



# **Workshop for African Energy Experts on Operationalizing the NEPAD Energy Initiative**

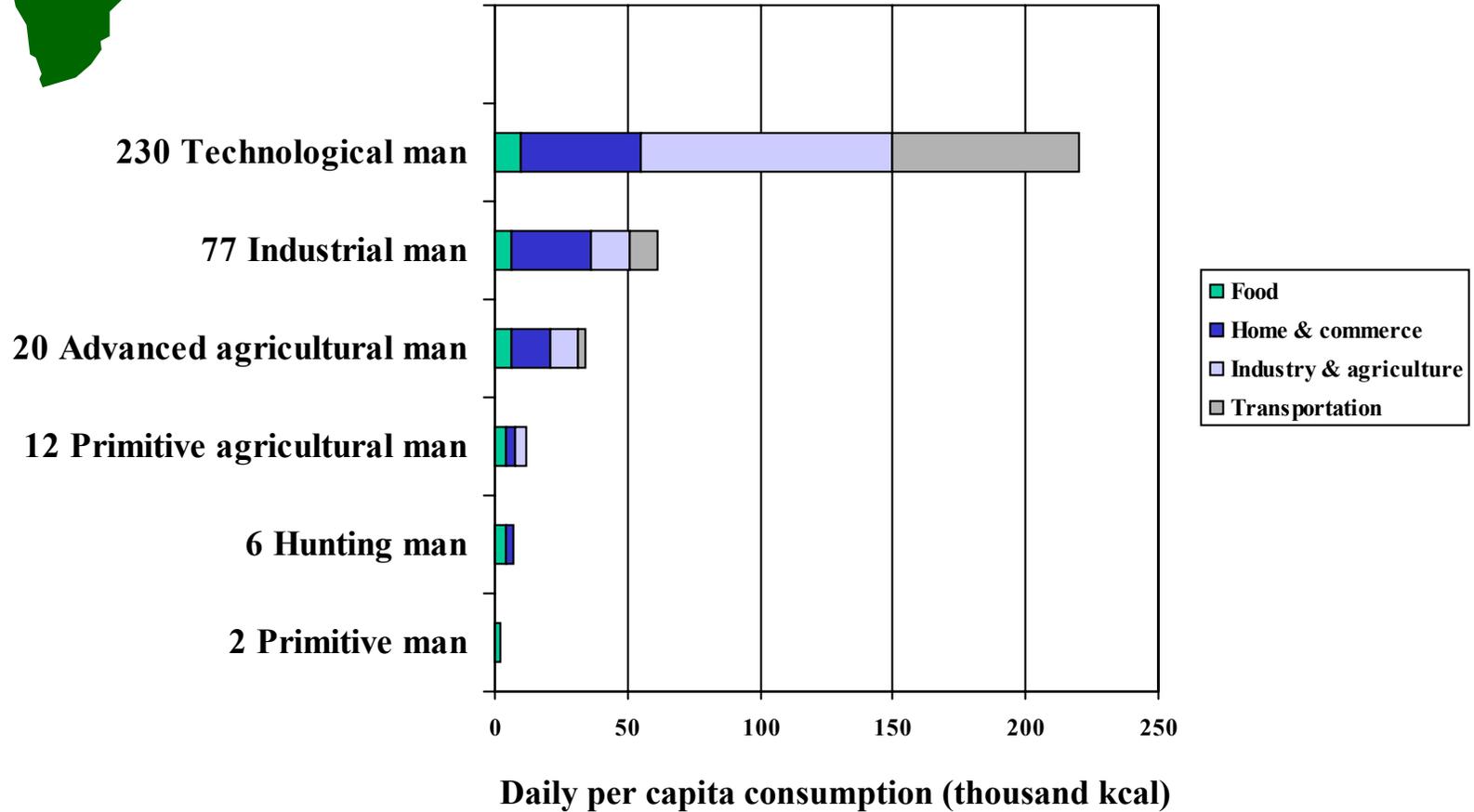
Dakar 2 to 4 June 2003

## **Overview, Challenges and Elements of Plan of Action**

*O. Davidson, Y. Sokona and N. Wamukonya*

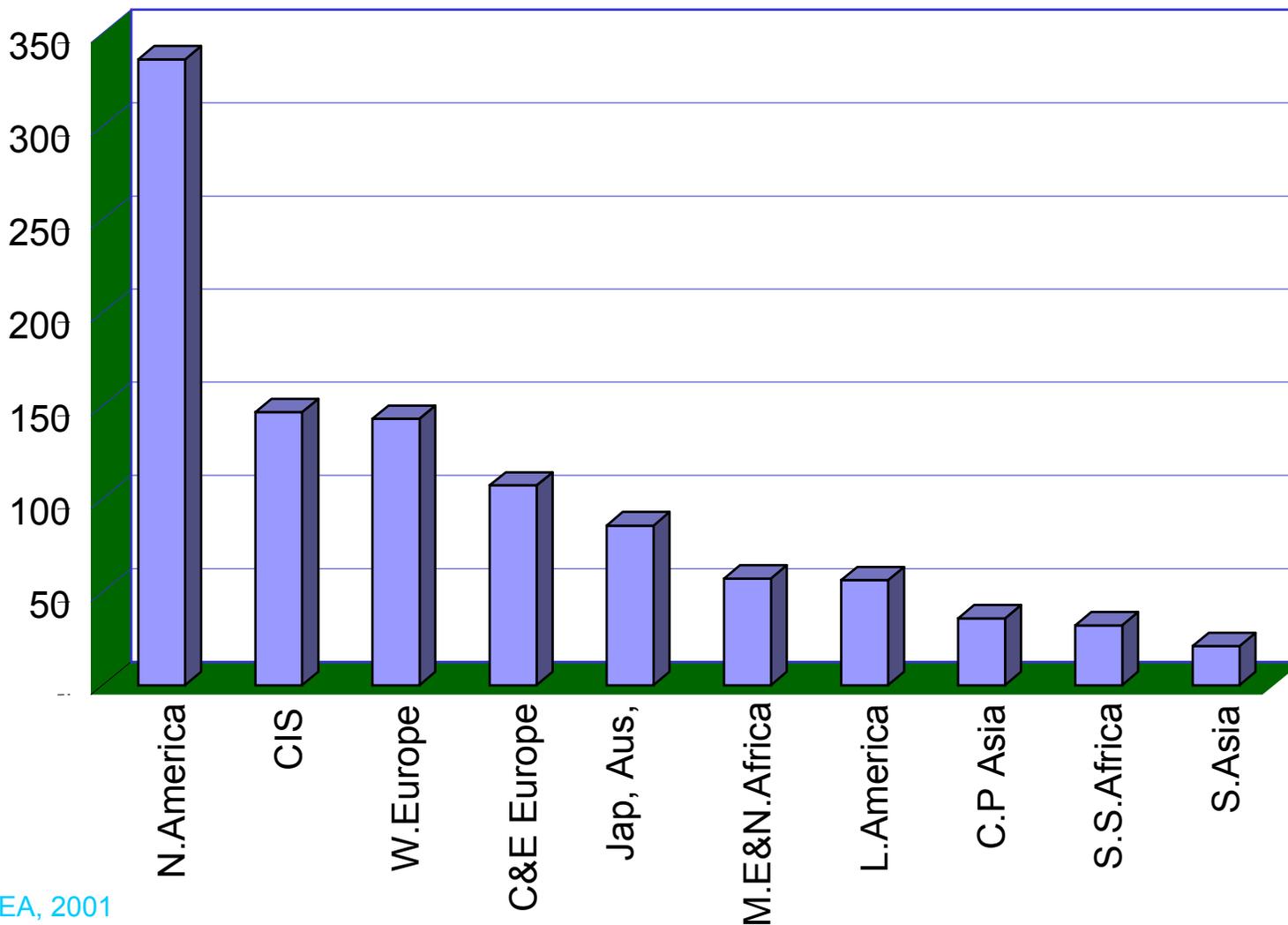


# Stages of development and energy consumption



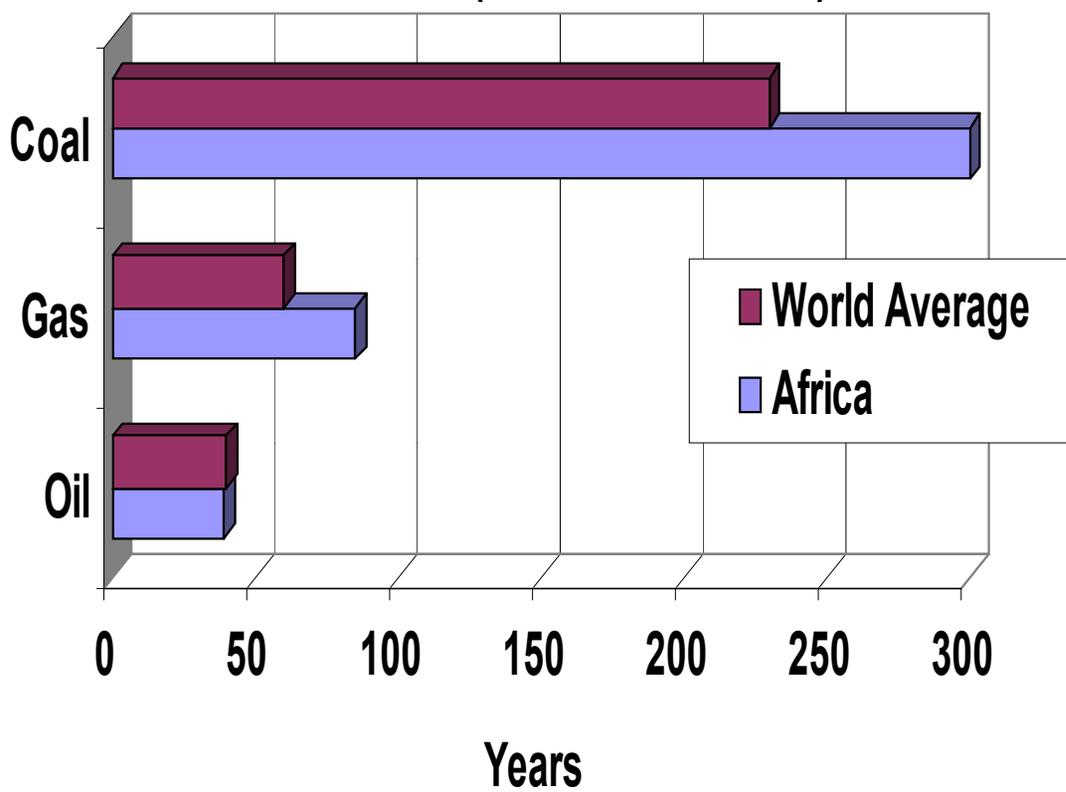


# World Primary Energy Consumption 1995





## Reserves-to-Production Ratio for Fossil Sources (Africa and World)





# **The African Energy Vision**

# Africa's New Masterplan





**To Develop Sustainably African Vast Energy  
Resources for Increased Productivity,  
Wealth Creation and Improved Quality of  
Life for Africans**



