



# Advancing the Implementation of the Energy Agenda in Africa

GFSE-6 on “Africa is energizing itself”

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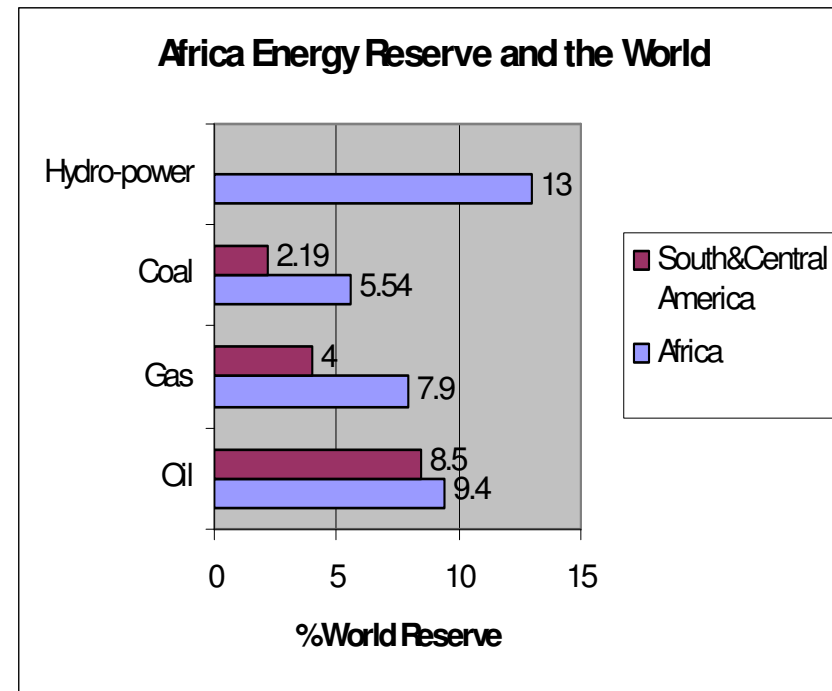
# Outline of Presentation

- Overview of energy potential
- Energy consumption and production
- Daunting challenges
- Strategic options for a way forward



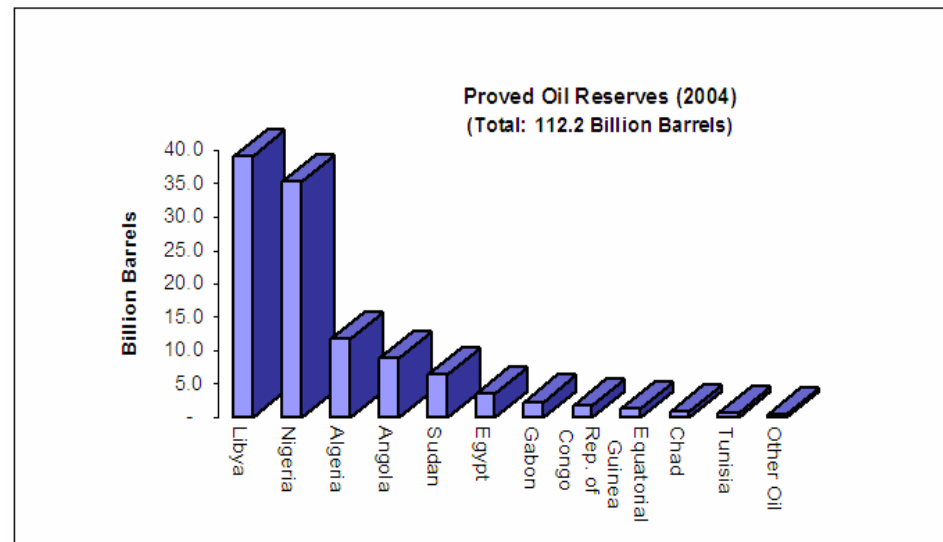
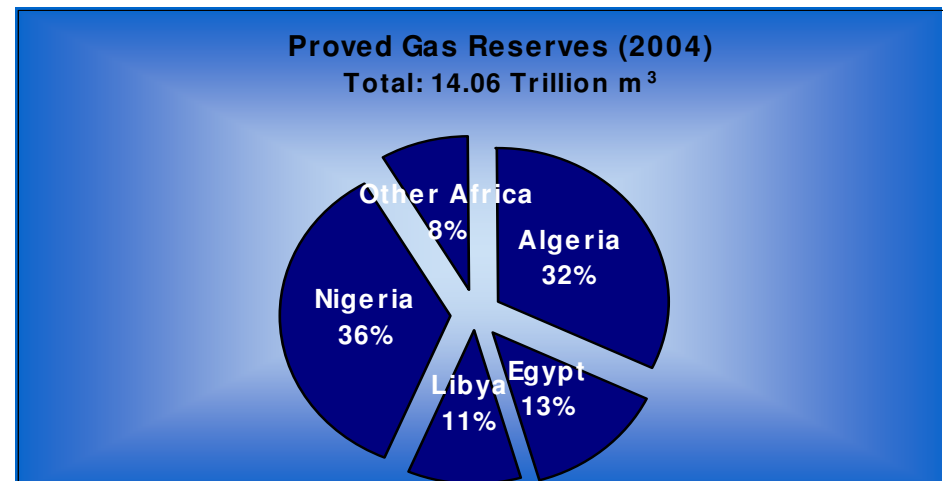
# Overview of Africa's Energy Potential

