



The African Development Bank



AFRICA CLIMATE RESILIENT
INFRASTRUCTURE SUMMIT
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Regional Energy Infrastructure and Resilience Case of PIDA

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Overview of Presentation



- PIDA Overview



- The Resilience Challenge



- Regional Trade and Resilience



- Challenges



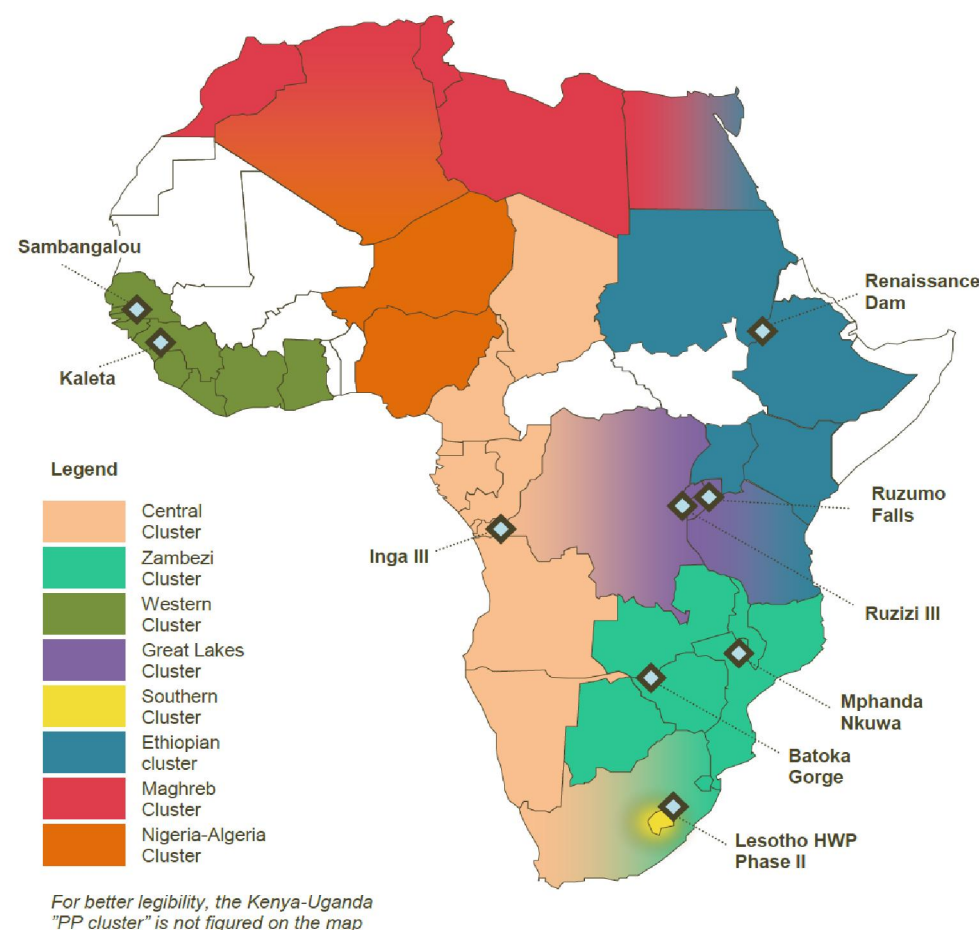
- Conclusions



PIDA - Overview

Programme for Infrastructure Development for Africa (PIDA)

- Adopted at the highest level by HSG in Jan. 2012
- Three Features: Continental Vision, Outlook 2040; and Priority Action Plan, PAP-2020
- Sectors: Energy, TBWater, ICT and Transport “Regional” Projects
- PAP: 51 Infrastructure Projects
- Transport: 24; Energy: 15; TBW:9; ICT:3
- Includes a monitoring and implementation mechanism (IAIDA)





PIDA Energy PAP 2020

PAP 2020:

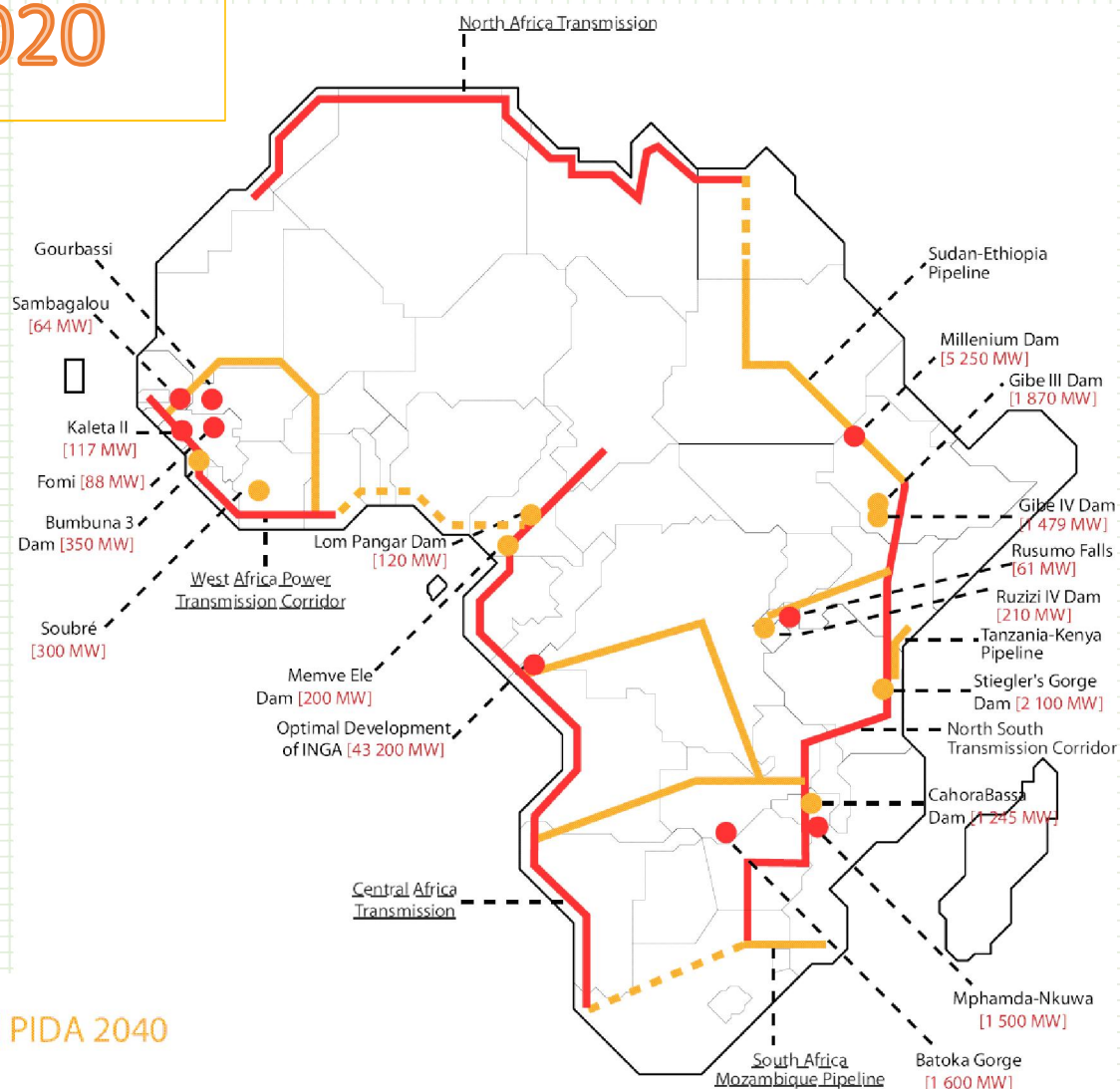
- Minimum 60% Electricity Access

PAP-2020

- 9 hydropower Plants (13.74 GW)
- 4 Interconnection corridors
- 2 pipelines (Oil and Gas)
- Breakdown for implementation in 66 sub-projects

