



SOUTHERN AFRICAN POWER POOL **(Affiliate Member of AFSEC)**

Electricity Supply Industry Standards

By Alison Chikova

Nairobi, KENYA

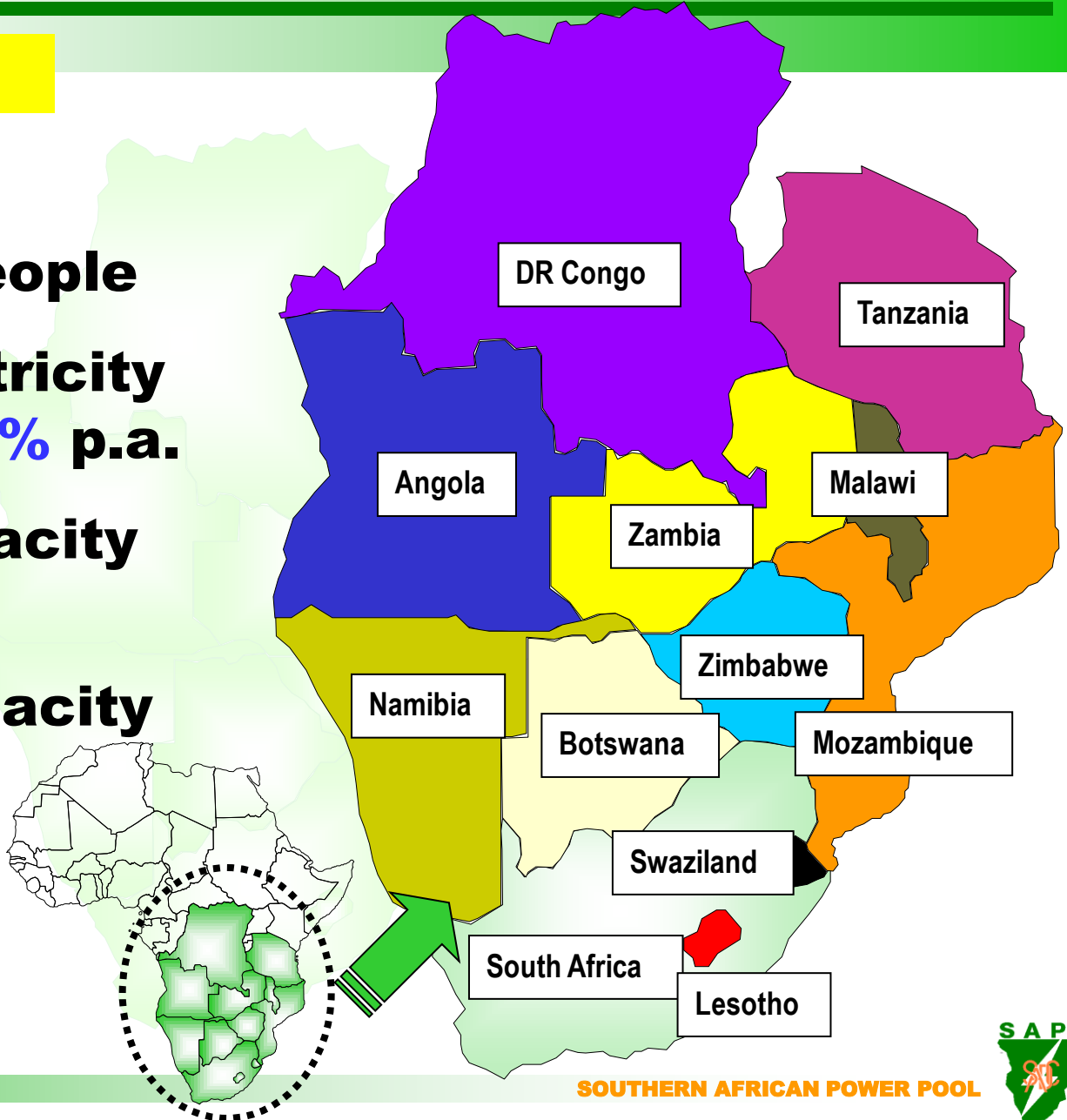
6 September 2011



INTRODUCTION TO THE SAPP

Geographic

- ❑ **12 Countries**
- ❑ **230 Million people**
- ❑ **Average Electricity growth rate 3% p.a.**
- ❑ **Installed Capacity 56,000 MW**
- ❑ **Available Capacity 50,000 MW**
- ❑ **Peak Demand 46,000 MW**



Start-up Challenges

The Challenges experienced by SAPP at start of the pool:

- ➔ Language of communication
 - Local languages
 - Foreign languages - English, French or Portuguese?

