

Bioenergy Thematic Study

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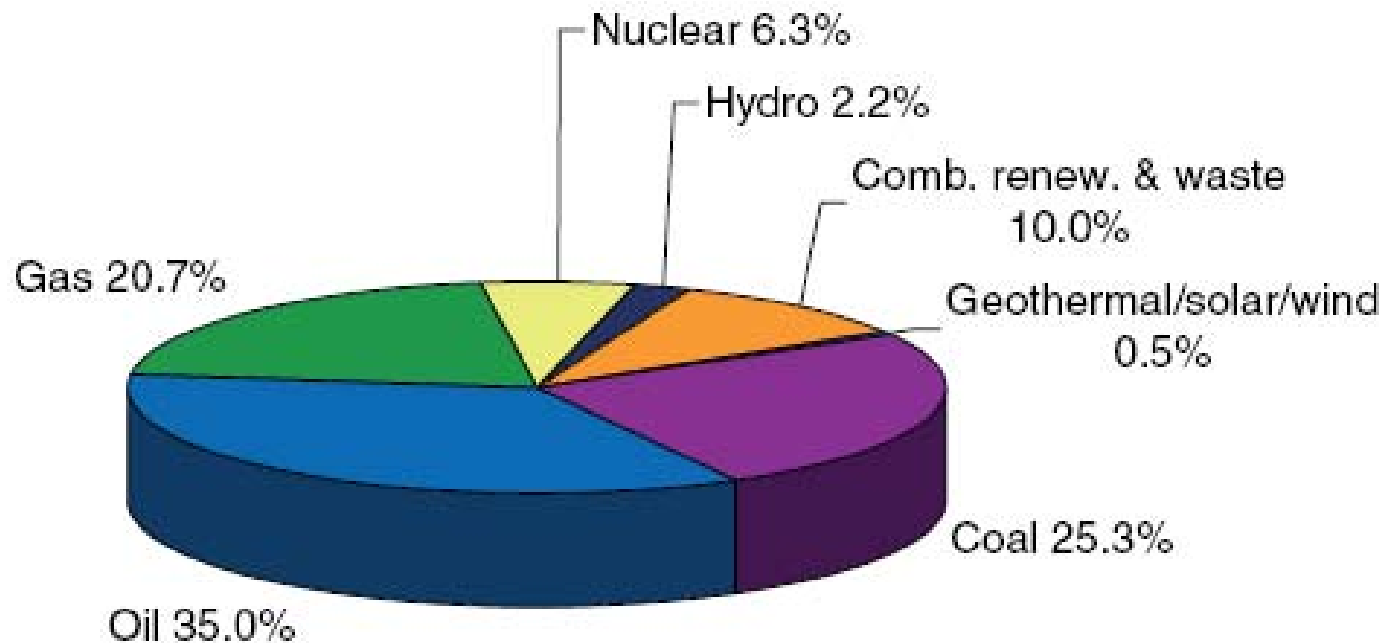
CentroClima / Federal University of Rio de Janeiro

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World

Share of Total Primary energy Supply (2005)