2010 Investment estimates Costs

- \$40.3 billion (- Cost of Gaz pipe)



ENERGY - PIDA 2040 &

PIDA PAP 2020

PIDA 2040

PIDA PAP 2020

PIDA 2040



Risks to HPP -World Wide Natural Catastrophes in 2014

- Vulnerability of HP-Plants
- Uncertainty of type of climatic risks
- Data and knowledge



Münchener Rückversicherungs-Gesellschaft, Geo Risks Research, NatCatSERVICE – As of January 2015

○ Natural catastrophes

○ Selection of significant Natural catastrophes

● Geophysical events
(earthquake, tsunami, volcanic activity)

● Meteorological events
(storm)

● Hydrological events
(flood, mass movement)

● Climatological events
(extreme temperature, drought, wildfire)

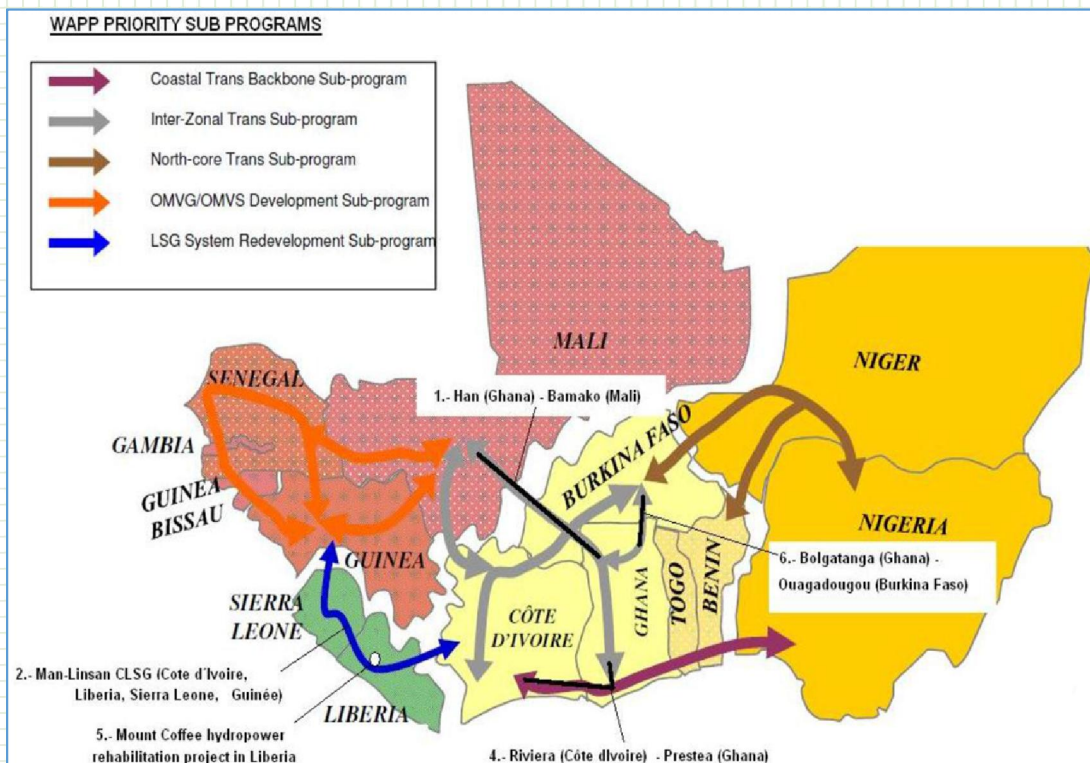




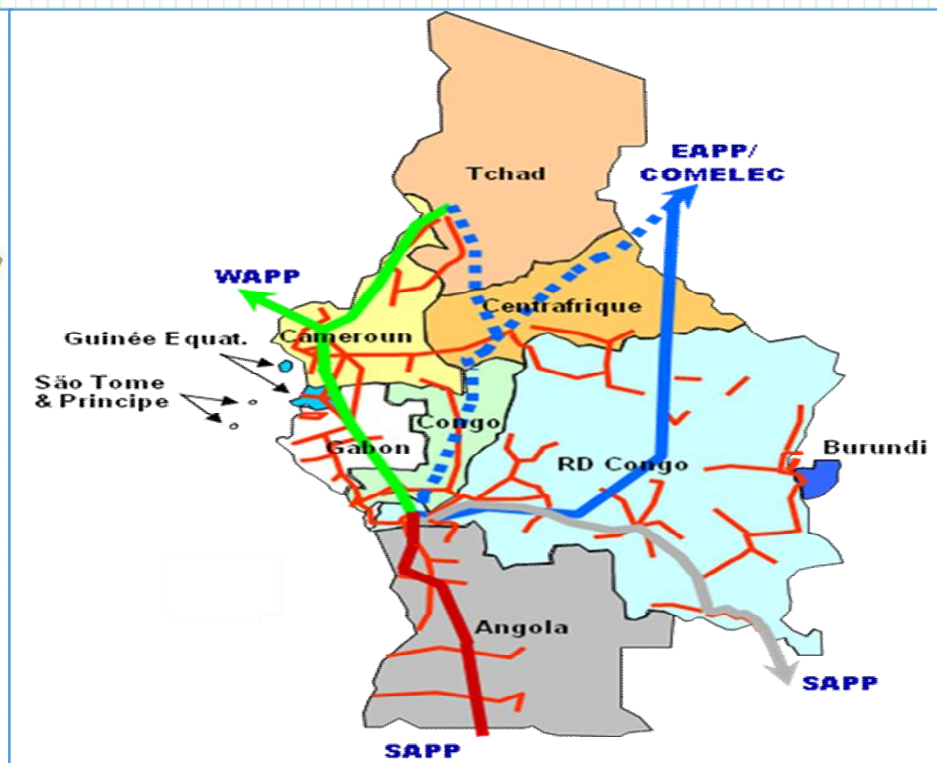
Resilience Opportunities of Regional Trade and Network

