Climate Resilient Low Emission Development Strategies: A Regional Overview of Africa

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Developmental challenges in Africa

African Countries: Specific Characteristics

- **Many Economies are classed as LDCs**
- **Economic growth and rural developments predominates national goals**
- **Affordable, reliable, clean energy is critical to maintain pace of inclusive development**
- Energy transition

– Only about 31% of the population in Sub-Sahara Africa has access to electricity with about 14% electrification rate in the rural
areas

– Traditional biomass accounts for between 70-85% of primary energy supply in many Sub-Sahara countries

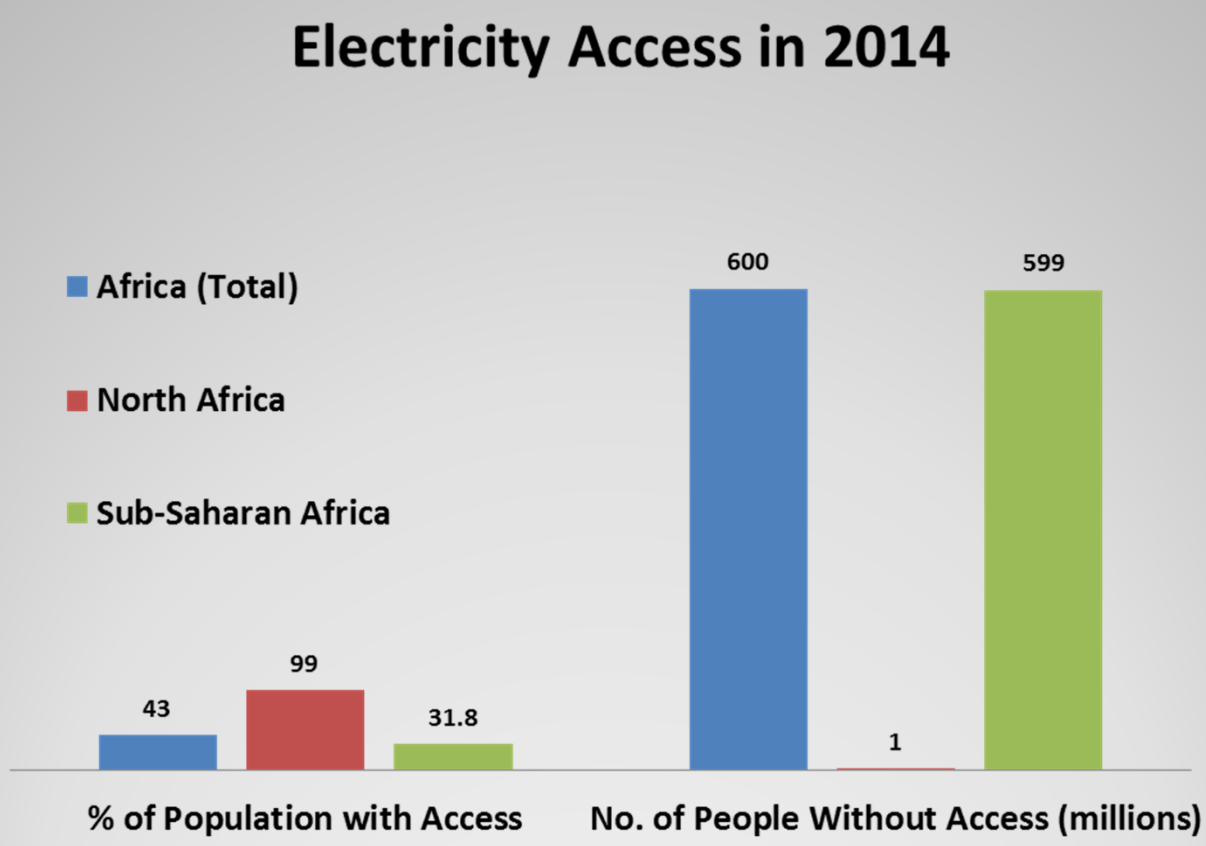
Imperative For A New Direction

- Developmental challenges coupled with the impacts of climate change pose a significant threat to socio-economic development in Africa
- The imperative for Africa is to follow a development pathway that promotes:

– Poverty reduction, economic growth and enhancement of human wellbeing;
– However, increased resilience to the physical impacts of climate change is crucial;
– Therefore mitigation and/or avoidance of potential increases in GHG emissions that will arise from future development cannot be overlooked;