- A relatively good endowment
- Energy production: biomass (47%), oil (24.8%), coal (16.5%), gas (10.4%), renewable sources (1.3%)



# Overview of Africa's Energy Potential

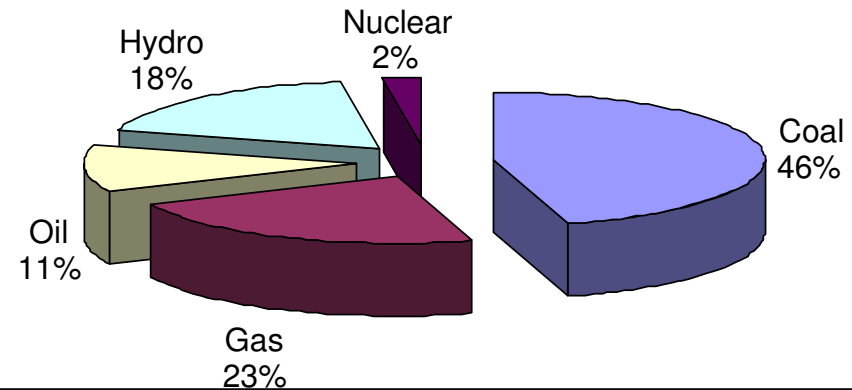
- Uneven regional distribution
- Nigeria, Algeria: 68% proved natural gas reserves
- Nigeria, Libya: 74% oil reserves
- East Africa: Geothermal energy potential of 9000 MW
- Hydropower: Central, East, West Africa
- Northern, Southern and Eastern Africa: wind regimes 4 to 10 m/s;
- Solar irradiation: 5-7 kWh/m<sup>2</sup>