1. Diversification of Power Supply Source

Western Africa Power Pool



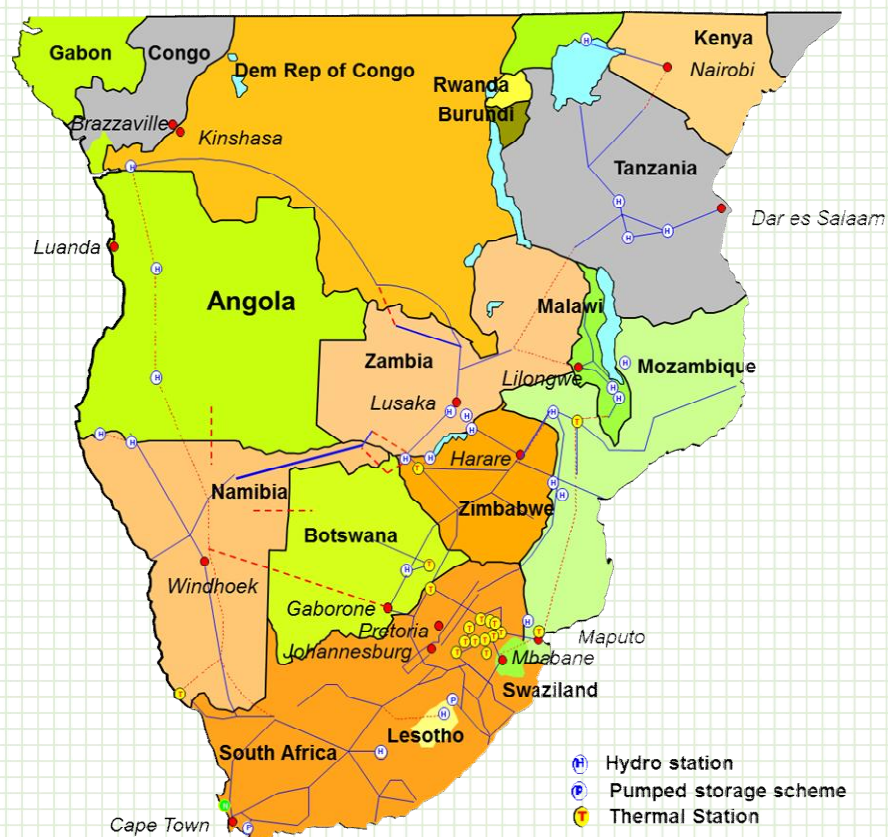
Central Africa Power Pool



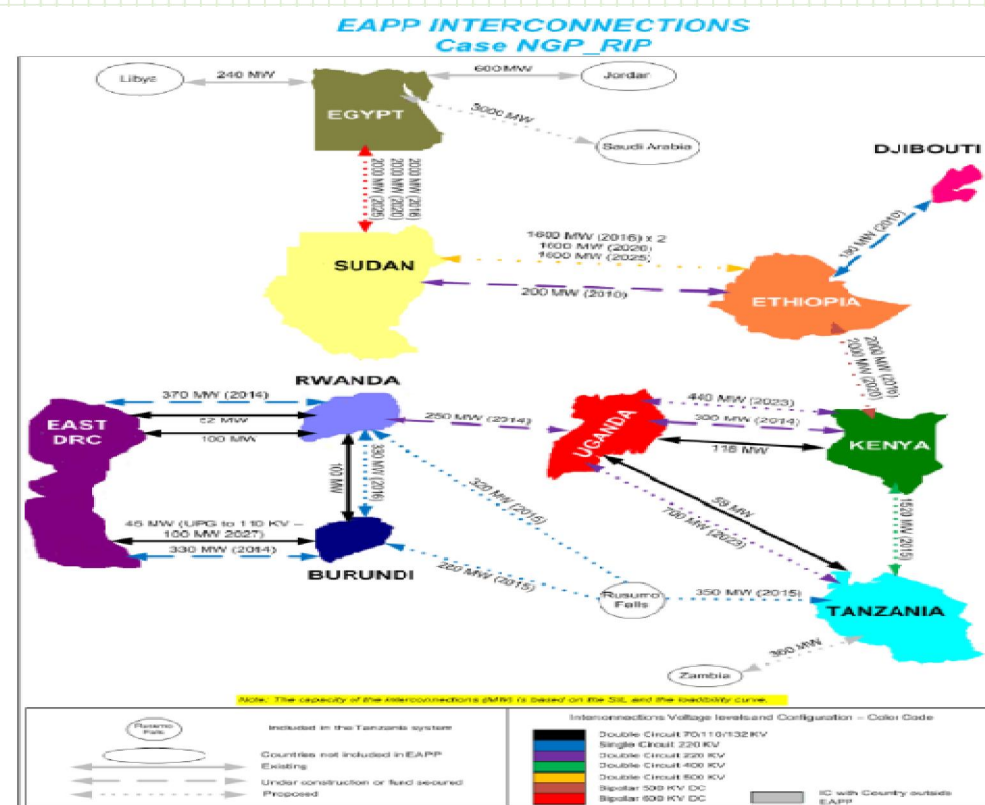
Resilience Opportunities of Regional Trade and Network