Shares of 11,434 Mtoe



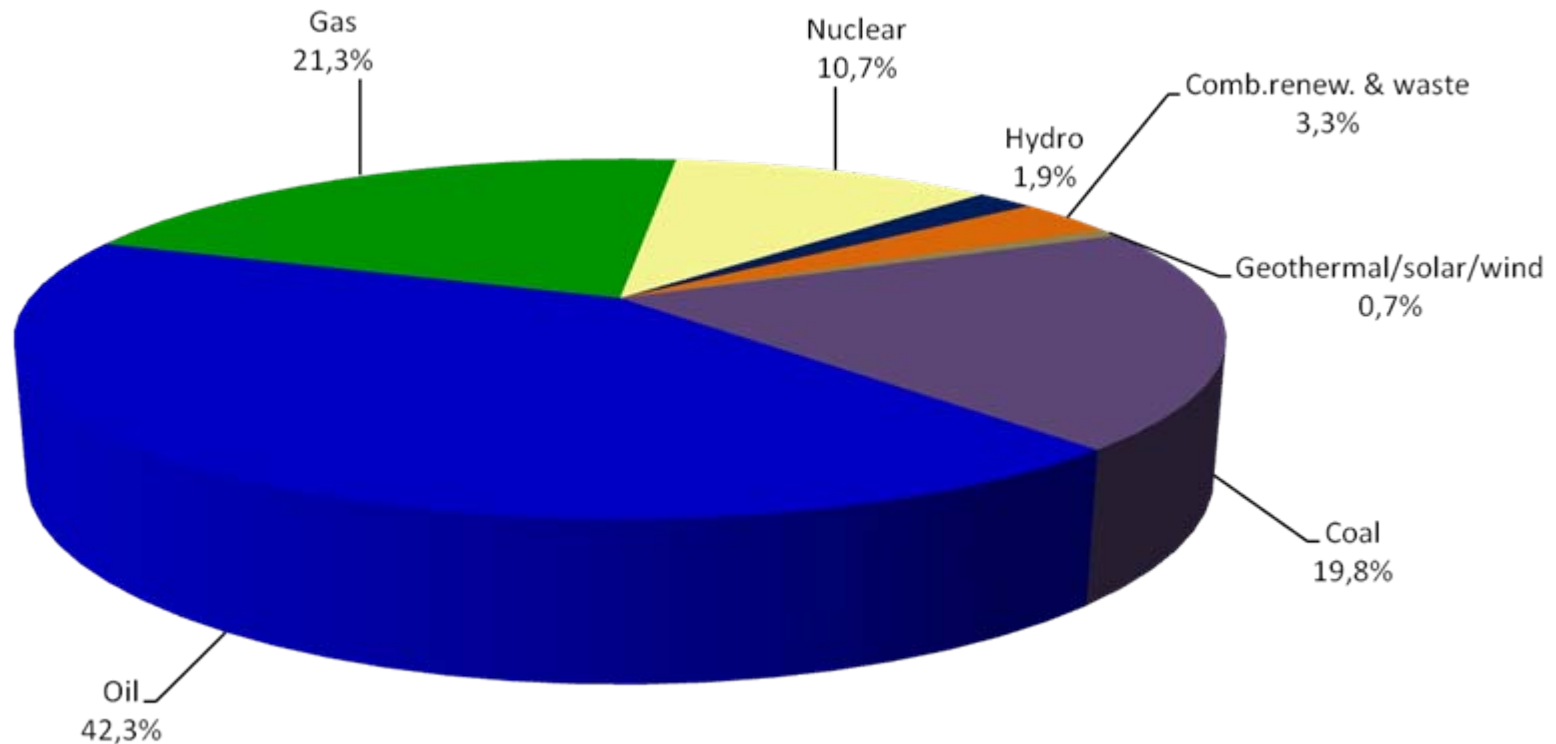
* Share of TPES excludes electricity trade.

Note: For presentational purposes, shares of under 0.1% are not included and consequently the total may not add up to 100%.

OECD Countries

Share of Total Primary energy Supply (2005)