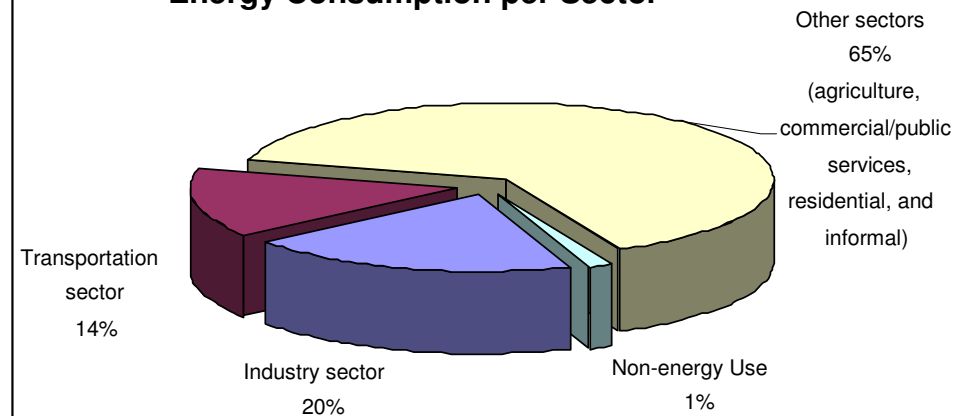
# Energy Production and Consumption

- Africa produce 11.4% of world oil, but export most of it
- Africa generates only 3.1% of the world electricity
- Africa 13.1% world's total population, consumes 5.5% of world energy (per capita 0.5 TOE versus 1.2 TOE world average)
- Large disparity: South Africa: 50% of electricity production
- In most SSA, energy consumption is mostly biomass (up to 92%)
- Electricity consumption 514kWh (2002) lowest of world
- Access to electricity: 34%, 23% (SSA), 8% in rural area

Electricity Generation in Africa per Fuel in 2002  
(Data IEA, 2004)



Energy Consumption per Sector



# Main Challenges

- Low energy production
- Uneven regional distribution of energy resources
- Weak share of renewable energy in the energy mix
- Low oil refinery capacity
- Transport, transmission and distribution challenges
- Low investment and private sector participation in the energy sector
- Very low energy accessibility and consumption in rural energy area
- Non-efficient utilization of energy (in buildings, and industries)
- Inadequate policy, regulatory and institutional framework



# Strategic Options for a Way Forward

- Prioritize efficient institutional, regulatory and policy frameworks
  - Capacity strengthening/building of policy-makers, and energy planners on integrated energy resource planning, energy forecasting, and international negotiation for investment in the energy sector;
  - Capacity strengthening of energy regulators;
  - Capacity strengthening for energy sector managers;
  - Improvement of policy coherence among key energy sectors such as power, wood, water, industries, transport and habitat;
  - Deepen, and revise power sector reforms to account more for sustainability issues.
- Increase financial flows towards the African energy sector
  - Stronger support to NEPAD energy initiatives (advocacy, funding, technical services)
  - Provide more funds towards other energy regional integration projects, such cross-border electricity networks, oil and gas pipelines
  - Funding of major power generation projects at national levels



# Strategic Options for a Way Forward

- Promote energy regional integration as a catalyst for development
  - Support for the operationalization of the African Energy Commission (AFREC), and the implementation of its work programme;
  - Support for the strengthening of Human and Institutional capacities and implementation of regional energy projects in the RECs;
- Improve the share of RE in the African energy mix
  - Accelerate the development and funding of environmentally and socially balanced large hydropower projects on the continent (e.g. hydro projects in Congo, Ethiopia, Uganda, West Africa, etc.);
  - Increase capacities and funding to mini/micro hydropower projects in many countries;
  - Develop wind projects in northern, southern, and eastern regions;
  - Develop and fund geothermal projects in eastern Africa;
  - Accelerate technology transfer and indigenisation of technologies for biofuel and co-generation systems development in many countries;



# Strategic Options for a Way Forward

- Dedicate special attention to rural energy development programmes
  - Strengthening the capacities of countries' institutions to deal with the issues of rural energy poverty;
  - The design and implementation a Rural Energy Development Facility (AREDF) for Africa at sub-regional or regional levels, based on a rural energy access scale-up mechanism (REASUMA). A study is currently undertaken by ECA in collaboration with other UN-Energy/Africa members.
- Modernize the traditional biomass energy sector
  - Accelerate the dissemination of clean and high efficiency stoves for cooking;
  - Accelerate the penetration and reduce cost of LPG resources and equipment in rural areas;
  - Modernise the charcoal industry.



# Strategic Options for a Way Forward

- Promote coordination and coherence among all international partners
  - Increase collaboration and joint programming through a collaborative mechanism such as UN Energy/Africa, among UN agencies, key non UN actors, and regional organizations such as the AU and NEPAD.
  - Support the establishment and strengthening of a high level holistic energy political body, such as a Conference of African Ministers of Energy, dealing with all aspects of energy.



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This should help substantially  
advance Africa's energy sector

**Thank you!...**