- ➔ Dispute resolution
 - How will disputes be resolved?
 - Who will be the referee?

- ➔ Harmonisation Issues
 - Different legal frameworks
 - Different technical standards

Operational Challenges

The SAPP is faced with the following operational challenges:

- a. The migration from a **cooperative** pool to a **competitive** pool.
- b. The implementation of a **competitive market** at a time that the region has run out of generation surplus capacity.
- c. The provision of a **reliable power supply** in an environment with diminished generation surplus capacity and low tariffs.
- d. The implementation of **cost reflective tariffs** and the adoption of **regulatory principles** that would enhance those tariffs.

Transmission Projects

2013: ZIZABONA -220/330 kV

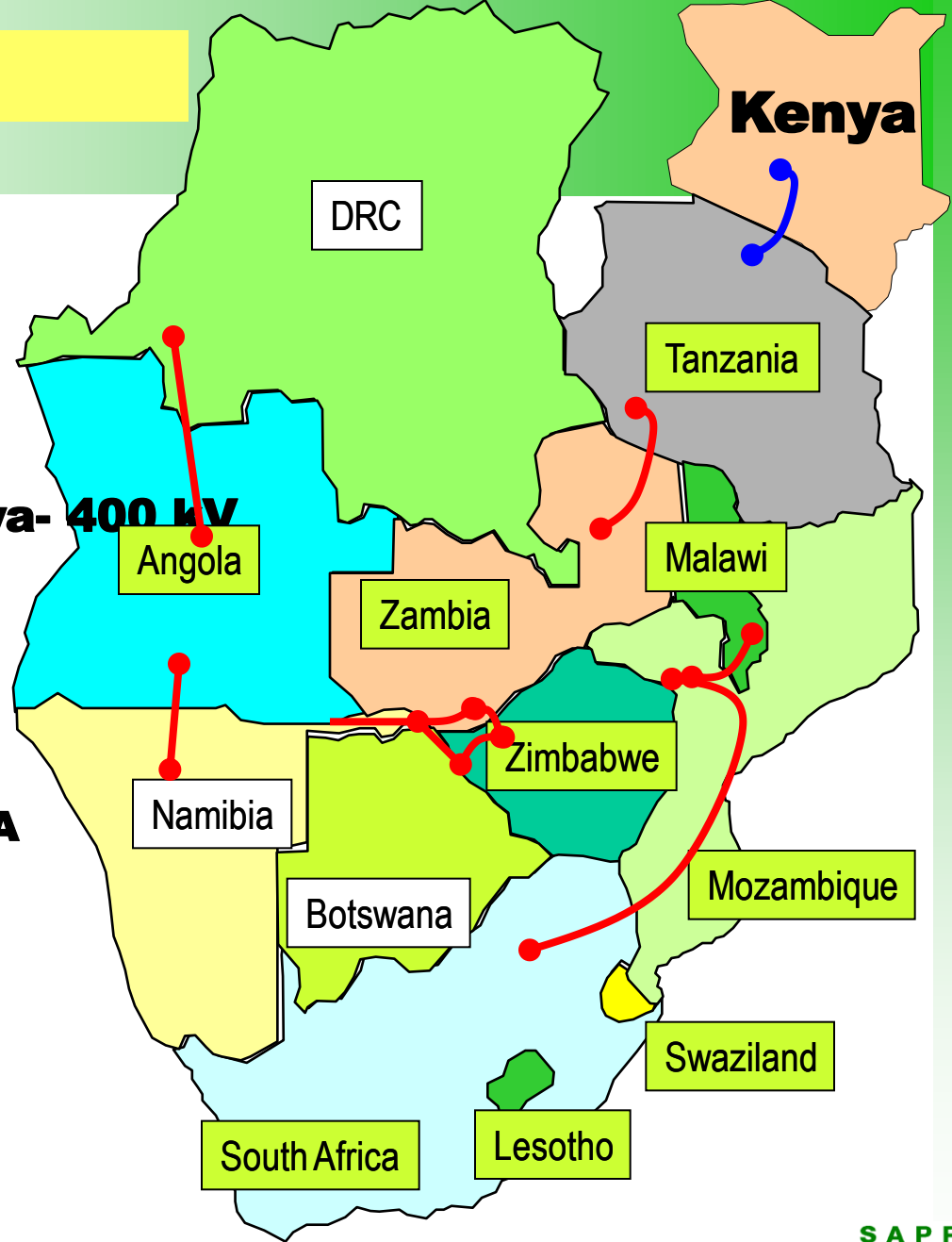
2013: Mozambique Malawi

2014/5: Zambia – Tanzania - Kenya- 400 kV

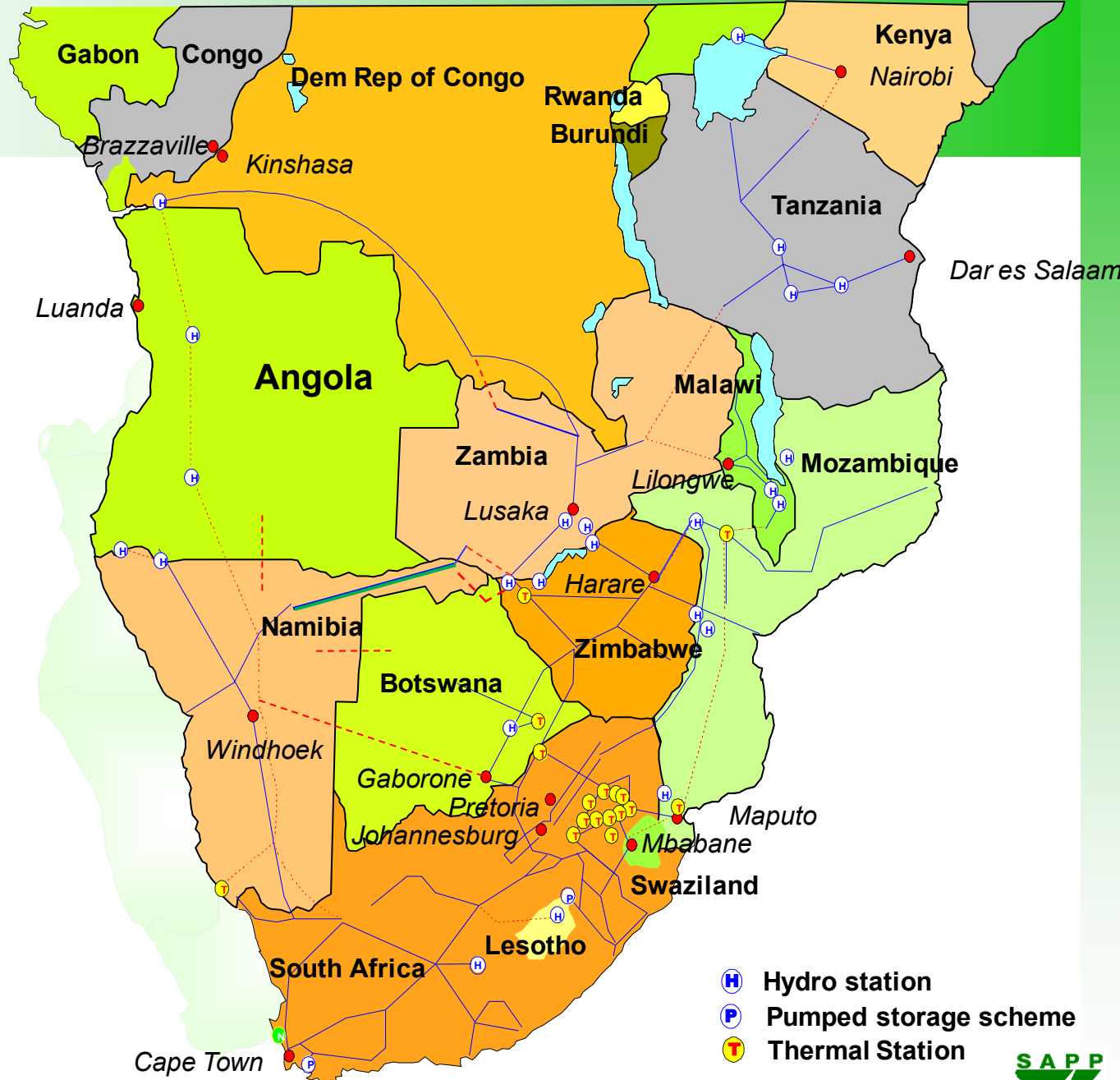
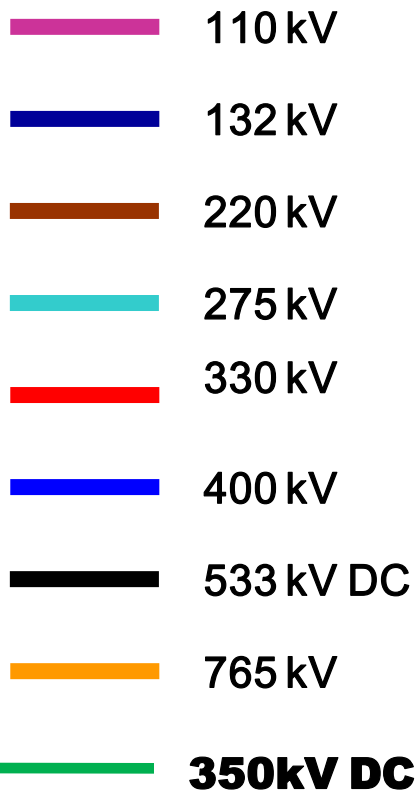
2015:DRC - Angola – 400 kV

