



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



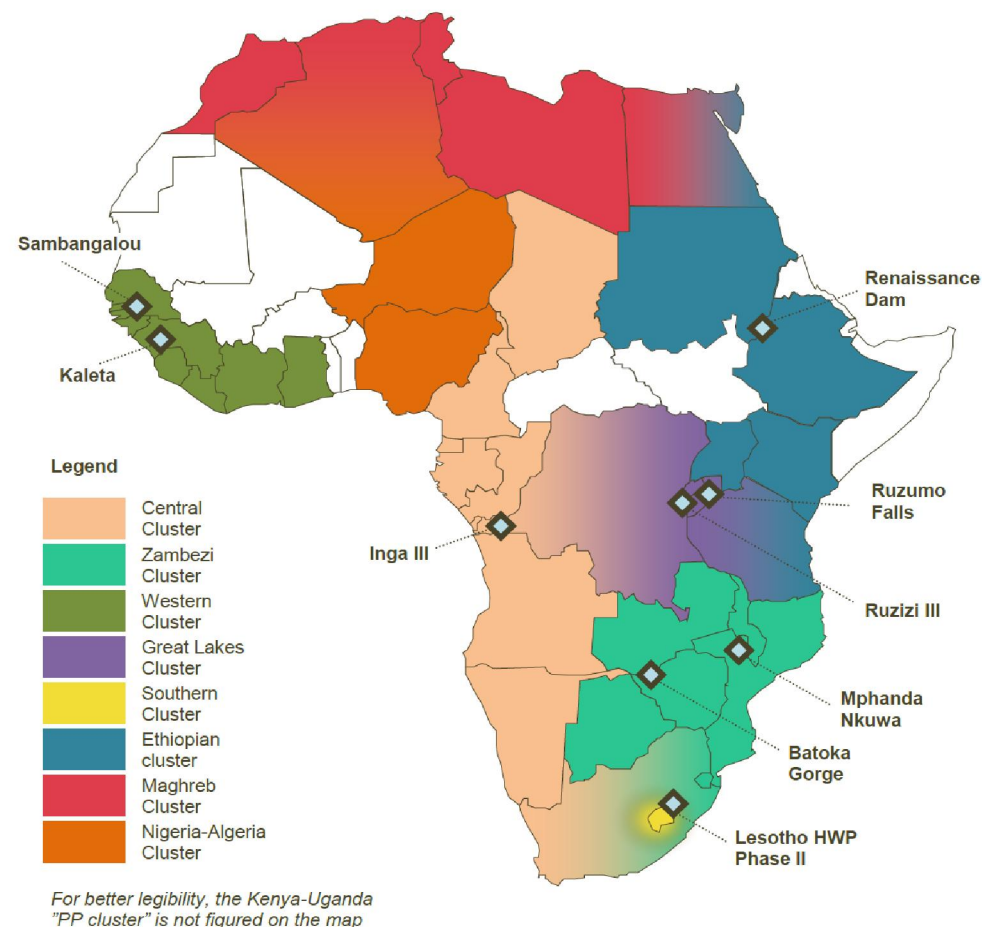
- Conclusions



# 