# How Can Africa Achieve this Vision? (1)

- **Think Bigger Act Faster**
- **Scale up Both Local and External Energy Investments for Projects/Programs that Lead to Sustainable Development**
- **Revisit the Current Approach of Household Energy Issues i.e. Indicator of access to electricity, etc.**

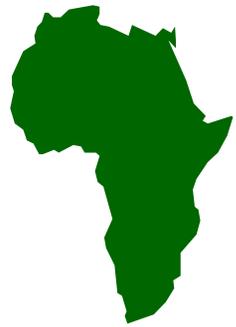


## **How Can Africa Achieve this Vision? (2)**

- **Shift the Focus to Industrial and Productive Energy Issues**
- **Develop and Organise Resources (Human, Infrastructure and Institution) to Increase Effectiveness**
- **Take Ownership of Externally Funded Projects/Programs**
- **Develop and Facilitate Implementation of Integrated Development Plans in Particular Incorporating Full Menu of Options (Energy)**



# **Challenges Facing African Energy Sector**

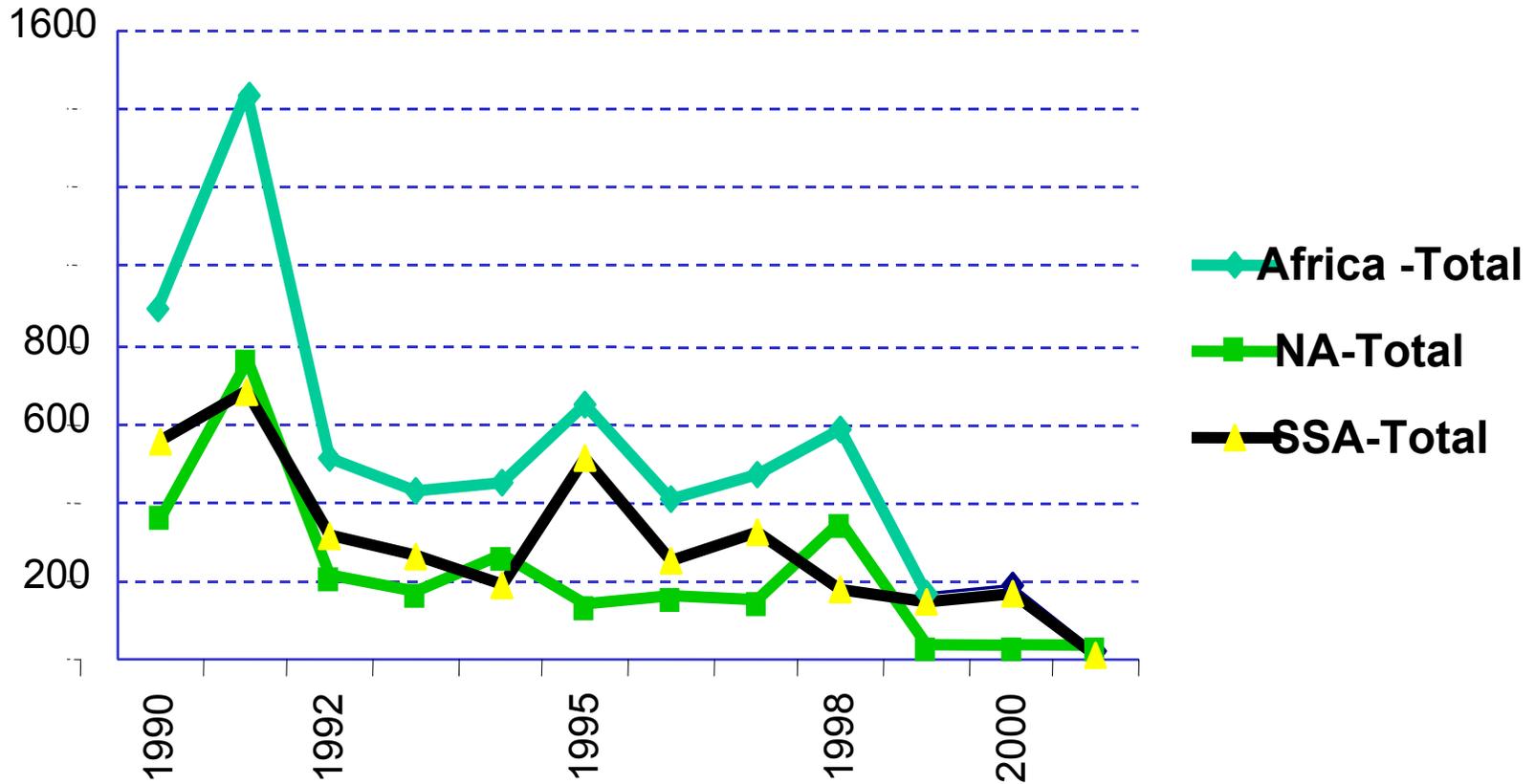


# Financing Energy Investments

- **Mobilizing of Sustainable Local Financing Opportunities**
- **Reducing High Dependency on External Financing Sources (ODA & Loans)**
- **Reducing Long Lead Times from Project Concept to Implementation Associated with Financing**
- **Improving Financial Management Needed to Achieve Optimization**
- **Developing Downstream Infrastructure**



