

MINISTRY OF MINES, ENERGY & WATER DEVELOPMENT

OFFICE FOR PROMOTING PRIVATE POWER INVESTMENT (OPPPI)

Development of Power Projects and Transmission Lines

Clement Sasa

Manager

OPPPI

Outline

- Introduction
- Installed generation capacity
- Hydropower Potential/Opportunities
- Interconnections
- Conclusion
- Challenges

Introduction: OPPPI

- The OPPPI is a Unit in the Ministry of Mines, Energy and Water Development.
- The main role of the OPPPI is to promote private investment in the development of Power Projects. (Greenfield)
- Prepare and package projects for development
 - Identify projects
 - Undertake feasibility studies
 - Develop solicitation strategy and documents
 - Procure developers
 - Negotiate Implementation Agreements
 - Mobilise resources (grants) for project preparatory activities
- Focal point for co-ordinating with other institutions such as ZDA, ZPPA, PPP Unit, ZEMA, ZESCO..etc

Installed Generation Capacity

No.	Power Station	Owner	Installed Capacity (MW)
1.	Kafue Gorge	ZESCO	990
2.	Kariba North Bank	ZESCO	720 +360
3.	Victoria Falls	ZESCO	108
4.	Lusiwasi	ZESCO	12
5.	Chishimba Falls	ZESCO	6
6.	Musonda Falls	ZESCO	5
7.	Lunzua	ZESCO	0.75
8.	Shiwa Ng'andu	ZESCO	1
8.	Lunsemfwa	Lunsemfwa Hydro Power Ltd	31
9.	Mulungushi	Lunsemfwa Hydro Power Ltd	25
10.	Zengamina	Charles Rea	0.75
	TOTAL		2,259.5