2. Improve Energy Mix and decentralize national supply

Southern Africa Power Pool

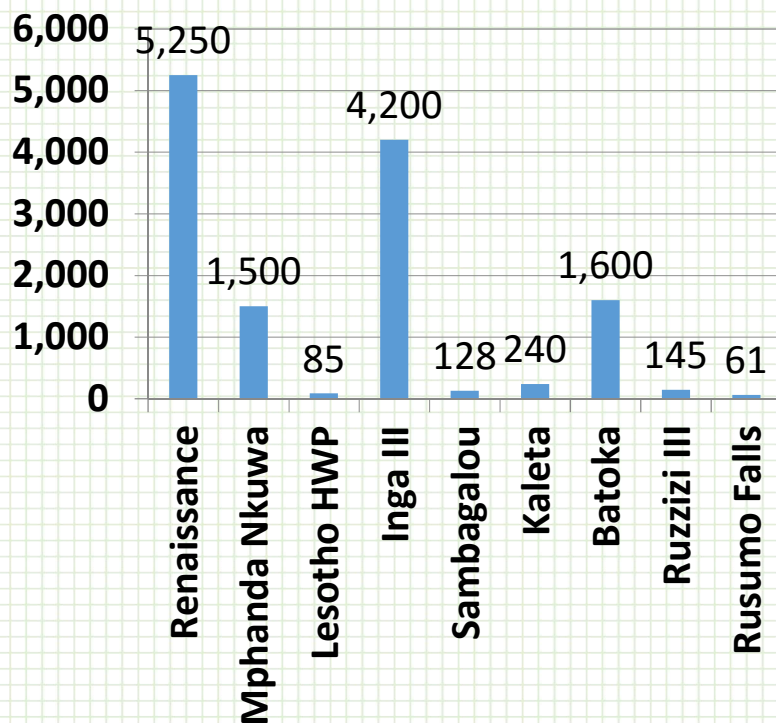


Eastern Africa Power Pool

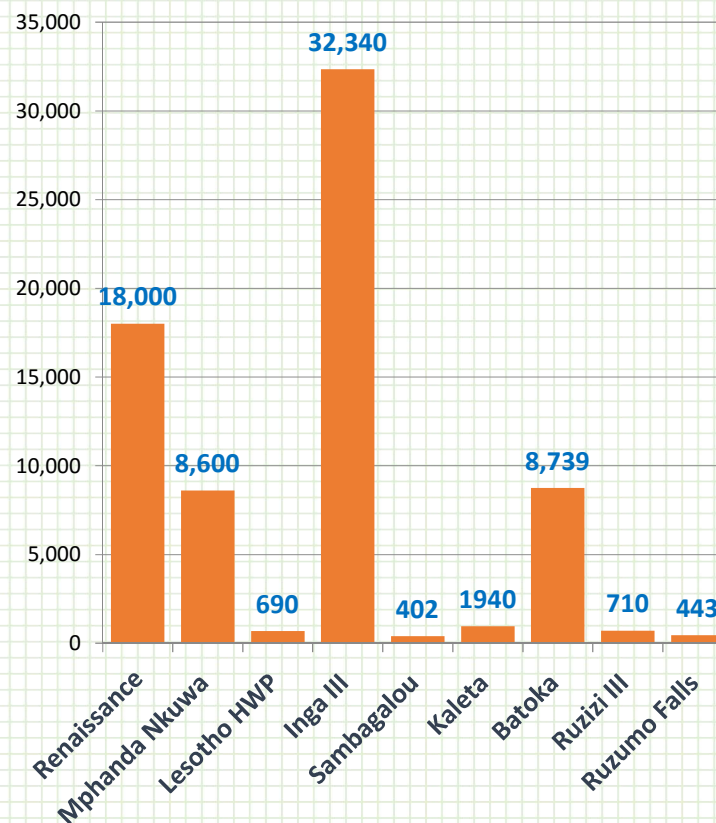


3. PIDA as Part of the Solution for Sustainability

Total Capacity (13.2 GW)