# ODA Investments in African Energy Sector ('000 US\$)





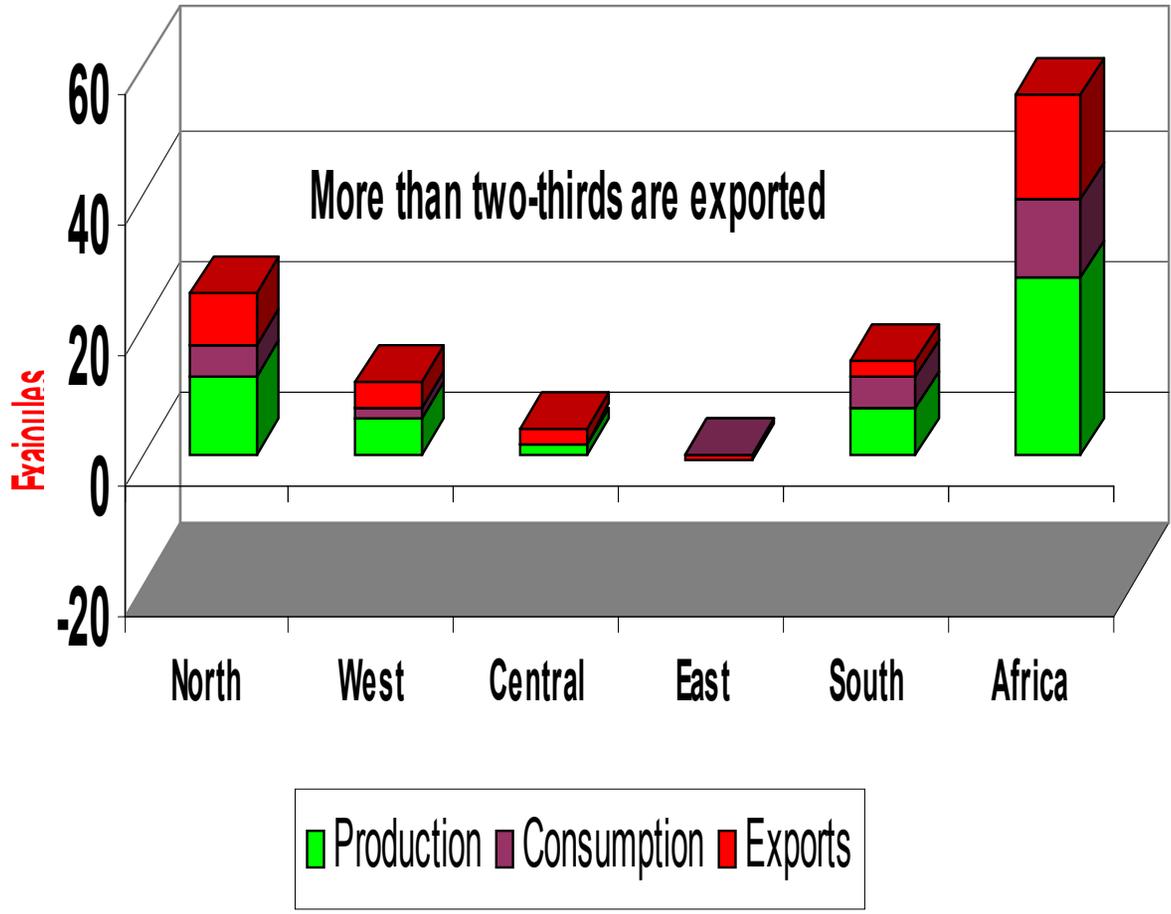
# Energy and Environment Nexus

- **Reconciling Global and/or Local Environmental Concerns with Africa's Energy for Development Needs**
- **Articulating Sustainable Energy in African Context vis-a-vis Generic Approach**
- **Circumscribing Role of Energy Efficiency and Renewables in the African Energy Systems**