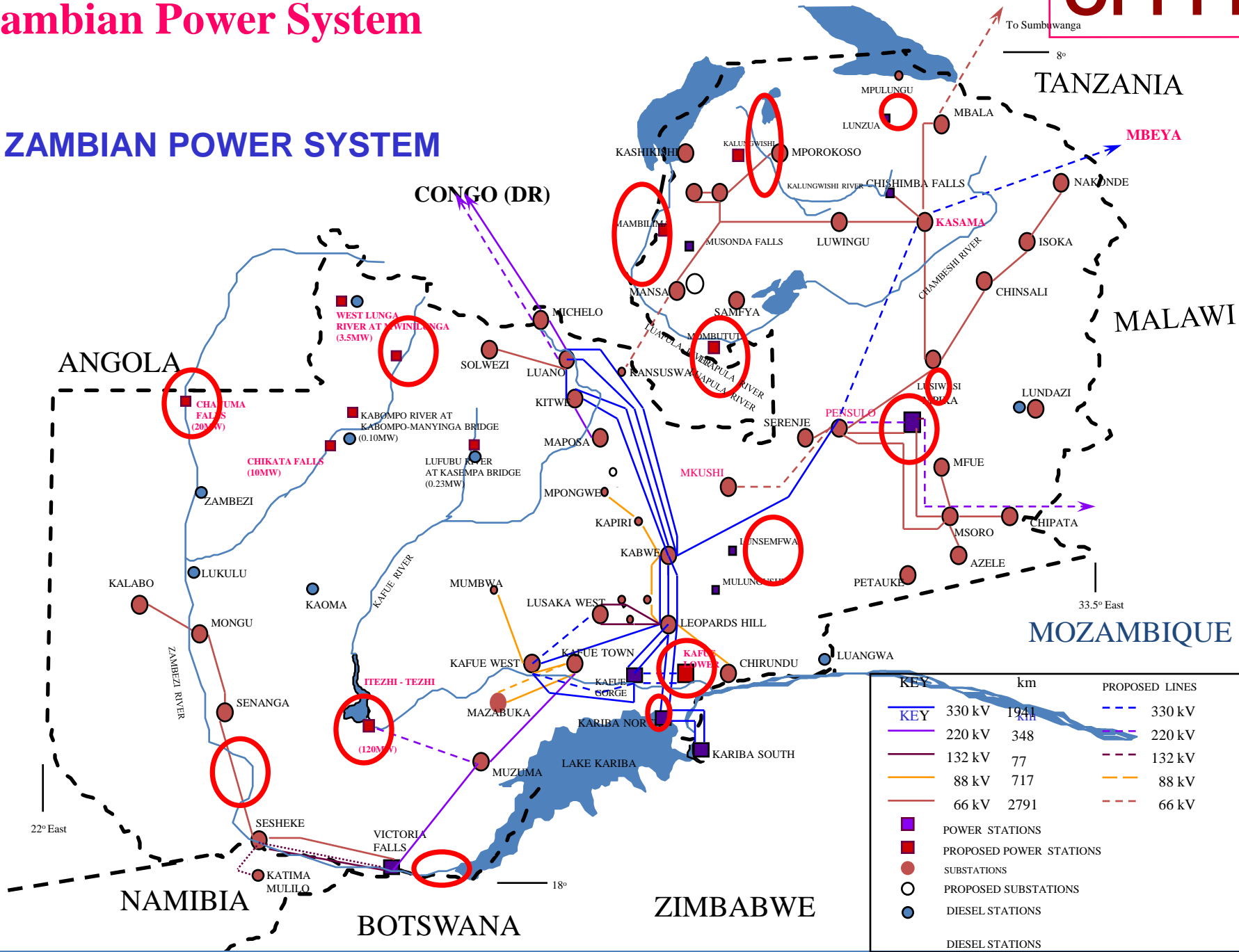
Hydropower Potential/Opportunities

No.	NAME OF SITE	TOTAL CAPACITY (MW)	RIVER	STAGE / STATUS OF SITE	DEVELOPER
1	KABOMPO GORGE	40.00	KABOMPO	Pre-Construction	CEC
2	KABWELUME FALLS	96.00	KALUNGWISHI	IA signed	LPA
3	KUNDABWIKA FALLS	151.00	KALUNGWISHI	IA signed	LPA
4	CHAVUMA FALLS	14.00	ZAMBEZI	Feasibility/IA negotiations	SINOHYDRO
5	CHANDA FALLS	1.00	KASHIJI	Developer Procurement	SINOHYDRO
6	NGONYE FALLS	40.00	ZAMBEZI	Feasibility	Western Power Ltd
7	MUCHINGA	230.00	LUNSEMFWA	Feasibility	LHPC
8	LUCHENENE	34.00	LUCHENENE	Pre-feasibility	POWER MIN ZAMBIA LTD
9	MUTINONDO	43.00	MUTINONDO	Pre-feasibility	POWER MIN ZAMBIA LTD
10	MULEMBO/LELYA	330.00	MULEMBO	Prefeasibility	MCHIMADZI LTD
11	MAMBILIMA FALLS I	126.00	LUAPULA	IGMOU/Feasibility	GRZ/DRC
12	MAMBILIMA FALLS II	202.00	LUAPULA	IGMOU/Feasibility	GRZ/DRC
13	MAMBILIMA FALLS V	372.00	LUAPULA	IGMOU/Feasibility	GRZ/DRC
14	MUMBOTUTA FALLS	490.00	LUAPULA	IGMOU/Feasibility	GRZ/DRC
15	BATOKA GORGE	1,600.00	ZAMBEZI	PRE-FEASIBILITY	ZRA
16	DEVIL'S GORGE	1,000.00	ZAMBEZI	Pre-feasibility	ZRA
17	MPATA GORGE	543.00	ZAMBEZI	Pre-feasibility	ZRA
18	KAFUE GORGE LOWER	750.00	KAFUE	Pre-implemenation	ZESCO
	Total (MW)	6,062.00			

Zambian Power System

OPPPI

ZAMBIAN POWER SYSTEM



KEY	km	PROPOSED LINES
	330 kV 1941	330 kV
	220 kV 348	220 kV
	132 kV 77	132 kV
	88 kV 717	88 kV
	66 kV 2791	66 kV
	POWER STATIONS	
	PROPOSED POWER STATIONS	
	SUBSTATIONS	
	PROPOSED SUBSTATIONS	
	DIESEL STATIONS	
	DIESEL STATIONS	