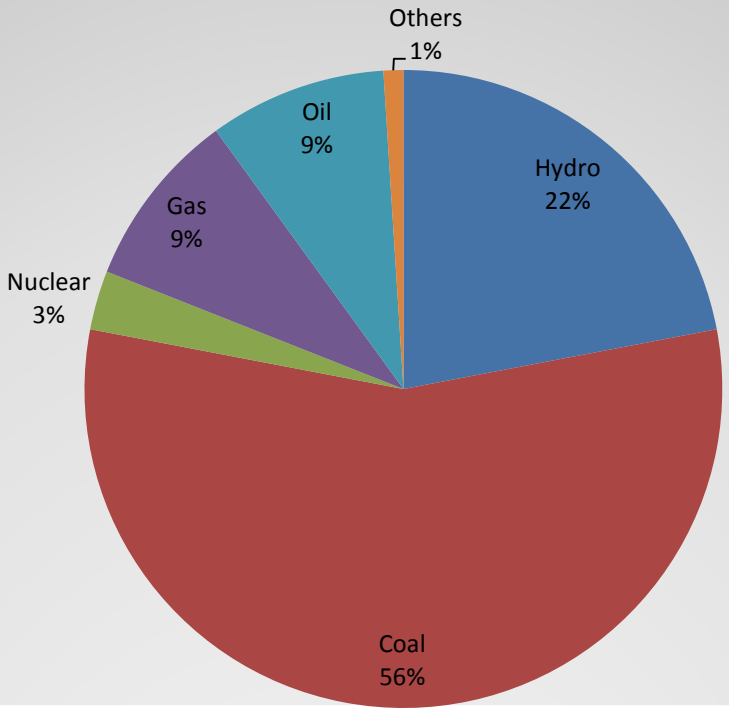
A Low Carbon Development pathway offers an alternative route to meeting these objectives

Electricity Access in Africa

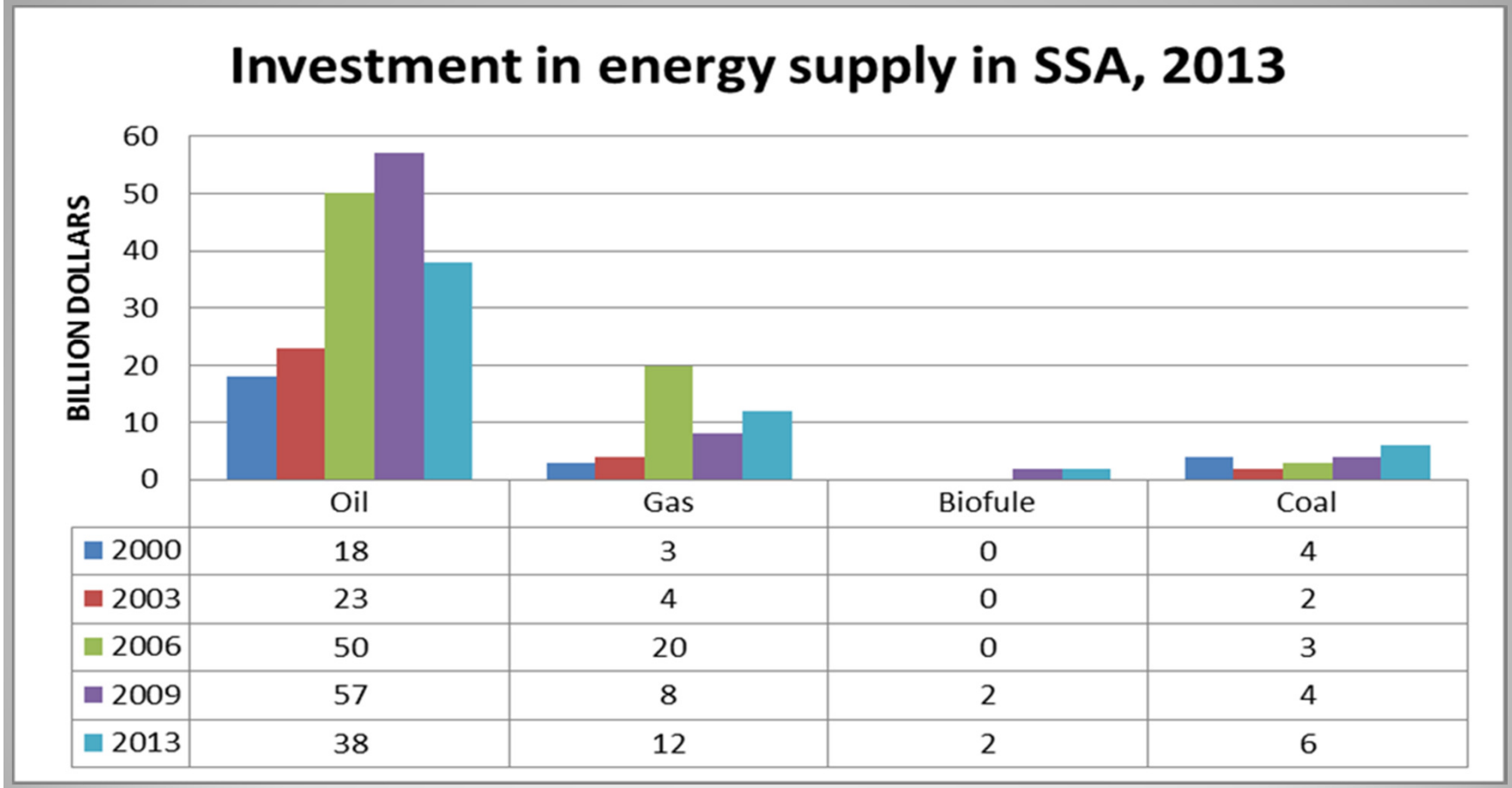


Electricity Generation

Electricity Generation by Source in Sub-Saharan Africa in 2012



Investments in Energy Supply



	Oil	Gas	Biofule	Coal
2000	18	3	0	4
2003	23	4	0	2
2006	50	20	0	3
2009	57	8	2	4
2013	38	12	2	6