2016: MOZAMBIQUE BACKBONE -RSA

2016/7: Namibia – Botswana



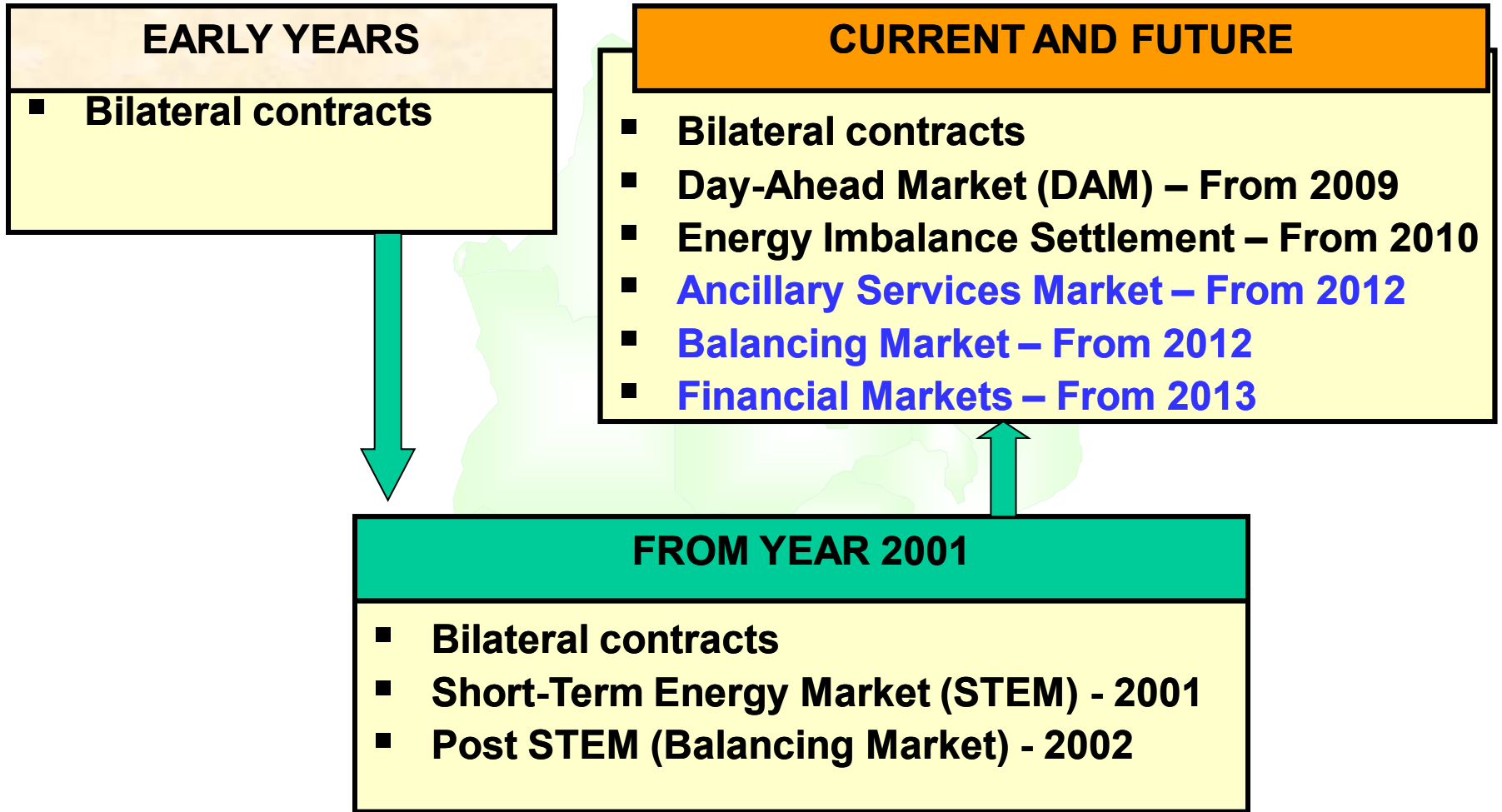