Other Generation projects

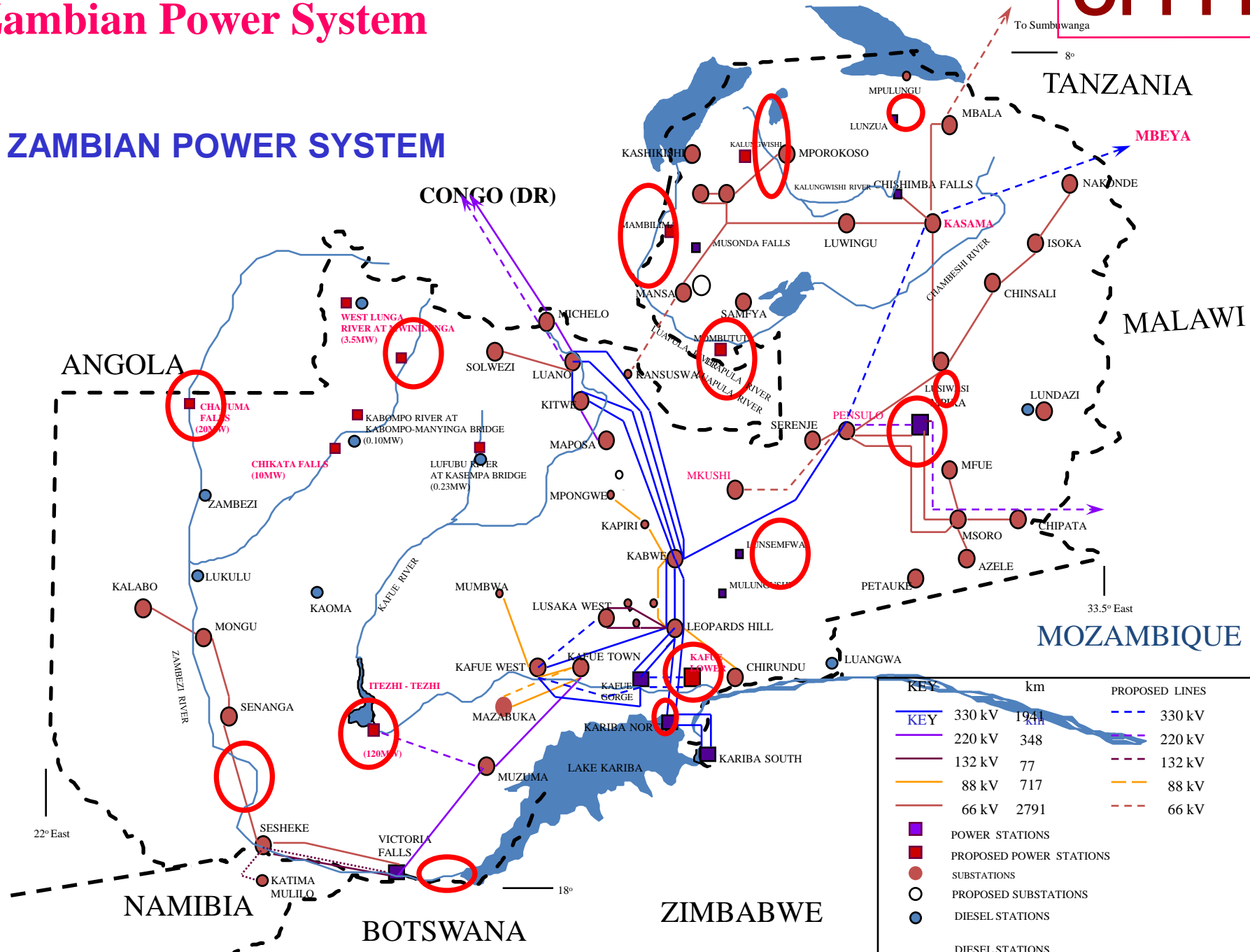
- Lunzua Hydro Power station (14.8MW); commissioning; ZESCO
- Itezhi-tezhi (120MW); under-construction; ITPC; 2015
- Maamba Coal fired PS (300MW); Maamba Collieries; commissioning 2015

