SYNERGIES- PIDA AND AEEP

AUC PRESENTATION TO THE SECOND AEEP HIGH LEVEL MEETING

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Continental and Regional Energy Policies

Key AUC Policy Objectives

* **Energy security** for the African continent
* **Regional integration of energy Markets**
* **Low cost of energy** to help improve access for the majority of Africa’s population
* Promote good governance and harmonize regulations to attract private sector investment
* **Reduce Greenhouse Gas** (GHG) Emissions

*SOURCE: Maputo Declaration, November 5, 2010*
Main AUC Strategic Policy Initiatives

* Develop fully Africa’s renewable energy potential—especially large scale hydro but also wind, solar and geothermal;

* Foster cooperation through pooling of energy resources;

* Diversification of energy supply sources;

* Strengthen and harmonize legislation and regulatory frameworks;

* Establish a strategic framework for cooperation in regional Petroleum Products procurement, storage and distribution;
Develop a Financing Strategy - Action plan to access financing from the international market (don’t rely only on donors);

Strengthen Regional Institutions – by addressing project development capacity weaknesses with key regional institutions;

Step Up Regional Investment - deliver regional generation and transmission projects on schedule.
PIDA is a programme dedicated to facilitating continental integration through improved regional infrastructure.

PIDA is the result of extensive analysis, consultation and agreement with all African stakeholders as well as Development partners.

PIDA builds on the REC master plans and priorities. PIDA is a Result of extensive consultations with RECs and Member countries on priorities and next steps.

PIDA is prioritized and divided into 3 phases: short term (2012-2020), medium (2020-2030) and long-term (2030-2040).
PIDA’s macro and sector outlooks to 2040 are grounded on a 6.2% annual overall rate of growth of African GDP.

The main drivers of this growth are population, technology absorption and education. (Population: 1,033; 1,400; 1,770 millions respectively in 2010, 2025 and 2040).

Results show a six fold GDP increase by 2040 and a per capita income above $10,000.
Power Demand will be multiplied by five by 2040 and per capita consumption by three.

- Power demand will increase from 590 TWh in 2010 to more than 3,100 TWh in 2040 corresponding to an average annual growth rate of nearly 6%.
- To keep pace, Installed Power Generation capacity must rise from present level of 125 GW to almost 700 GW in 2040.

This increased demand will require adequate regional infrastructure that PIDA proposes.
Long term prospects: Outlook 2040

* Africa will remain the most hydro based continent, but the known potential is exhausted by 2030

* System integration can save 17% on production cost

* Energy efficiency policies can save 139 GW (16.7%) in capacity and 634 TWh in energy (16.6%)
Long term prospects: Outlook 2040

* Investment needs are $43 billion per annum, of which 75% prior to 2020 are not funded

* This capital cost will enable to deliver more than 61,000 MW of hydro power and 16,500 km of interconnecting power lines

* Transmission is the priority particularly prior to 2020
If the financing gap is not filled, by 2020, 35% of the demand will not be met.

The cost for ensuring an access rate >60% is 10% of total investment, providing access to an additional 800 M people by 2040.
Hydro, Gas, Coal, Nuclear balance: Choice of fuel technology

Dealing with the integration of Renewable Energy in the fuel mix

Pace of increase in Access

Prioritize PP pipelines over PP road transport

Prioritize Power transmission over gas pipelines

Private financing for refineries and production
Establishing SPVs for regional projects development in a PPP perspective

Developing regional Project Development capacity, particularly for PPP
PIDA: An Action plan for regional integration

The PIDA- PAP Projects

- PIDA PAP comprise the 15 energy projects which need to be implemented and completed prior to 2020.