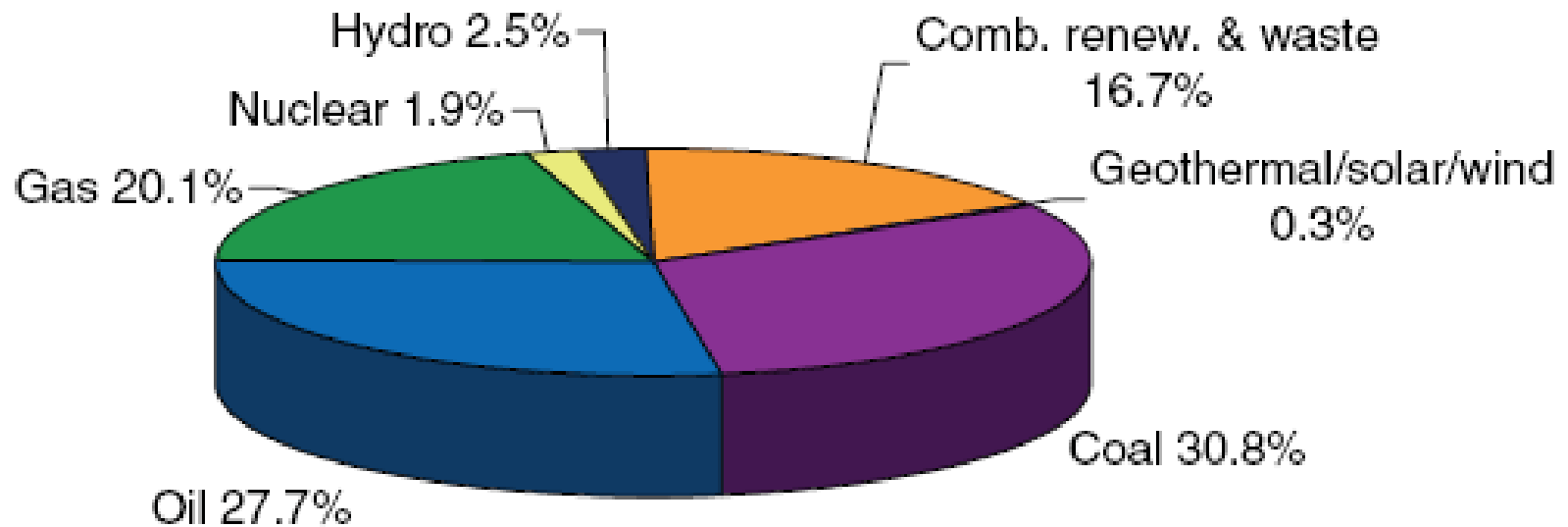
Shares of 5,718 Mtoe



* Share of TPES excludes electricity trade.

Note: For presentational purposes, shares of under 0.1% are not included and consequently the total may not add up to 100%.

Non OECD Countries Share of Total Primary energy Supply (2005) Shares of 5,716 Mtoe



* Share of TPES excludes electricity trade.

Note: For presentational purposes, shares of under 0.1% are not included and consequently the total may not add up to 100%.

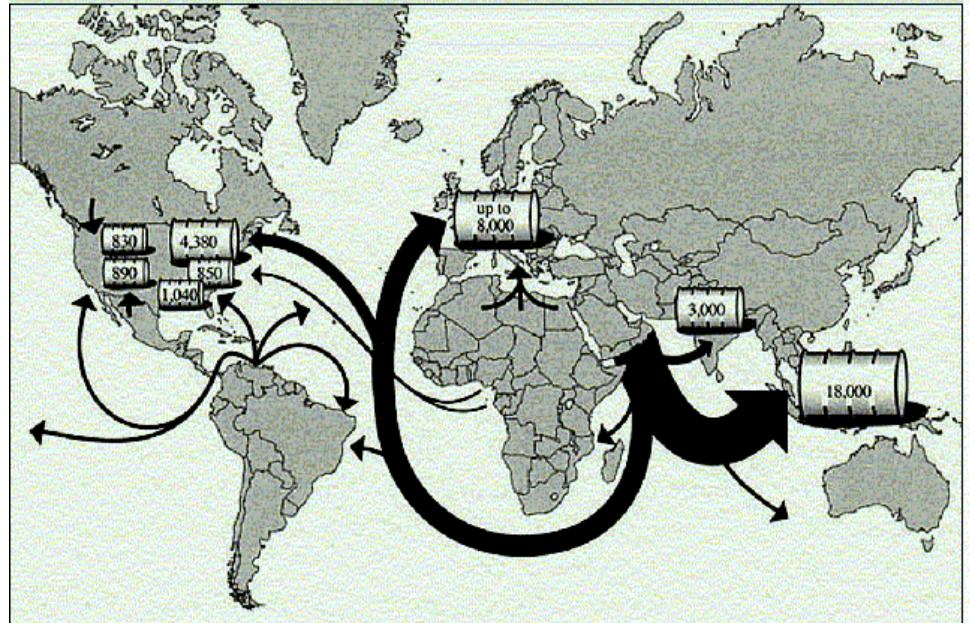
Environmental Benefits from Biofuels

- To reduce local, regional and global environmental impacts;
- Ethanol is the only renewable source which can be used in transportation sector.