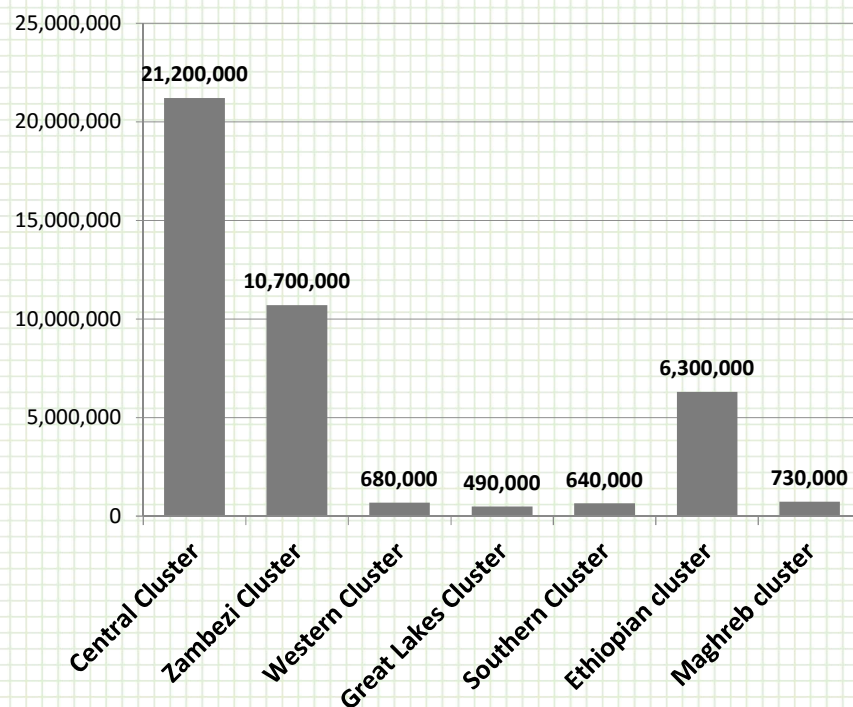
Energy (GWh)



PAP projects represent 16% of capacity to be added by 2020

4. PIDA to Reduce CC Risks Through Mitigation

Avoided Emissions (Tons of CO₂ equivalent)



If PAP is replaced by conventional electricity plants:

- An additional **41 million tons CO₂** emitted per year
- CO₂ emissions of Africa **4% higher**
- Concentrated in the Central, Ethiopian and Zambezi clusters