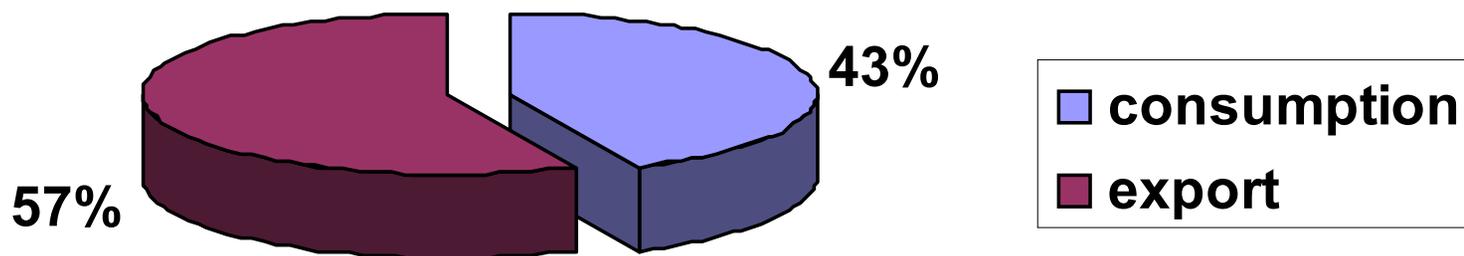


# Shifting the Balance

Modern Fuels Production, Consumption and Exports, 1997

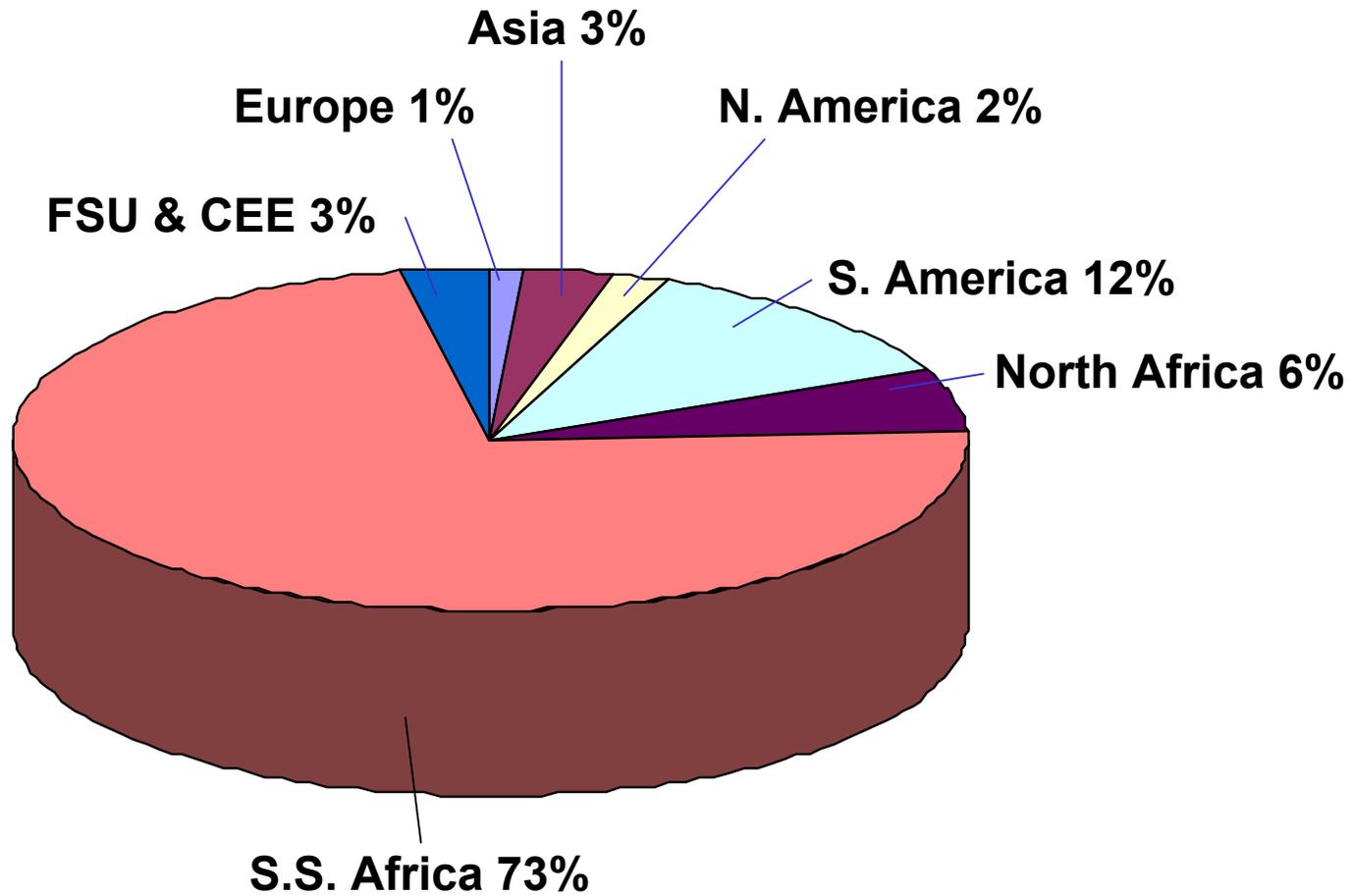


# Changing the balance to address local growth needs





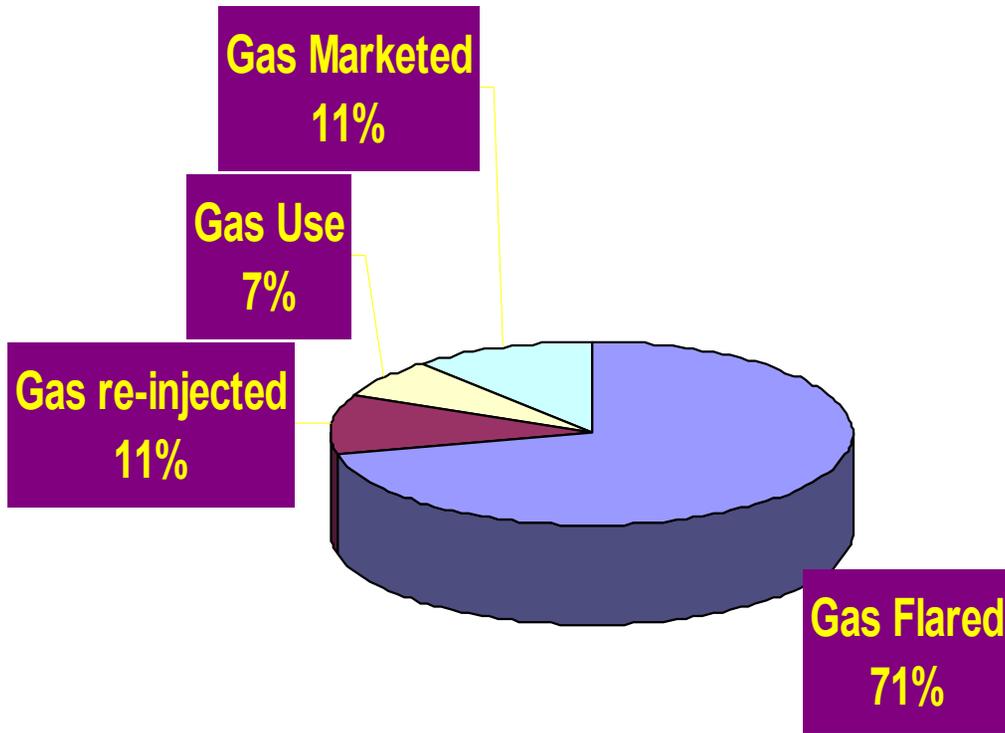
# Curbing the NG Flaring





# Widening and Increasing the Use of NG

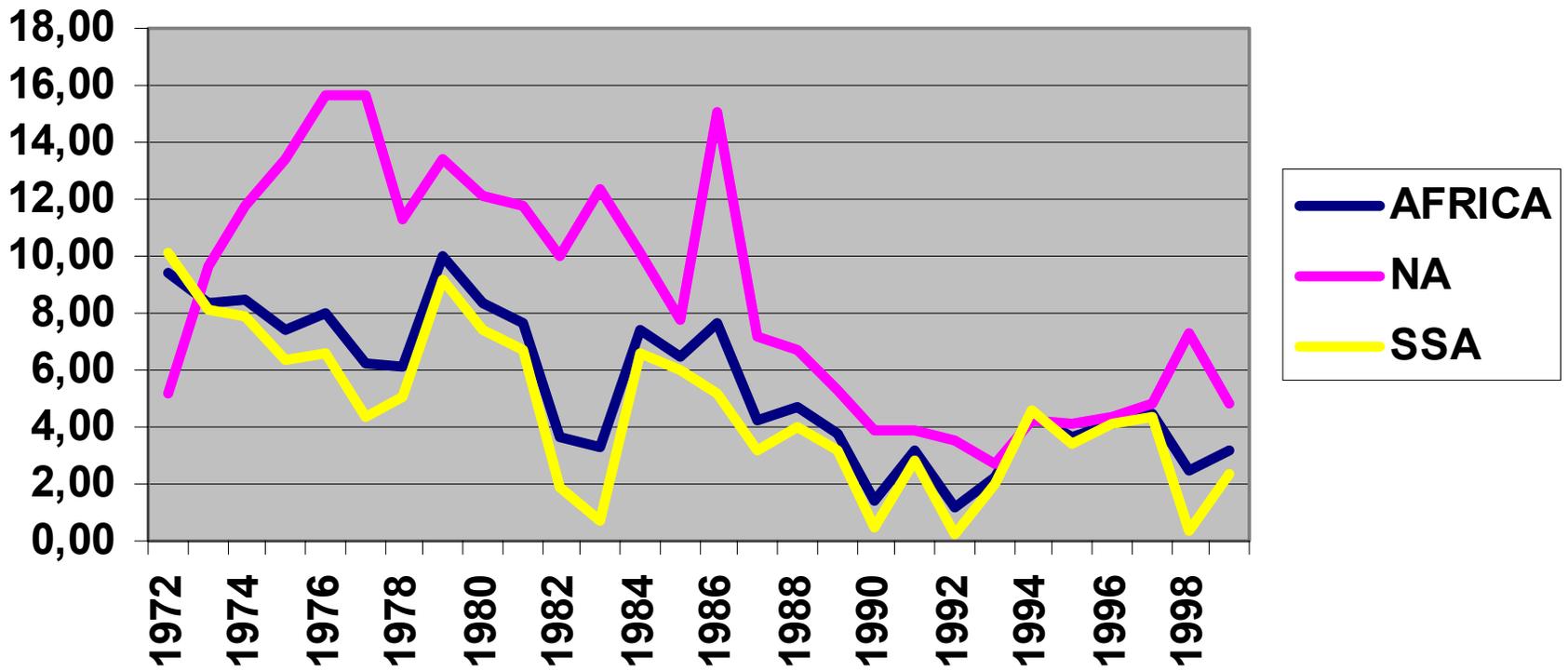
## Natural Gas Production and Use in Africa





# Increasing and Widening Electricity Consumption for Development

annual growth rate of electricity consumption

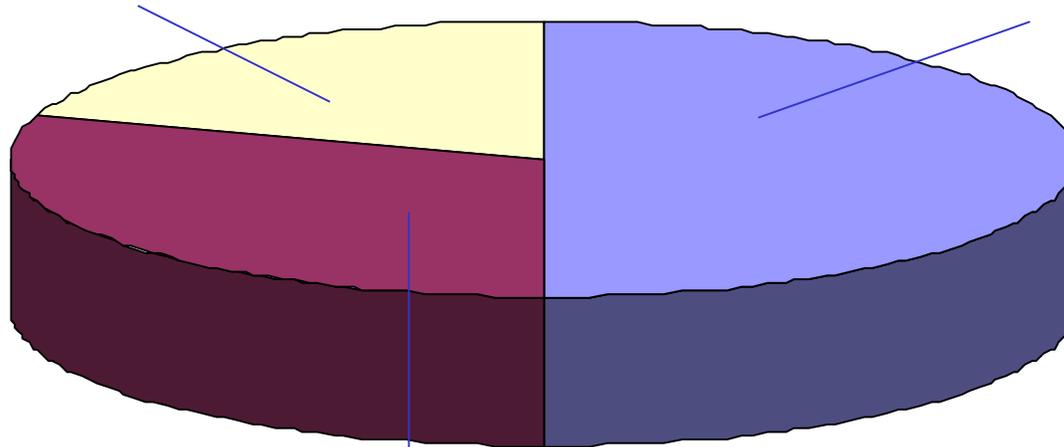




# Where is the electricity in Africa?

**Other sub-Saharan Africa 20%**

**South Africa 50%**

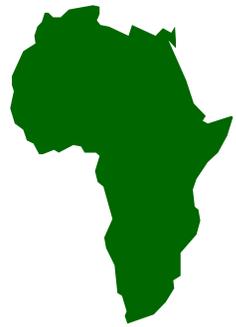


**North African countries 30%**



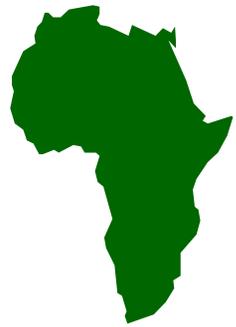
# Power Sector Reform

- **Incorporating Socio-economic Issues into the Reform Programs**
- **Disseminating Lessons Learnt on Improving Ongoing Reforms**
- **Improving Negotiating Capacities with Private Sector, Bilateral, Multilateral and International Financing Institutions**
- **Defining, Clarifying and Implementing Various Institutions Roles**