Strategic Benefits from Biofuels

- Largest share of the world's oil resources: concentrated in regions with potential political or economic instabilities.
- High costs of maintaining energy security
- Biofuels: Increasing diversification of energy matrix
- Biofuels: reducing reliance on fossil fuel and thus energy security



Source: Kemp and Horkay, 1997.

**Oil flows throughout the world.
Source: UNDP, UNDESA, WEC, 2002**

Benefits from Biofuels in Rural Area

- Job creation in rural areas
 - Industrial activities
 - Agricultural activities
- Electricity generation in the rural area
 - cogeneration systems in sugar mills
 - wood / agricultural residues

GNESD

TOR for the bioenergy thematic study

Objectives

- To carry out an initial assessment of the potentials of bioenergy for rural development for all types of bioenergy i.e. liquid, solid, and gas.
- The study will be carried out in two phases.
 - The first phase: inception phase
 - Second phase: based on the findings of the inception the full study will be carried out.

General Approach

- The thematic study will take into consideration all forms of bioenergy like solid, gas and liquid.
- GNESD will study all forms of bioenergy to specifically examine the roles they can play in rural development and poverty alleviation.

Contribution of Bioenergy to Rural Development and Poverty Alleviation

- Chapter 1: Introduction
 - Context
 - Objectives
 - Relevance of the study
 - Methodology and justification of the choices of bioenergy sources to be studied in each country
 - Glossary on bioenergy
- Chapter 2: Agricultural policies, bioenergy policies, rural development and food security
 - Agricultural profiles of the countries studied
 - Agricultural policies, food security and rural development
 - Forestry Policy
- Chapter 3: Bioenergy in the energy profile of the countries studied
 - General energy profile
 - Bioenergy in the energy matrix
 - Bioenergy and access to energy in rural development
 - The energy factor in enhancing agricultural development
 - The energy factor in enhancing SMEs activities

Contribution of Bioenergy to Rural Development and Poverty Alleviation

- Chapter 4: Evaluation of the resource potential and bioenergy niches for rural development with case studies
 - Agrofuels: Solid (Agricultural residues), Liquid (Ethanol, Biodiesel), Gas (Biogas)
 - Woodfuels: (Fuel wood, Charcoal, Gasification and Pyrolysis Gas)
 - Domestic residues
 - Forest Wastes, Sawmill wastes, Cellulosic biofuels, Agro-industrial wastes. Vegetable oils for direct use in engines and Algae.
- Chapter 5: Bioenergy strategies for agricultural and rural development including tools and techniques
 - Agricultural modernization
 - Rural electrification
 - Substitution for cooking energy sources
 - Rural transportation
 - Agro-industrial uses
 - Job creation
 - Opportunities for SMEs

Contribution of Bioenergy to Rural Development and Poverty Alleviation

- Chapter 6: Opportunities and Constraints
 - Opportunities
 - Environmental aspects including life cycle analysis and land use
 - Food security
 - Vulnerability of agricultural markets
- Chapter 7: Regulatory, Institutional and financial Framework
 - Regulatory and Institutional mechanisms
 - Legal frameworks
 - Financing and investments
 - Research and development
- Chapter 8: Conclusions and Recommendations
 - Technical, agronomical, economic and social options
 - Strategies, policies and institutions
 - Role of players (Policy makers, producers, private sector, development aid workers, farmer's cooperatives and donors).

Outputs

- Brief, accessible and easy to understand inception report within three months of commissioning the study.
- First draft report of the second phase including the case studies and the glossary within nine months of commissioning of the study
- Final version of the study carried out by the centres
- A synthesis report to be prepared by the study coordinator at the end of the study
- A summary for the policy makers to be produced by the secretariat at the end of the study