VOLTAGE LEVELS



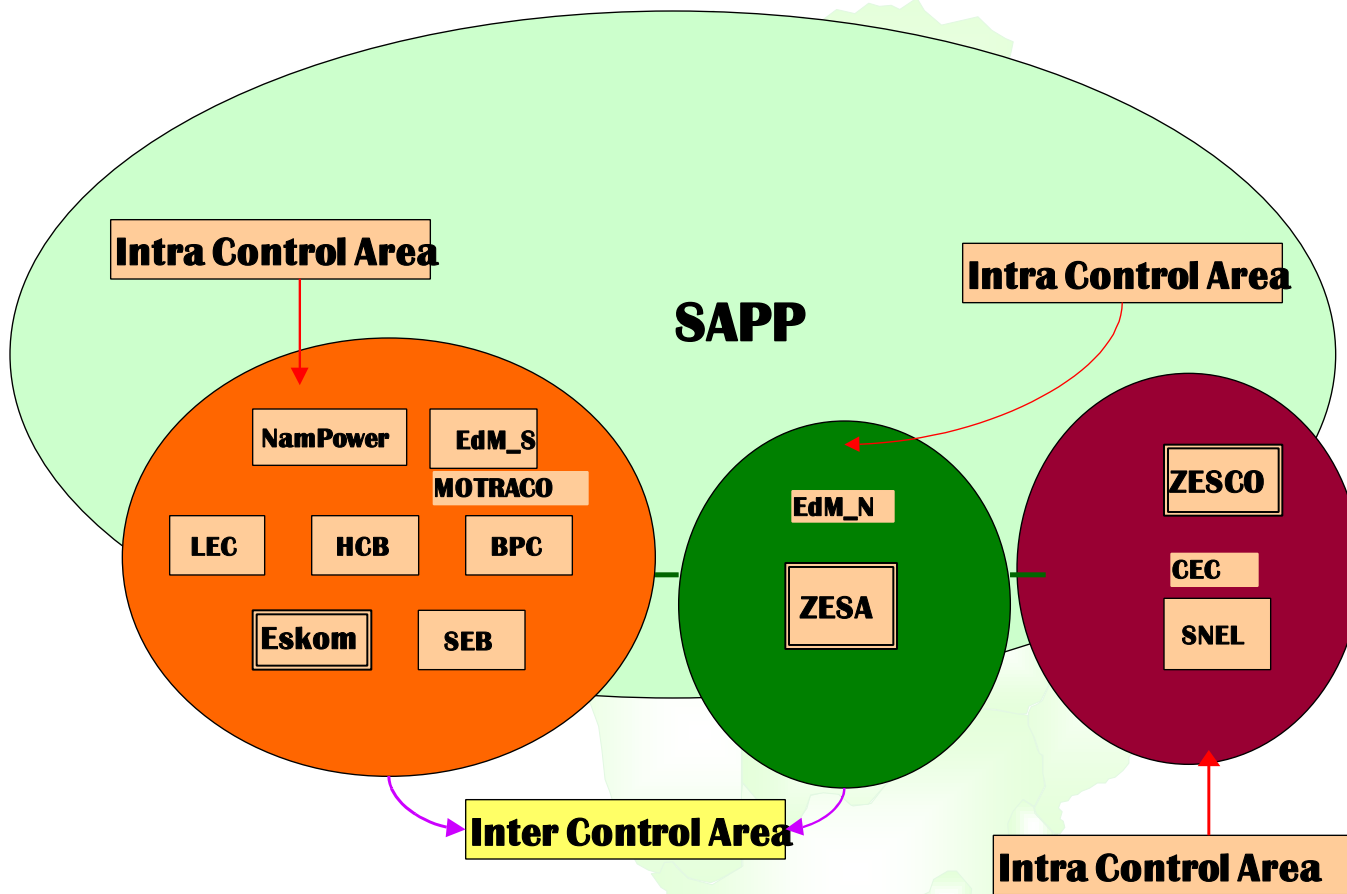
- Hydro station
- Pumped storage scheme
- Thermal Station