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:

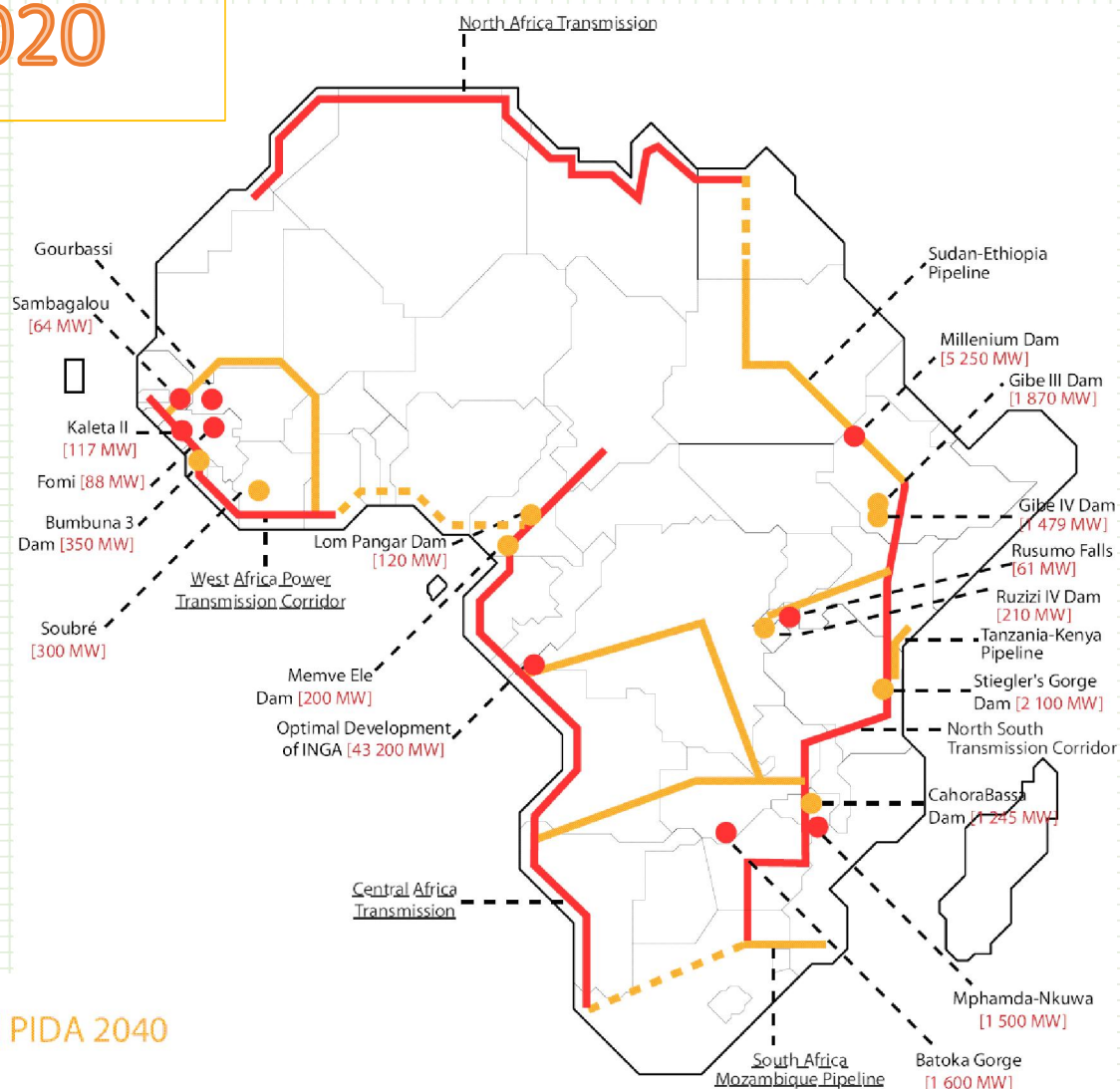
- Minimum 60% Electricity Access

## 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