Interconnectivity

Zambian Power System

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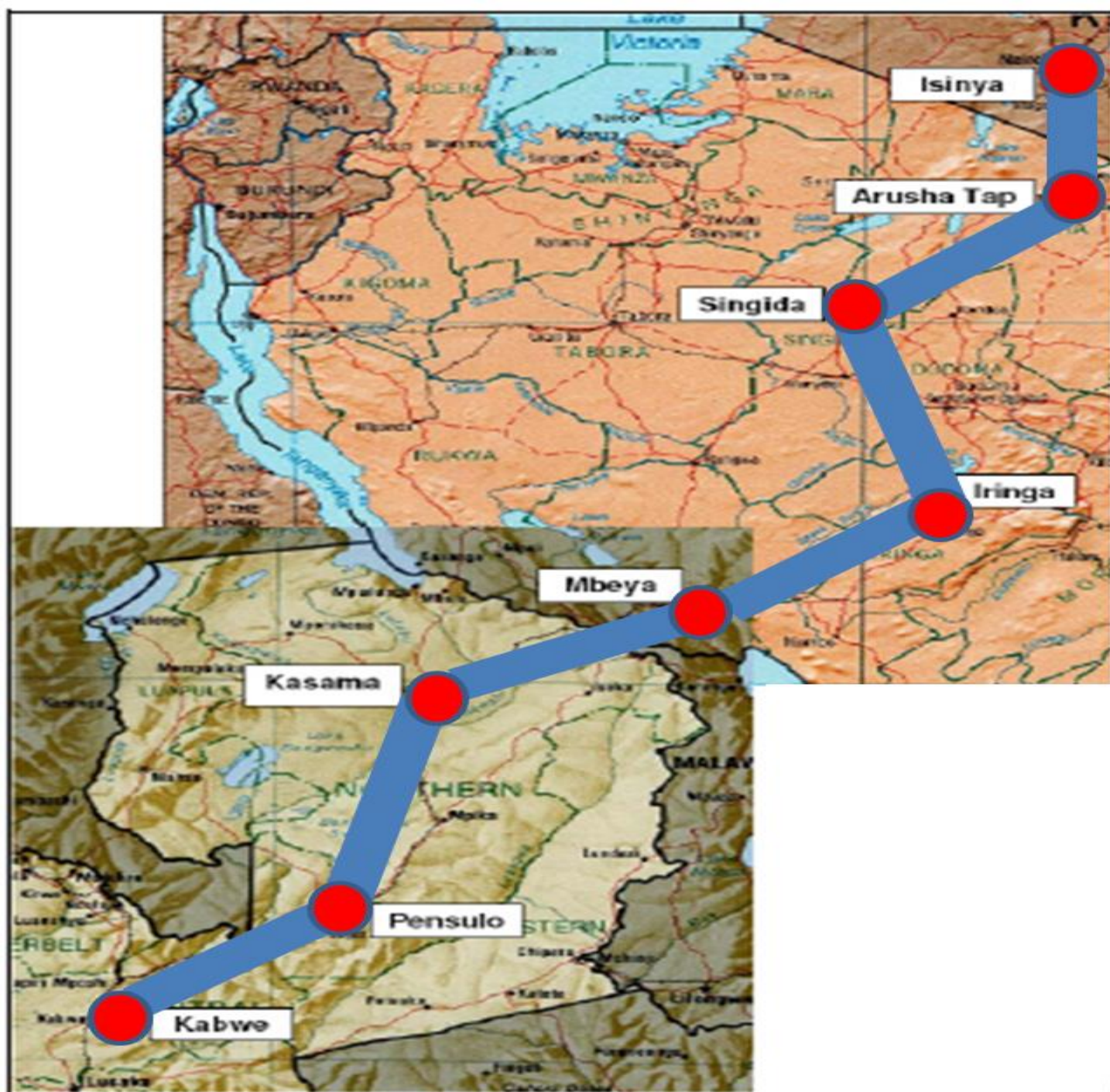
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	POWER STATIONS	
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	PROPOSED SUBSTATIONS	
	DIESEL STATIONS	

Zambia-Tanzania-Kenya power Interconnector

- Objectives
 - Enhance electricity trade and regional integration.
 - Foster Economic Development
 - Enhance security and reliability of electricity supply.