ELECTRICITY TRADING ARRANGEMENTS IN SAPP



ANCILLARY SERVICES - Inter/ Intra Control Areas

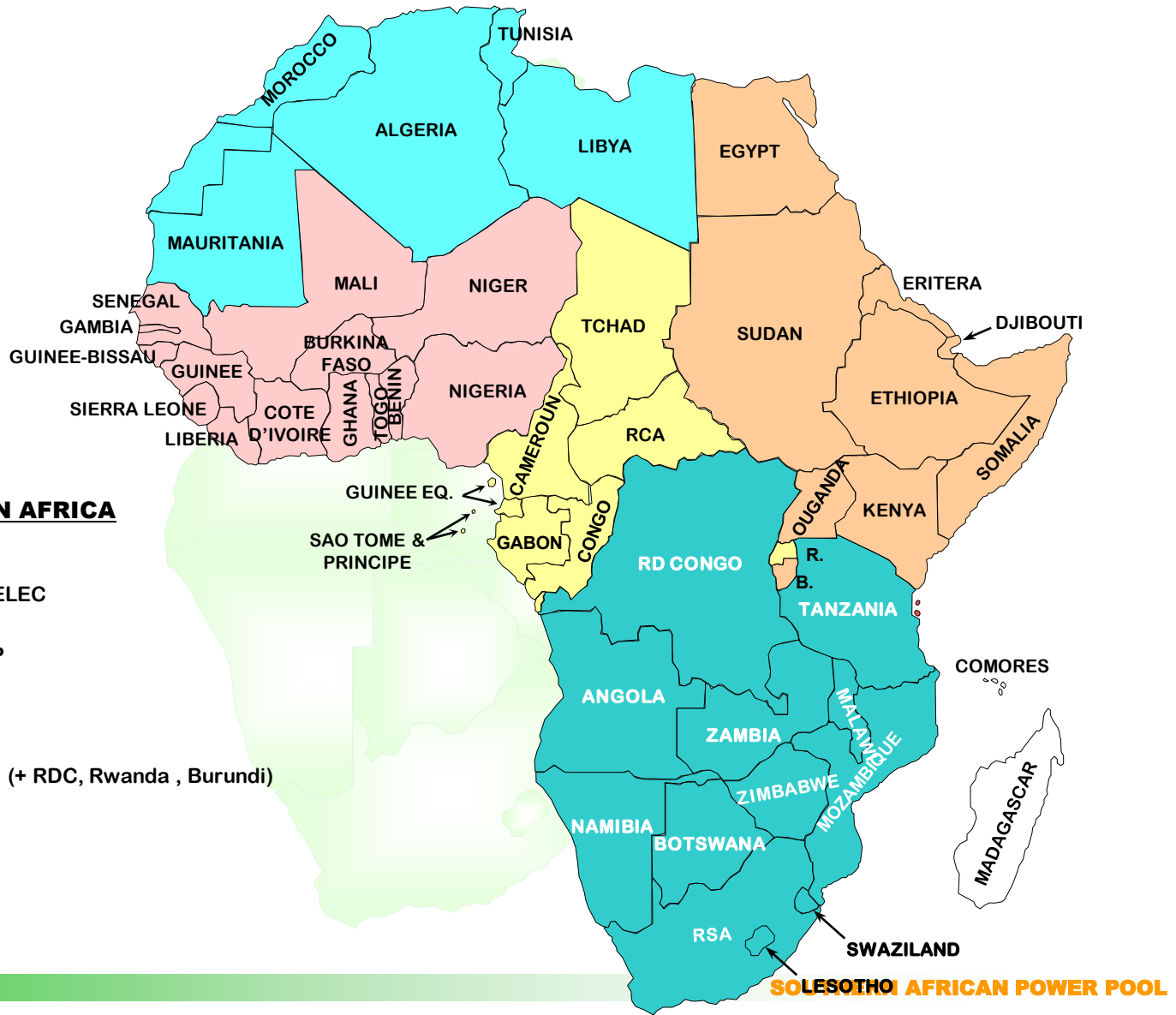
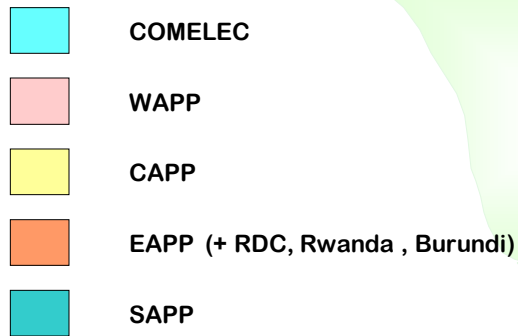