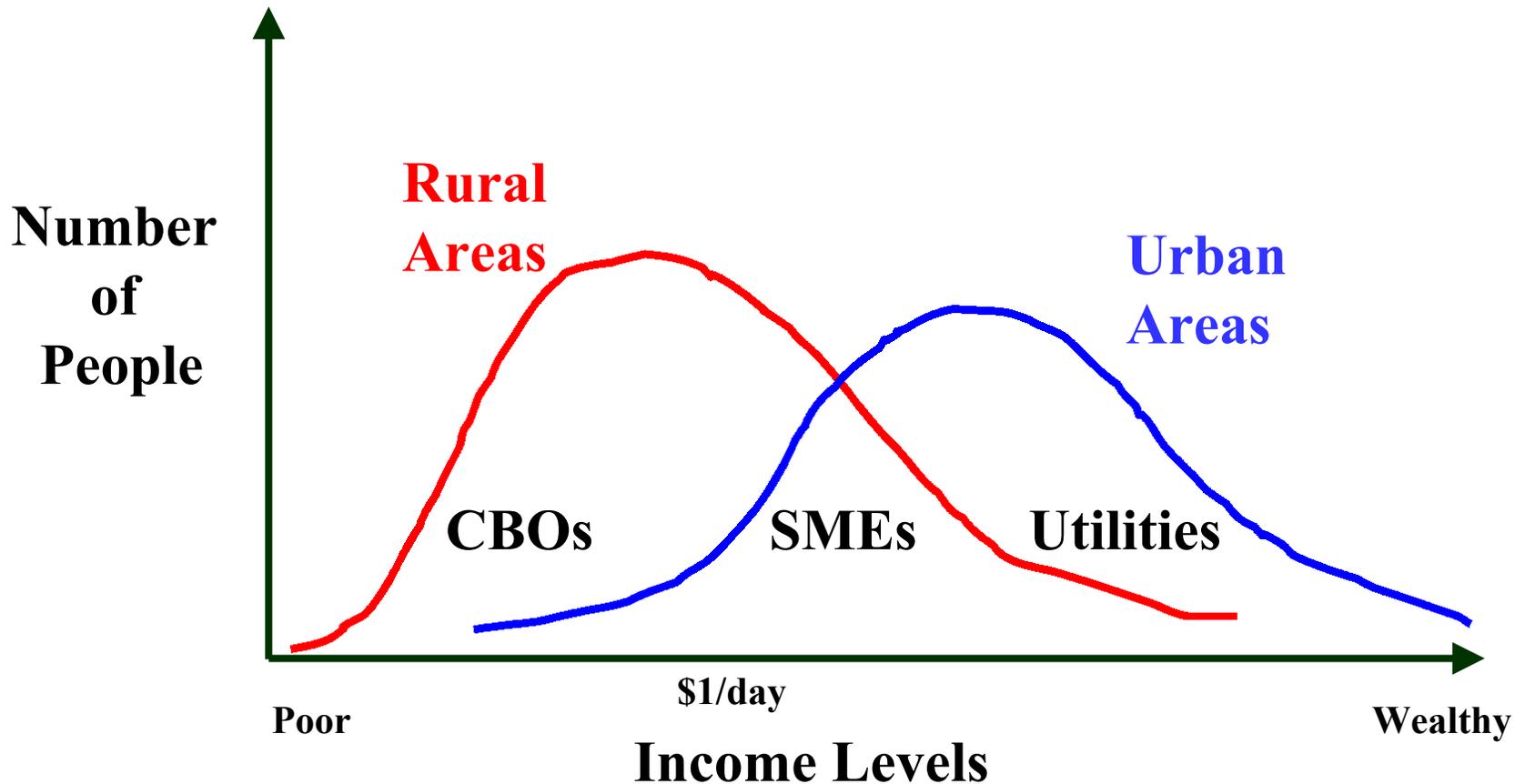


# **Increasing Regional Cooperation & Trade**

- **Procuring Oil and Gas Collectively**
- **Eliminating 3<sup>rd</sup> Party Financing in Oil and Gas Procurements**
- **Improving Compatibility Between Development of Oil and Gas with Local Needs**
- **Improving and Widening Refining Infrastructure**
- **Adapting and Harmonizing Standards and Policies**
- **Overcoming 'Inconvertible' Currencies Issues and Lack of Trust**



# Providing Energy for Improving Income Status at Various Levels





# Elements of the Plan



# **General Guiding Principles in Considering Elements of Plans**

**Cost-effectiveness**

**Sustainability**

**Resource limitations in the continent**

**Ownership and self realisation**



# Structure of the Plan

- **Cross Sector Issues**
- **Human Resource Development**
- **Oil and gas development and use**
- **Power sector development**
- **Regional co-operation**
- **Rural transformation**



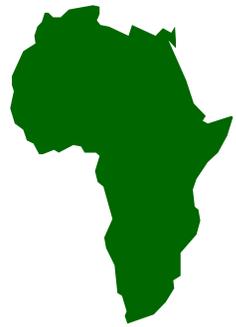
## Cross sectoral (1)