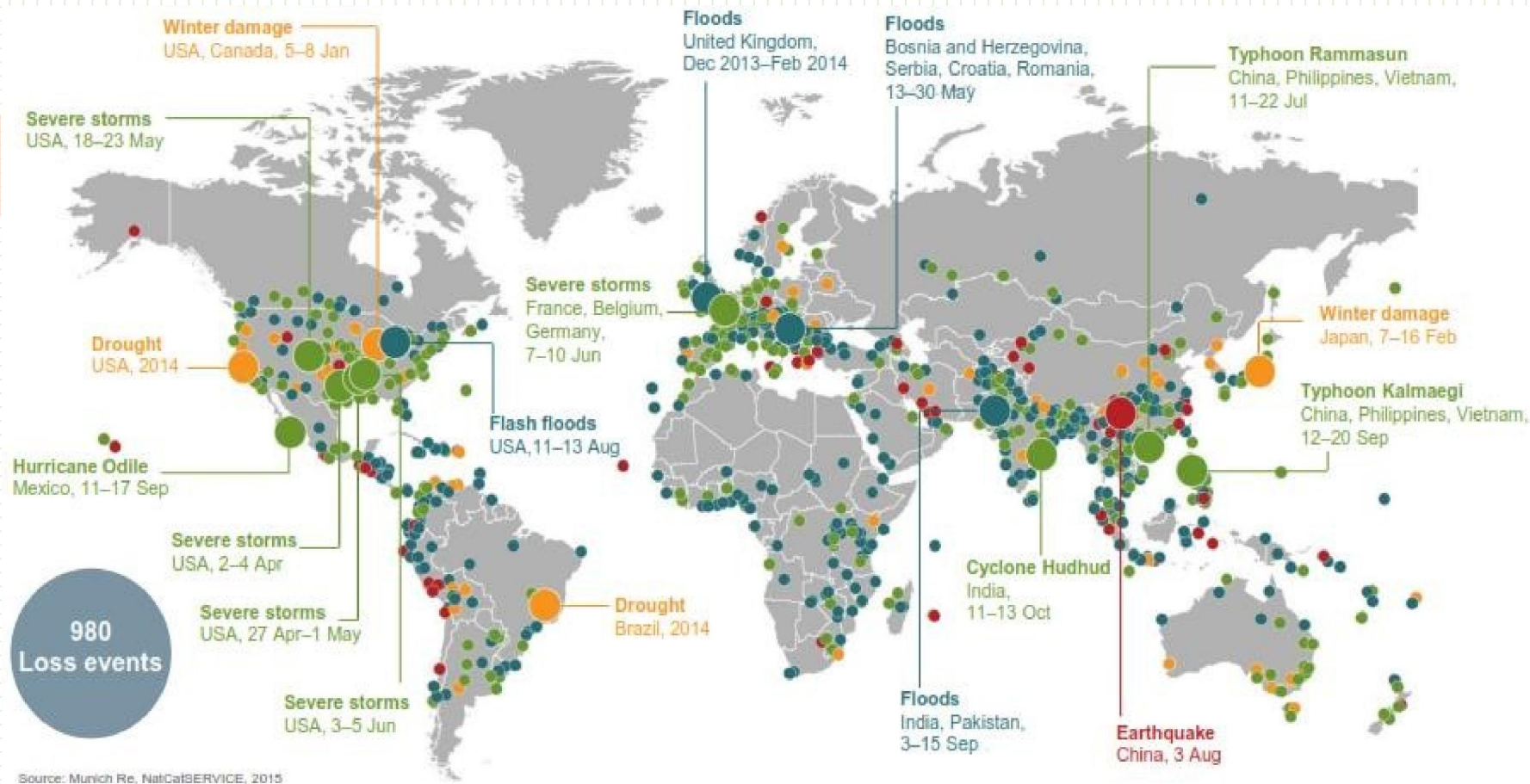
PIDA PAP 2020

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)