A cleaner development path for Africa



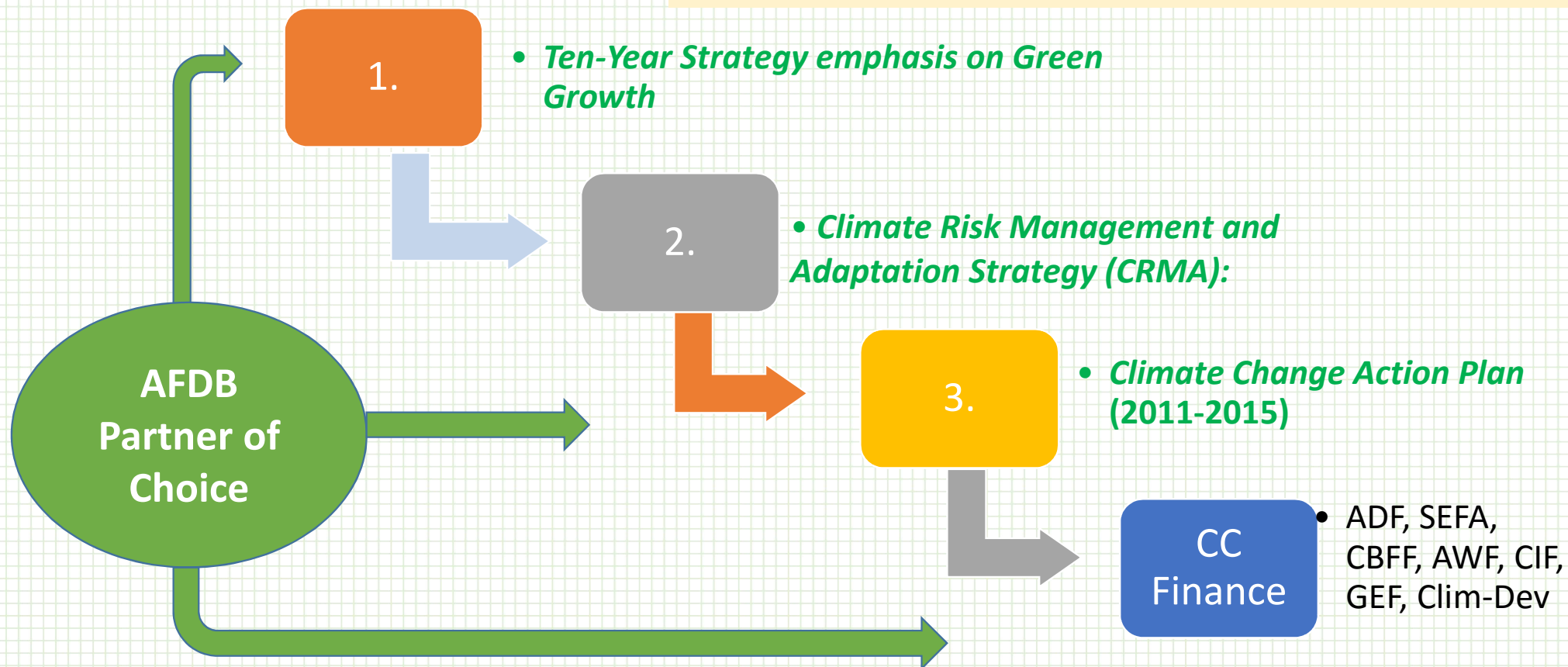
However, Several Challenges

- Complexity of Planning and Implementation of Regional Projects
 - Incomplete networks with missing links
 - Energy Cooperation and trade framework weak in EAPP, CAPP, COMELEC and WAPP
 - Planning for Maintenance
 - Skills, governance in the sector
 - Performance of Power utilities
- Policy and regulatory support
 - Low investments and available finance
 - Limited Private Sector and Best practice
 - Mainstreaming cost of System resilience in planning of systems
 - Establishing and Enforcing sustainable Regional power Grid Codes



AFDB Approach to Mainstreaming CC

Advising RMC and Climate Proofing its Operations





Role of the AfDB – Partner of Choice for PIDA

Mandate by AU HSG: Fund Mobilization, Financier, Partnership

Regional Integration Policy & Strategy



Fund mobilization, and Investments: ADF, ADB, Trust Funds, Africa50, China Growing Together Fund, Climate Funds, Domestic, etc.



Partnerships : DFI, MDB, World Bank, Bi-Multilateral Co, WEF, GEF, African Regional Banks, etc.



Facilitate Dialogue: Convening Power, Advocacy and Business case



Technical Advisory and Capacity Building: AUC/NPCA/REC Capacity-building progr.

Project structuring: e.g. Inga-3, Ruzzizi HP, ZIZABONA, OMVG, ZTK, CSLG interconnection, etc.



Conclusions

- PIDA, a transformative development program for Africa
- PAP has a important socio-economic impact (on GDP, industries, job, Climate and Resilience of energy supply)
- Regional Energy Trade has the potential to improve the continental energy sector resilience and security
- Makes Economic, Business and environmental Sense

- **Issues to Address for Enhanced Resilience:**
 - Mainstream CC resilience costs of measures in planning of systems
 - Accelerate studies and implementation of missing network links
 - Improve EE and Maintenance of systems
 - Improve capacity of Power pools in power regional market development and coordination
 - Attract investments and finance



PIDA, A Time for Action....

Thank you for your
attention!
Merci!