- **1. Objective:** Elaborate on an African Energy Agenda
- **HOW:**
  - Establish an African Energy Minister Forum
  - Develop Analytical Capacity to Integrate Contextual Issues into the Agenda
  - Develop Institutional Capacity to Implement the Agenda



## Cross sectoral (2)

- **2. Objective:** Shorten Duration Between Project/Program Conception and Implementation
- **HOW:**
  - Assist Countries in Undertaking Reliable Analytical Work
  - Assist in Maximising use of Human Resources
  - Assist Countries in Accessing other Financing including Regional Finance (beyond multi-lending)



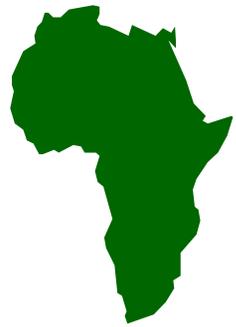
## Cross Sectoral (3)

- **3. Objective:** Continental Ownership and Control of Projects/Programs
- **Why:** Integrate into Development Goals and Plans
- **HOW:**
  - Develop Strategies to Incorporate Projects/Programs into overall Development Plans
  - Organize Policy Dialogues between Energy Analysts and Government Agencies
  - Assist Countries to Utilise Regional Expertise
  - Organize Policy Forums between Donors and Government Agencies to Discuss Implications and Approaches



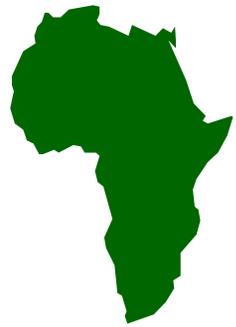
# Human Resource Development (1)

- **1. Objective:** Develop Technical and Negotiating Capacity
- **HOW:**
  - Design and Implement Targeted Regional Training Programs in Cooperation with Existing Training Institutions
  - Set up Coordinating Mechanism to Locate Regional Expertise



## Human Resource Development (2)

- **2. Objective:** Mobilize existing Human Resources
- **HOW:**
  - Develop a Roster of Experts
  - Design and Implement Mechanisms that Enable use of this Roster e.g. make it mandatory that every project demonstrates the use of this roster



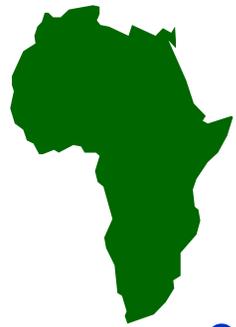
# OIL and GAS sector (1)

- **1. Objective:** Stimulate Demand by Developing Downstream Infrastructure
- **HOW:**
  - Develop cross country plans depicting economies of scale in this approach
  - Market approach to international lenders and donors
  - Sensitise local banking systems



## OIL and GAS sector (2)

- **2. Objective:** Improve trade accross Africa
- **HOW:**
  - Establish a fund fueled by exporters for development in importing countries (mirrors *San Jose Accord Mexico and Venezuela make 20% of the cost of oil purchased by a country available for development projects*)



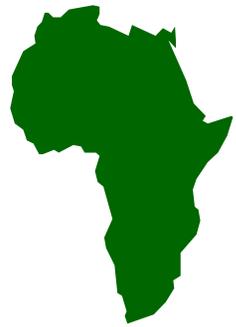
## OIL and GAS sector (3)

- **3. Objective:** establish forums for raising awareness of policy makers on pertinent issues
- **HOW:**
  - Cooperate with international and local agencies in funding the forums
  - Integrate such forums into existing meetings
  - Develop the policy background papers for dialogue



# Power Sector (1)

- **1. Objective:** facilitate dissemination of pertinent continental issues to international community
- **HOW:**
  - Implement policy forums between policy makers and donors and financial institutions
  - Expose the limitations to privatisation (*and hence enable shortenting of path towards better reform*)
  - Package lessons into accessible format and present at policy forums
  - Disseminate lessons (beyond continent) on ability to change trend and the extent to which other extrenal factors influence Power Sector Reform



## Power Sector (2)

- **2. Objective:** facilitate improved efficiencies
- **HOW:**
  - Assist formalisation of informal traders through
    - articulating disseminating lessons and opportunities
    - Establishing Legal Framework
  - Conduct studies that disaggregate technical with non-technical losses as a mechanisms to highlight management effectiveness of monopoly gov-owned utilities



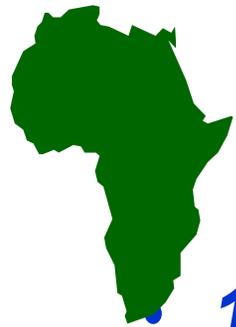
# Regional Cooperation (1)

- **1. Objective:** improve trade terms through joint procurement
- **HOW:**
  - Design joint procurement terms and mechanisms across countries
    - Undertake in-depth analysis of implications and feasibility of such procurement
    - Negotiate across Participating countries on implementation
    - Develop system-oriented rather than political relationships across countries
    - Disseminate lessons on joint procurement



## Regional Cooperation (2)

- **2. Objective:** Adapt and Harmonise Standards
- **HOW:**
  - Develop Standards Taking into Account Prevailing Disparities and Realities
  - Identify Barriers to Adoption of Harmonised Standards and Develop Strategies to Assist Countries



# Rural Transformation

- **1. Objective:** Facilitate Integration of Energy within Rural Integrated Development Planning Context and stimulating the productive sector in rural areas
- **HOW:**
  - Develop integrated Resource Plans Aimed at improving the incomes of Rural Areas
  - Facilitate scale- up of mechanisation and expansion of agricultural system
  - Assist in setting an energy system that ensures increased value added in rural products

**Thank You**