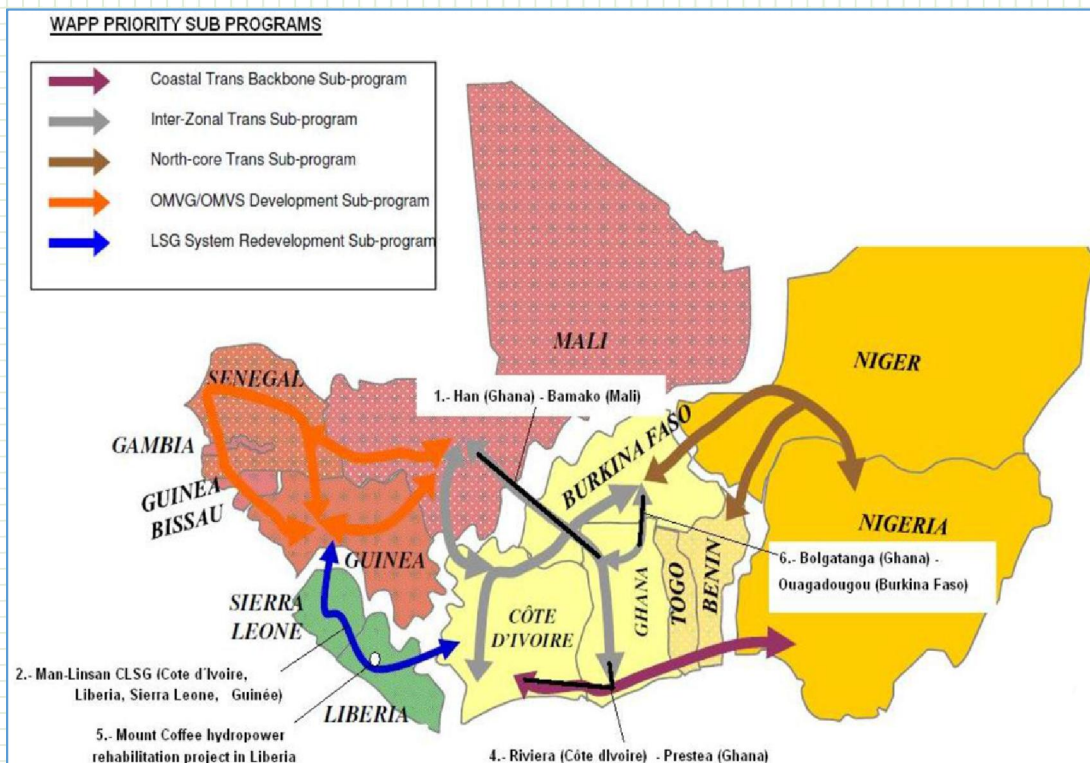




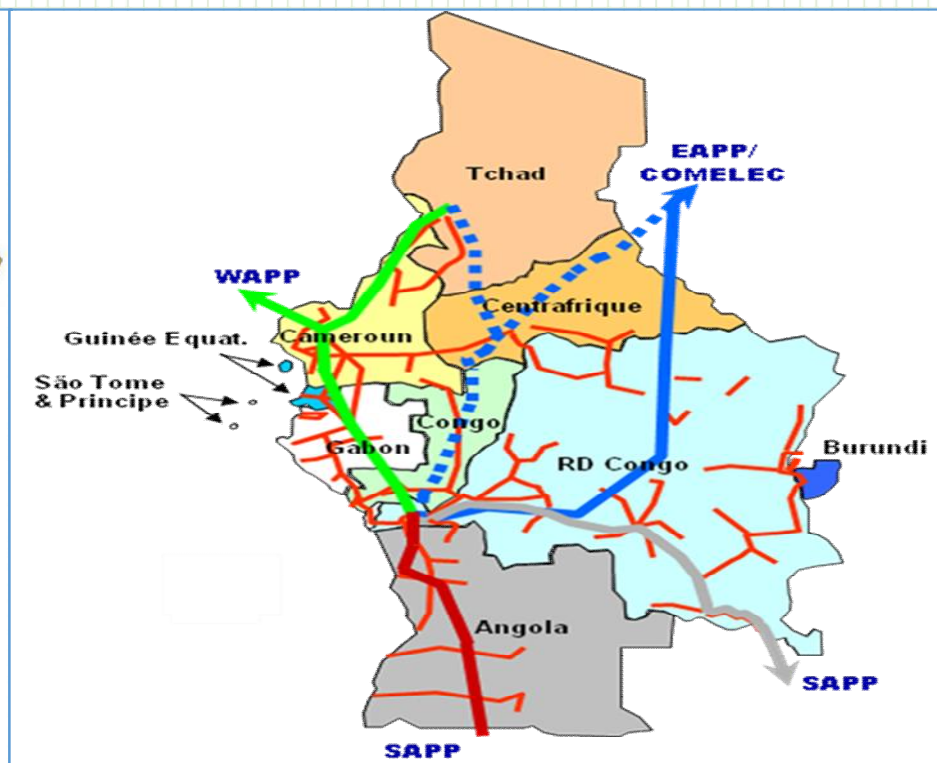
# Resilience Opportunities of Regional Trade and Network