- Two determining considerations for inclusion in the Priority Action Program will be:
  - Viable Institutional Framework for Implementation preferably for PPP;
  - Viable financing strategy;

- PAP project stages are defined as follows:
  - S1 - early concept proposal;
  - S2 - feasibility/needs assessment;
  - S3 - programme/project structuring and promotion to obtain financing;
  - S4 - implementation and operation
<table>
<thead>
<tr>
<th>Project title</th>
<th>Description</th>
<th>Stage</th>
<th>Total cost ($m)</th>
<th>Location</th>
<th>REC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renaissance Dam</td>
<td>Develop a 5,250 MW plant to supply domestic market and export electricity on EAPP market</td>
<td>S4</td>
<td>8,000</td>
<td>Ethiopia, Nile basin</td>
<td>COMESA/IGAD</td>
</tr>
<tr>
<td>North South Power Transmission Corridor</td>
<td>8,000 km line from Egypt through Sudan, South Sudan, Ethiopia, Kenya, Malawi, Mozambique, Zambia, Zimbabwe to South Africa</td>
<td>S2</td>
<td>6,000</td>
<td>Kenya, Ethiopia, Tanzania, Malawi, Mozambique, Zambia, Zimbabwe, South Africa</td>
<td>COMESA EAC SADC IGAD</td>
</tr>
<tr>
<td>Nphamda - Nkuwa</td>
<td>Hydroelectric power plant with a capacity of 1,500 MW for export on the SAPP market</td>
<td>S2</td>
<td>2,400</td>
<td>Mozambique, Zambezi basin</td>
<td>SADC</td>
</tr>
<tr>
<td>Lesotho HWP Phase II - hydropower component</td>
<td>Hydropower programme for power supply to Lesotho and power export to SA</td>
<td>S2</td>
<td>800</td>
<td>Orange-Senqui River Basin</td>
<td>SADC</td>
</tr>
<tr>
<td>Inga Hydro Phase 1</td>
<td>4,200 MW capacity run of river hydropower station on the Congo river with eight turbines.</td>
<td>S2</td>
<td>6,000</td>
<td>DRC Congo River</td>
<td>ECCAS</td>
</tr>
<tr>
<td>Central African Interconnection</td>
<td>3,800 km line from DRC to South Africa through Angola, Gabon, Namibia and to the North to Eq. Guinea, Cameroon and Chad</td>
<td>S1</td>
<td>10,500</td>
<td>South Africa, Angola, Gabon, Namibia, Ethiopia</td>
<td>ECCAS</td>
</tr>
<tr>
<td>Project title</td>
<td>Description</td>
<td>Stage</td>
<td>Total cost ($m)</td>
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<tr>
<td>Sambagalou</td>
<td>128 MW of hydropower capacity, 930 km from the mouth of the Gambia River to supply Senegal, Guinea, Guinea Bissau and Gambia</td>
<td>S3</td>
<td>300</td>
<td>Senegal, OMVG</td>
<td>ECOWAS</td>
</tr>
<tr>
<td>West African Power Transmission Corridor</td>
<td>2,000 km line along the coast connecting with the existing Ghana Nigeria line with a capacity of 1,000 MW</td>
<td>S2</td>
<td>1,200</td>
<td>Guinea, Guinea Bissau, Gambia, Sierra Leone, Liberia, Cote d'Ivoire, Ghana</td>
<td>ECOWAS</td>
</tr>
<tr>
<td>North Africa Transmission</td>
<td>2,700 km line from Morocco to Egypt through Algeria, Tunisia and Libya</td>
<td>S2</td>
<td>1,200</td>
<td>Morocco, Algeria, Tunisia, Libya, Egypt</td>
<td>AMU</td>
</tr>
<tr>
<td>Kaleta</td>
<td>Hydropower generation of 117 MW</td>
<td>S3</td>
<td>179</td>
<td>Guinea - OMVG</td>
<td>ECOWAS</td>
</tr>
<tr>
<td>Batoka</td>
<td>Hydroelectric plant with a capacity of 1,600 MW to enable export of electricity</td>
<td>S3</td>
<td>2,800</td>
<td>Zambia, Zimbabwe, Zambezi basin</td>
<td>COMESA EAC</td>
</tr>
<tr>
<td>Ruzizi III</td>
<td>Hydroelectric plant with a capacity of 145 MW to share power between Rwanda, Burundi and DRC promoted by CEPGL</td>
<td>S3</td>
<td>450</td>
<td>Rwanda/DRC</td>
<td>COMESA EAC</td>
</tr>
<tr>
<td>Uganda-Kenya Petroleum Products Pipeline</td>
<td>300 km pipeline for a lower-cost mode of transport of petroleum products</td>
<td>S4</td>
<td>150</td>
<td>Uganda Kenya</td>
<td>COMESA EAC</td>
</tr>
<tr>
<td>Nigeria - Algeria Pipeline</td>
<td>4100 km gas pipeline from Warri to Hassi R'Mel in Algeria for export to Europe</td>
<td>S2</td>
<td>N/A</td>
<td>Nigeria, Niger, Algeria</td>
<td>UMA ECOWAS</td>
</tr>
</tbody>
</table>
PIDA: An Action plan for regional integration
The PIDA- PAP Projects

