within the overall framework of the NBI and its shared vision, and that the project remains within budget and on schedule. The Steering Committee will be composed of two senior officials from each country, one from the ministry responsible for power and deregulation and one from the power utility; a Nile-TAC member from the PMU host country, in this case Tanzania: and a Nile-SEC representative. To provide a link to the SAPs, representatives of Eastern Nile Technical Regional Office (ENTRO) and the Nile Equatorial Lakes Coordinating Unit (NEL-CU) will be invited to participate as observers. The development partners, likely represented by Norway, the focal point partner; a World Bank representative; one representative from the Project Services Agency (PSA); and other technical experts will also be invited as observers. The Steering Committee will meet at least once a year in Dar es Salaam.

**Project Technical Committee.** A Technical Committee will be established to provide technical guidance to the activities of the Power Forum. The Technical Committee will consist of two senior technical experts from each country, one from the ministry responsible for power, with broad knowledge of sector reform and deregulation, and one from the power utility with expertise in transmission system operations and power system planning; the project manager; and the PMU lead specialists. To provide a link to the SAPs, representatives of ENTRO and the NEL-CU will be invited to participate in the committee. The Technical Committee will meet at least twice a year, in the PMU premises in Dar es Salaam.

**Project Management Unit.** The PMU for this project will be located in Dar es Salaam, Tanzania. The PMU will operate at the basin-wide level. In support of the NBI, the PMU's primary responsibility will be managing and implementing the RPT Project. In addition, in support of the overall SVP, the PMU will provide necessary support to the national activities of the other regional SVP projects in the country of its location.

The PMU office will be staffed by a project manager, preferably with technical expertise in power system planning; a financial manager/procurement specialist; two lead specialists, one with expertise in power systems operations and economics and one with expertise in hydropower planning and water resources; an environmental/water specialist; and other administrative and support staff.

#### **National Level**

At the national level, Technical Committee members will also function as national focal points in each country to provide national input in the work of the RPT Project and regional studies, and to serve as liaison with relevant national ministries and institutions. These Technical Committee members/focal points will work on an as-needed basis from their respective offices.

#### Duration

Indicative Cost	Est. Cost	Donor	Pledge	Mode	Funding Status
and Funding Status	\$12 million	Norway	\$4 million	NBTF	To be committed after project appraisal
(US\$ million)		Sweden	\$2 million	NBTF	Confirmed
		AfDB	\$2 million	TBD	To be committed after project appraisal
	Total pledges	3	\$8 million		
	Deficit (Cost-	-pledge)	\$4 million		