## 1. Diversification of Power Supply Source

### Western Africa Power Pool



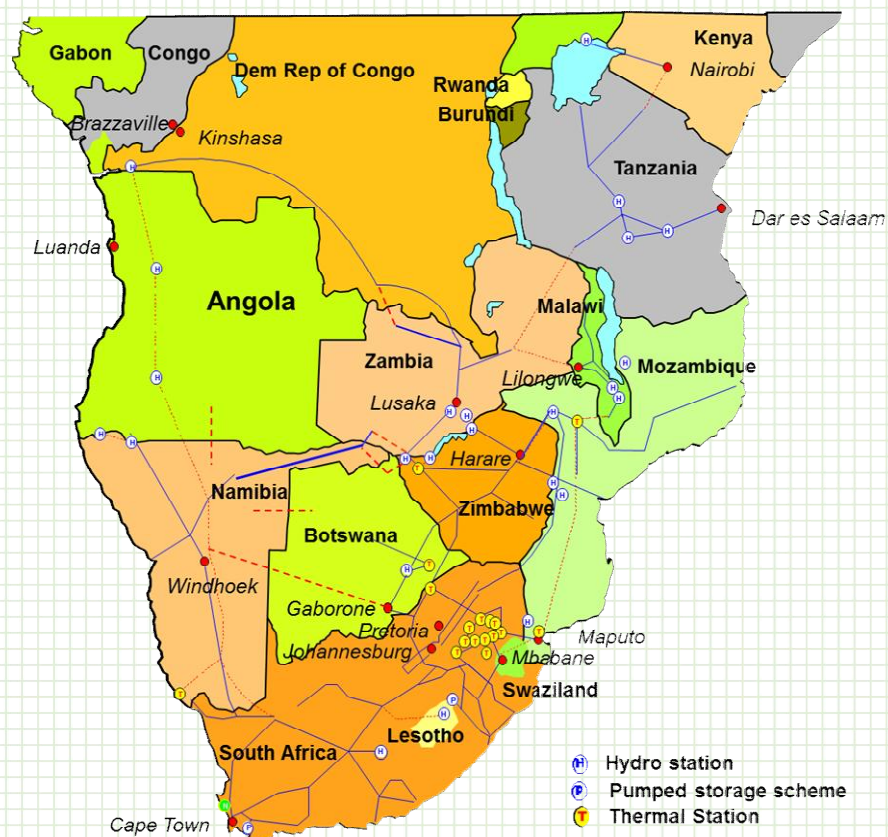
### Central Africa Power Pool



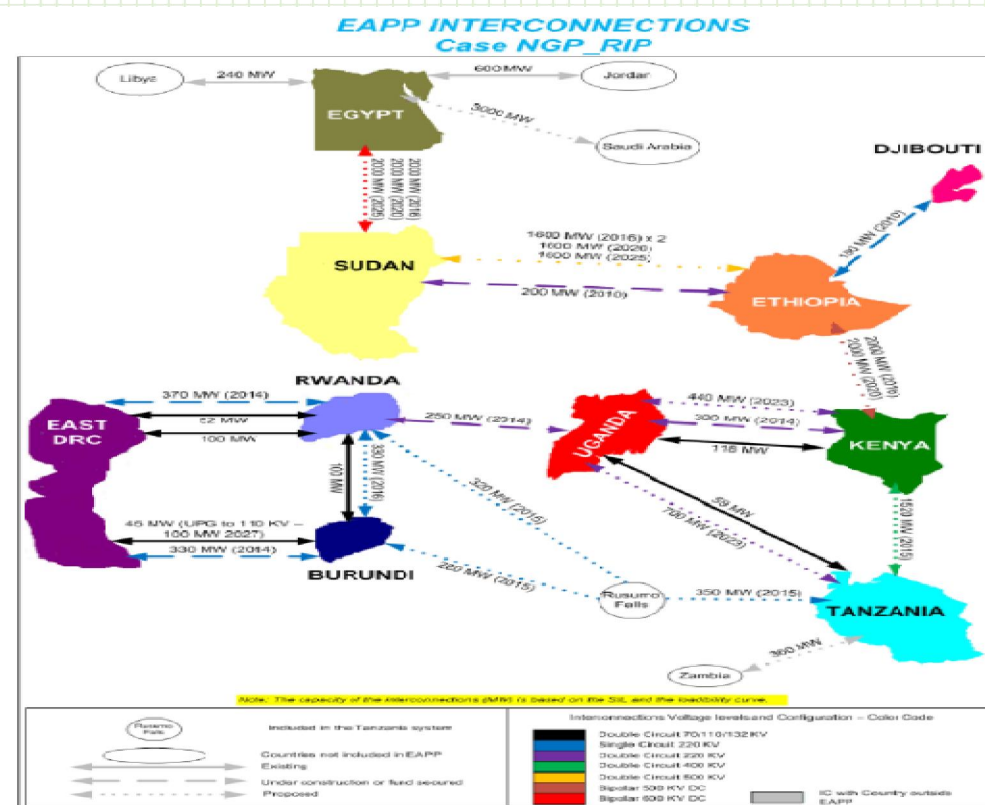
# Resilience Opportunities of Regional Trade and Network