Trends in Regional LEDS Energy Development

Climate Resilient Energy (RE and EE) Programs:

- Zambia - low emission development projects
- Kenya - The National Energy Act 2006
- Cape Verde – vision 2020
- Cote D'Ivoire - climate resilient programs
- Ethiopia - CRGE initiative
- Botswana - village electrification project
- Cameroon - Off-grid dev't projects
- Malawi - local dev't fund for SHS, micro hydro plant

Trends in Regional LEDS Energy Development

Regional & National LEDS Energy Policies and Legislative Frameworks:

- ECOWAS RE & EE Policy & NREAPs and NEEAPs
- Cameroon - Climate finance legislation
- Ethiopia - Climate Resilience and Green Economy initiative (CRGE)
- Gabon - National legislation on sustainable forest exploitation
- Zambia - National legislation on LEDS activities
- Kenya - National CC Action Plan
- South Africa - National CC response policy

SPECIFIC COUNTRY CASE STUDIES

1. **Cabo Verde-**Vision 2020 and beyond

2. **Kenya**-National Energy Act

Clean Energy Programs and Policies: Case of Cabo Verde

1.Installed capacity-, 2. Production- 400GWh (20% RE) 3. Access 95% 4.

Clean Energy Programs and Policies: Present Program-Cabo Verde

2008: Cabo Verde Energy Policy

- **Energy Security** and Energy **Independence**
- **Sustainability** (Economic, Financial and Environmental)
- **Efficiency** (Energy and Economic)
- Promotion of **Renewable Energy (50% of Electricity from Renewable in 2020)**

Main Instruments

Decree Law 1/2011: Define General Condition and Incentives for Renewable Energy (**Taxes, Environmental** and **Customs benefits**)

Introduce the **Independent Power Producer** (IPP)

MAIN INVESTMENT IN RENEWABLES 2010/2011

CABEÓLICA *(PPP) – 4 Wind Park in 4 islands:*

São Vicente: 5.9 MW

Sal: 7.6 MW

Boavista: 2.5 MW

Santiago: 9.3 MW

ELECTRIC WIND (*Private****)***

Wind Park in Santo Antão: 0.5 MW

ELECTRA (*Public****)***

Solar Park in Sal: 2.5 MW

Solar Park in Santiago: 5MW

The Energy Future: Implementing the Program

1. RENEWABLES FOR ELECTRIVITY

- ✓ Remote Grid: 100% electricity by 2016
- ✓ 50% electricity from renewables by 2020

2. ENERGY EFFICIENCY-

3. CENTRE FOR TRAINING AND CERTIFICATION

The National Clean Energy Plan- KENYA

- Kenya is highly vulnerable to the impact of climate change, particularly its main economic sectors that include agriculture (that contributes 24% to the GDP), energy(15%) and tourism (12%).

POLICY GUIDELINES

- National climate change action plan (**Renewable energy key in adaptation and mitigation, development of NAMA proposal)**
- The Government is mandated to develop and implement energy policy, and ensure secure and efficient utilization and conservation of energy
- Energy Policy of 2004 and the Energy Act of 2006 provide policy direction and legal framework for energy efficiency and conservation; and promotion of new and renewable energy
- Feed-in Tarrifs policy (biomass, wind, solar, biogas)

Kenya's Clean Energy Plan

Current Electrical Power Generation Mix

POWER SOURCE	INSTALLED CAP.(MW)	PERCENTAGE
HYDROELECTRIC	817	46.6
THERMAL	542	30.9
GEOTHERMAL	363	20.7
WIND	5.9	0.3
Co-GENERATION	26	1.5
TOTAL	1753.9	100

Envisaged Electricity Generation Mix in 2030

• Geothermal	5,110 MW
• Coal	2,420 MW
• Thermal (Diesel,& GTs)	3,615 MW
• Imports	2,000 MW
• Nuclear	3,000 MW
• Wind	2,036 MW
• Hydropower	1,039 MW
• **Total**	**19,220 MW**

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- Least cost power development plan
- Kenya's Scaling Up Renewable Energy Program (SREP) Investment Plan

ACHIEVEMENTS

- Number of Primary schools connected with electricity in year 2014 was 1706. About 401 solar PVs (Off-grid) were also installed in primary schools that are far from the grid.
- Geothermal, wind, biogas projects on-going
- Number of new customers connected with electricity was 214,377 (an increase of 18.7% from the previous year) giving a total of 2,980,818 as at 31st December 2014.

THANK U! MUITO OBRIGADO!
MERCI BEAUCOUP!