Zambia-Tanzania-Kenya Power Interconnector

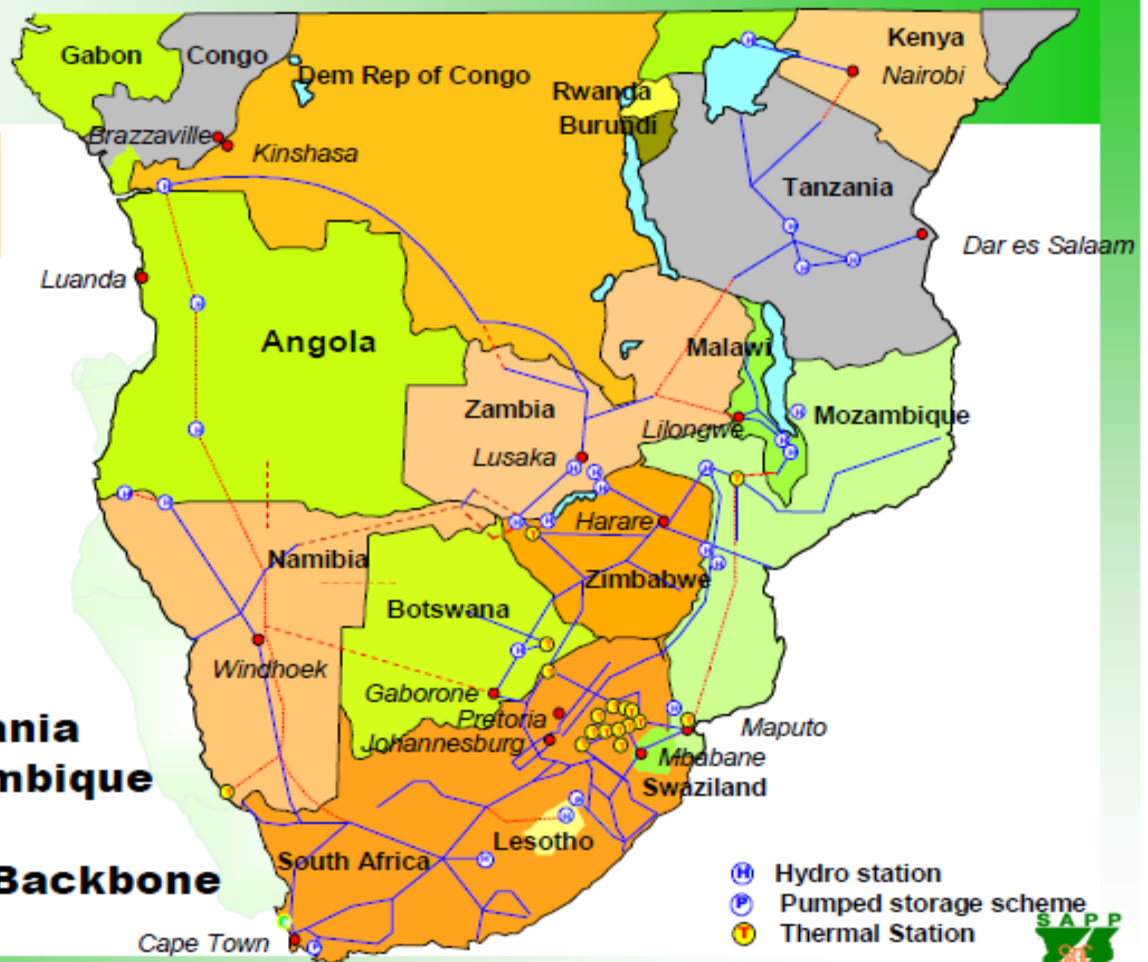
- Pensulo-Kasama-Mbeya-Iringa-Singinda-Arusha-Isinya
- Distance: 2,300km
- Estimated cost: US\$1.5 billion
- Pensulo-Kasama and Iringa-Singinda under-construction

Tower along the Pensulo-Kasama section



Transmission Projects

- ZIZABONA**
- Zambia-Tanzania**
- Malawi-Mozambique**
- DRC-Zambia**
- Mozambique Backbone**



Ⓜ Hydro station
Ⓟ Pumped storage scheme
⦿ Thermal Station

SOUTHERN AFRICAN POWER POOL



Conclusion

- 6,000MW in hydropower potential
- More potential available from other renewables such as solar.
- More potential is available from Coal resources.

Challenges

- Low tariffs
- Low interconnectivity

Contact

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