## 2. Improve Energy Mix and decentralize national supply

### Southern Africa Power Pool



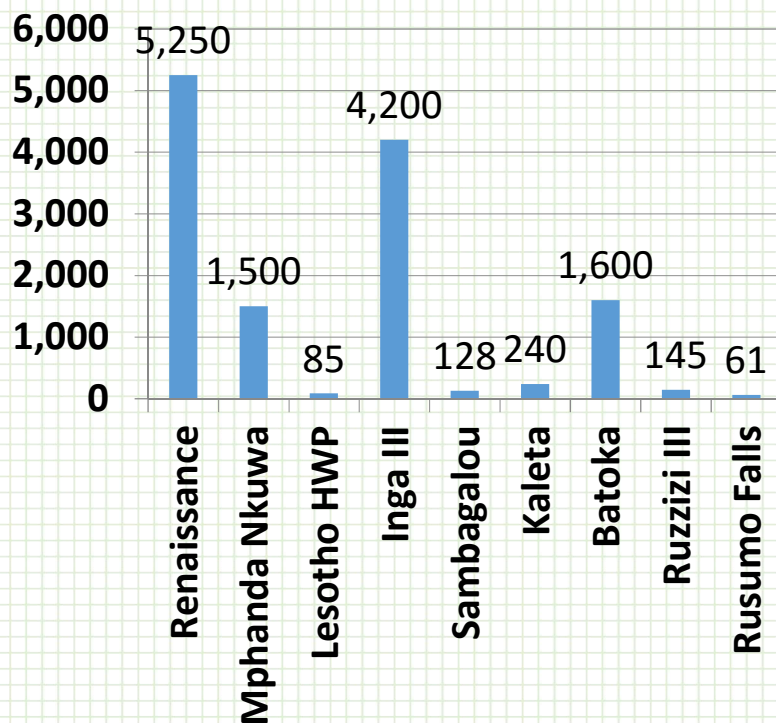
### Eastern Africa Power Pool



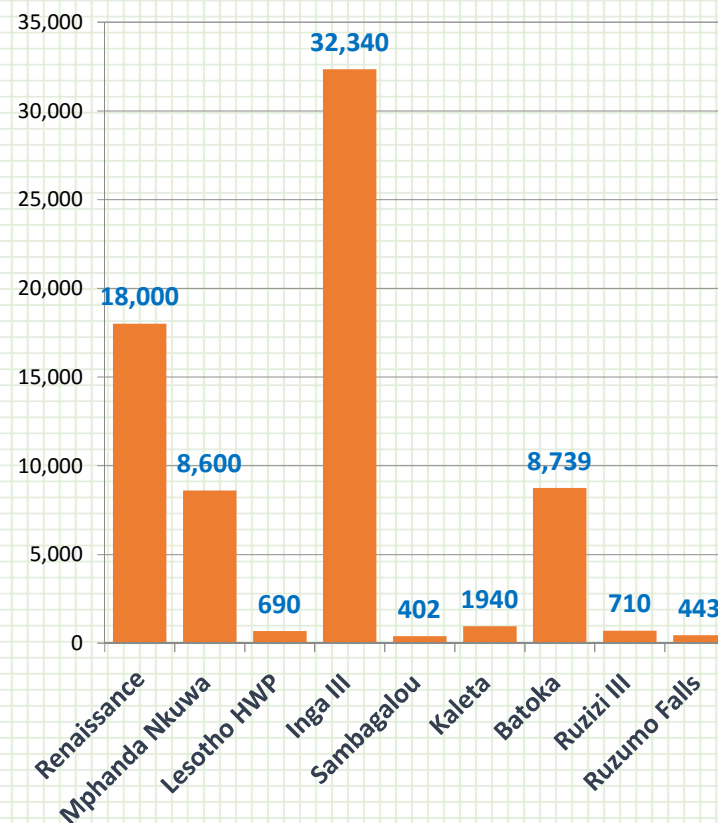


### 3. PIDA as Part of the Solution for Sustainability

**Total Capacity (13.2 GW)**



**Energy (GWh)**

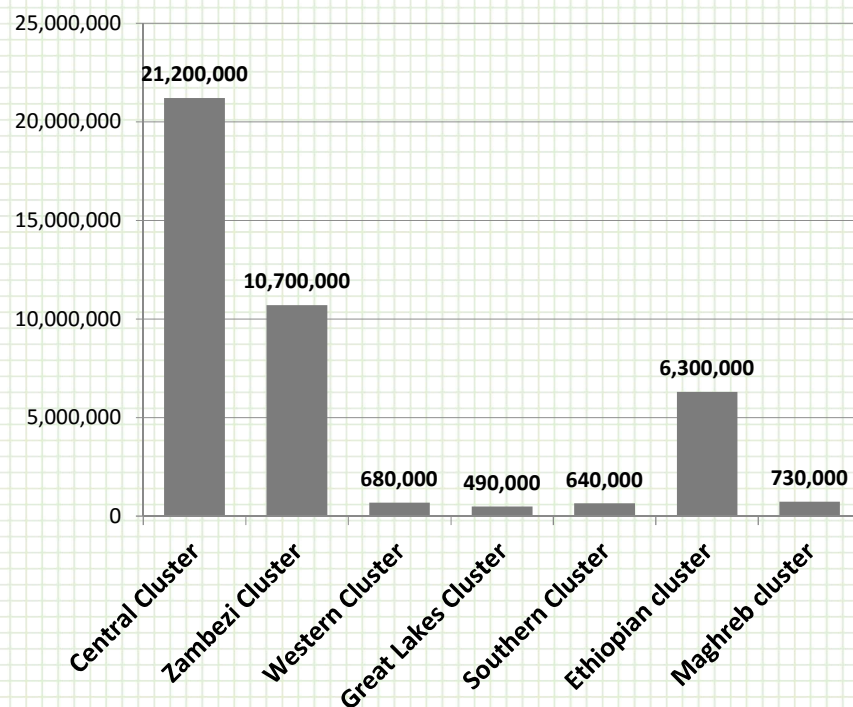


**PAP projects represent 16% of capacity to be added by 2020**



## 4. PIDA to Reduce CC Risks Through Mitigation

**Avoided Emissions (Tons of CO<sub>2</sub> equivalent)**



**If PAP is replaced by conventional electricity plants:**

- An additional **41 million tons CO<sub>2</sub>** emitted per year
- CO<sub>2</sub> emissions of Africa **4% higher**
- Concentrated in the Central, Ethiopian and Zambezi clusters