Energy Exchange - SAPP commissioning SCADA system



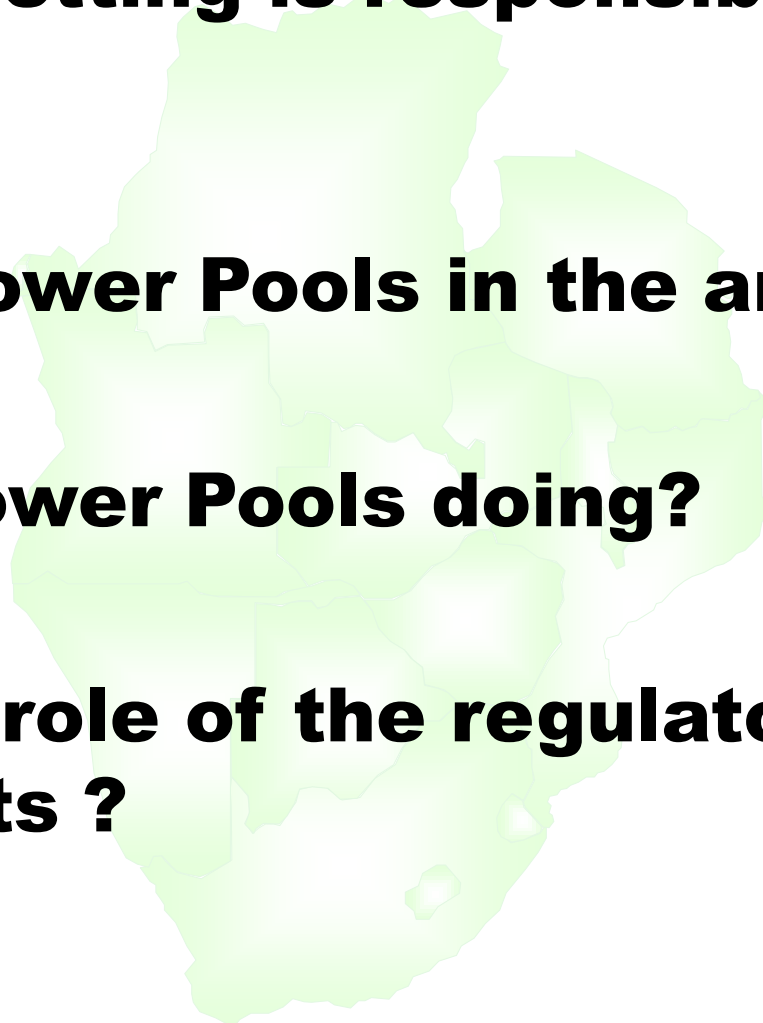
INTERCONNECTING POWER POOLS IN AFRICA

POWER POOLS IN AFRICA



HARMONISATION OF AFRICAN GRID CODES

- ❑ **Standards setting is responsibility of Power Pools**
- ❑ **Where as Power Pools in the area?**
- ❑ **What are Power Pools doing?**
- ❑ **What is the role of the regulator / Governments ?**



GRID CODE SETTING OUTLINE

- ❑ **Grid Code Objectives should be clear, grid code development**
- ❑ **Industry structure in which grid code is applied?**
- ❑ **Responsibilities of service providers?**
- ❑ **Standards, conformance & monitoring - to what level?**
- ❑ **Ownership of grid code and updates**



REQUIREMENTS

- ❑ **System aspects for electrical energy supply – TC8**
- ❑ **Electrical Energy Measurement, tariff and Load Control – TC 13**
- ❑ **Power System Management and Associated Information Exchange – TC 57**