* 6 power generation projects (hydro)
* 4 power transmission corridor projects
* 1 petroleum product pipeline project
* 1 gas pipeline project

Total cost: USD 40 bn
IMPLEMENTING PIDA PAP

Most Advanced PIDA PAP Energy Projects:

- Grand Ethiopian Renaissance Dam
- Kaleta Hydroelectric Dam (Guinea)
- North–South Power Transmission Corridor (Ethiopia-Kenya line part)
- RUZIZI III Hydropower Project
- Sambangalou Dam and
- West African Power Pool (WAPP), Cote d'Ivoire - Liberia - Sierra Leone - Guinea (CLSG) Interconnection Project
<table>
<thead>
<tr>
<th>Name of project</th>
<th>Funding gap $USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Zambia-Tanzania-Kenya Power Line</td>
<td>1 billion</td>
</tr>
<tr>
<td>2. North Africa Power Corridor</td>
<td>1.2 billion</td>
</tr>
<tr>
<td>3. Batoka Gorge Hydropower</td>
<td>4 billion</td>
</tr>
<tr>
<td>4. Nigeria-Algeria Gas Pipeline</td>
<td>20 billion</td>
</tr>
</tbody>
</table>
AEEP OBJECTIVES:
AEEP political targets for 2020

- **On Energy Access:**
  
  - Bring access to modern and sustainable energy services to at least an additional 100 M people

- **On Energy Security:**
  
  - Double the capacity of cross border electricity interconnections,
  
  - Double the use of natural gas in Africa, as well as doubling African gas exports to Europe

- **On Renewable Energy and Energy Efficiency:**
  
  - Increase the use of renewable energy: 10 000 MW of new hydro; at least 5 000 MW of wind; 500 MW for all forms of solar energy; and by tripling other renewables, such as geothermal, and modern biomass
  
  - Improve energy efficiency in all sectors
AEEP is promoting and implementing energy infrastructure programmes in line with AU Strategy of integration and with PIDA PAP:

- **Caprivi Interconnection between Zambia and Namibia energy transport systems**
- **Cross border electrical interconnection of Burkina Faso and Côte d'Ivoire**
- **Ethiopia-Kenya Power Systems Interconnection project:** feasibility study, environmental impact assessment and institutional study
- **Pre-investment feasibility studies for Ruzizi III hydro project**
Building Synergies between PIDA and AEEP

- Aligning AEEP priorities with the PIDA process
- AEEP should support the implementation of the PIDA energy priority projects including contribution to project preparation facilities
- AEEP should support enhanced training (capacity Building) focusing on soft issues or soft projects in support of implementation of PIDA priority projects
- The next AEEP Stakeholder Forum should be streamlined with PIDA Financing Conference to promote private sector participation in PIDA PAP priority projects implementation
Joint Main focus on:

- Support to projects preparation
- Implement quick wins in the PIDA PAP, including private sector participation;
- Support targeted capacity building
- Support Policy harmonization
- Monitor progress and report to the AEEP HLM and CEMA
AEEP targets for 2020 are compatible with PIDA objectives of enhancing regional integration, power trading between African regions and increasing energy access for African population.

Implementing these PIDA PAP Energy Projects will significantly contribute to the success of the achievement of AEEP 2020 targets.

- Let us look at how best we can link and harmonize the efforts of PIDA and AEEP.
- Our coordinated actions and harmonized monitoring systems will guarantee success.
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OBRIGADO
THANK YOU
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