**A cleaner development path for Africa**



## However, Several Challenges

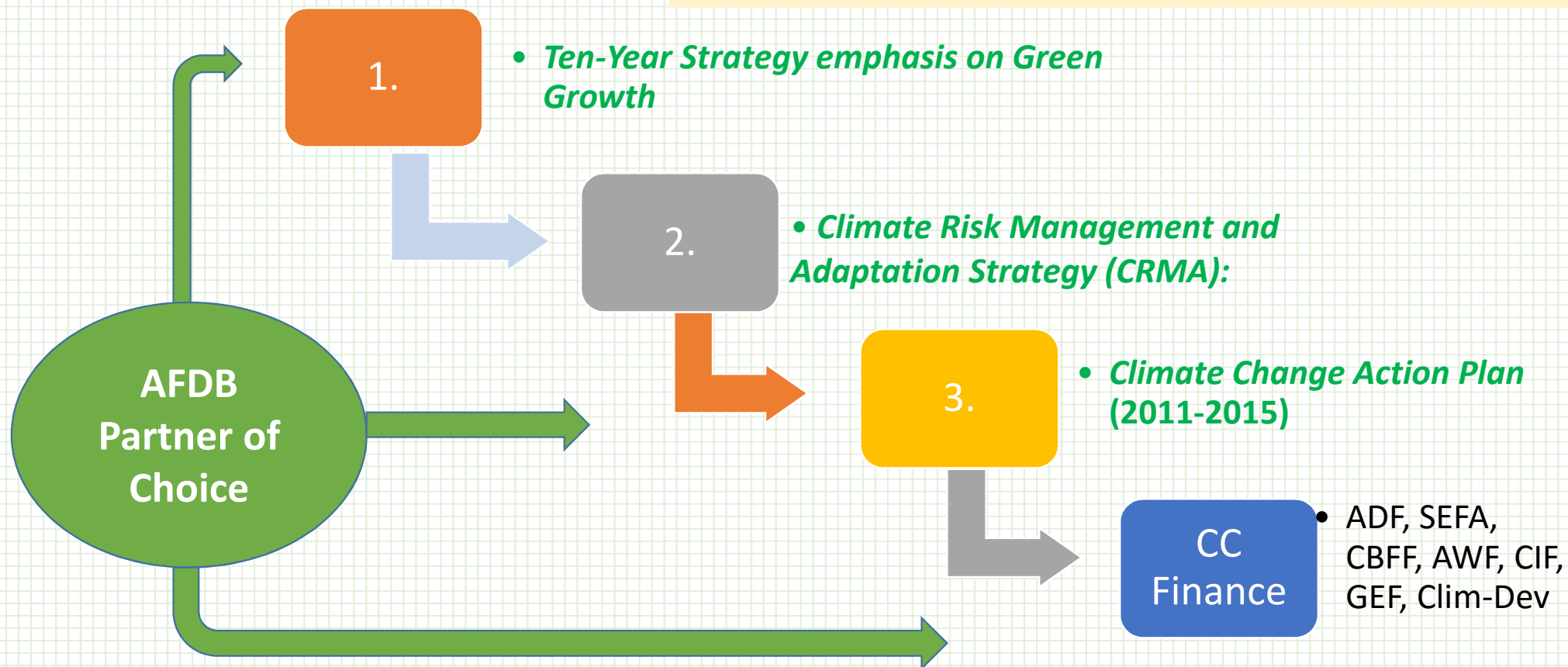
- Complexity of Planning and Implementation of Regional Projects
  - Incomplete networks with missing links
  - Energy Cooperation and trade framework weak in EAPP, CAPP, COMELEC and WAPP
  - Planning for Maintenance
  - Skills, governance in the sector
  - Performance of Power utilities
- Policy and 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!