



# **BIOFUEL POLICY AND STRATEGY FOR MOZAMBIQUE**

**Presentation  
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# INTRODUCTION

- ❑ The challenge of energy security and sustainability around the world today calls for concerted efforts at national, regional and international levels, with a view to identify and develop alternative options for energy security;
- ❑ African countries, whether oil importers or exporters, are severely affected by the volatility of the international oil prices;
- ❑ The Forum of Energy Ministers of Africa (FEMA) in their second conference in March 2007 have adopted the Maputo Declaration that emphasizes the imperative and urgent need to accelerate the diversification of the energy matrix, with impact on energy security.
- ❑ Both the developed and developing countries are equally affected by the negative impact of the GHG emissions;





## INTRODUCTION (cont)

- ❑ In Africa there is abundance of energy resources. However, most of these resources are currently either under-exploited or exported without benefiting the vast majority of Africa's citizens;
- ❑ Many African countries become vulnerable, facing the dilemma of importing petroleum products at higher prices
- ❑ Mozambique as a net oil importing country, with an annual consumption of 700 000 m<sup>3</sup> of petroleum products, is highly dependent on the international oil market conditions and has been severely affected in global economic terms, as well as in terms of the negative impact on the poor;





# Motivation

- ❑ The main motivation which determined the development of Biofuels Policy and Strategy for Mozambique, can be summarized as follows:
  - a. The instability, and volatility of the oil price in the international market;
  - b. The energy security that conduct to alternative solutions that can reduce the depedence on fossil fuels;
  - c. The Global warming about GHG emissions, determine the development and use of clean energy.



## INTERNATIONAL CONTEXT

□ The biofuels debate is one of the important subject within international economic agenda, due the need to:

- a. Face the oil price volatility;
- b. Ensure the security and stability supply, through energy diversification matrix;
- c. Redouble effort and introduce new vigour to agriculture sector, the main source to reduce poverty;
- d. select and adopt technologies and methodologies for adequate agriculture and industry development;



## MOZAMBICAN CONTEXT

- ❑ The circumstances of national and international context led us to carry out an assessment of our potentialities on land, water, climate and other relevant conditions for biofuels production;
- ❑ The government of Mozambique decided to move forward in the biofuels production, to respond to the National Agenda of Poverty Alleviation and to contribute to reduce the impact of international market, adding value to agriculture products to be used as feedstock for biofuel production.





## MOZAMBICAN CONTEXT

- c. The possibility of produce *Jatropha Curcas* for Biodiesel, in marginal lands, giving the opportunity for the rural population for generating revenue from a piece of land that is not being used for agriculture;
  
- c. The promotion of development and use of existing infrastructures and facilities, such a deep water ports, railways, roads and pipelines, which are adequate to supply liquid fuels, to SADC region which represents a market of more than 250 million inhabitants and has become a free trade area since January 2008;



## MOZAMBICAN CONTEXT

- f. Take advantage of the extremely favorable climatic conditions to develop biofuels program. In Mozambique climatic conditions are similar to Brazil, one of the largest biofuels producers countries in the world;
- f. The high level commitment of our National Political Leadership. The President of Republic since 2005, guided personally the campaign on Jatropha Curcas promotion in the Country, one of the main feedstock for biodiesel in Mozambique.
- f. Provide the small growers an opportunity for income generation and respond to their energy needs;
- f. Strengthening technologies centres and research development







# MOZAMBICAN CONTEXT

- The Mozambican approach is based in four pillars:
  - a. The involvement of the private sector alone or in public-private partnerships (PPP);
  - a. The encouragement of cross-sectoral cooperation in Mozambique through the strengthening of existing inter-institutional framework comprising ME (coordinator), MINAG, MCT, MIC, MICOA, Universities, Banks, NGOs and the civil society, for biofuels development;
  - a. The reinforcement of cooperation with development partners, including to South-South and North-South partnership;
  - a. The deployment of the Kyoto Protocol mechanisms and other instruments, with a view to stimulate a rapid development of bio-fuels in terms of production and use, in order to contribute to the effective reduction of Green House Gas (GHG) emissions in the world.





## ACTIVITIES DEVELOPED

- knowing the challenges linked to correct land use avoiding community conflicts, biofuels and food conflicts, and environmental negative impacts. We have been developing concrete actions in order to implement a solid programme of production and use of biofuels in Mozambique:
  - a. In 2007 a study on biofuels evaluation was carried out, focusing on technical, socioeconomical and environmental feasibility, including crop selection;
  - b. The production of policy and strategy on biofuel, recently approved by the government;
  - c. The land mapping that will cover food and other use, including biofuels crops;





# POLICY AND STRATEGY OBJECTIVES

- a. To reduce the dependency on imported fossil fuels;
- a. To stimulate the sustainable local energy resource use to substitute or compliment the imported fossil fuels;
- b. To promote the rural development through investment in biofuels;
- c. To reduce the fuel costs to the final consumer, without criating other financial impacts like subsidies;
- d. To protect the economy development against the high volatility of fuel prices and the energy insecurity.





# BIOFUEL POLICY AND STRATEGY

## VISION AND MISSION

### Vision

Contribute to the energy security and sustainable socio-economic development of the country.

### Mission

Exploration of the agro-energetic resources to stimulate the energy matrix diversification, contributing to social and economic development, particular in the rural area.





# POLICY AND STRATEGY PRINCIPLES

- ❑ The Biofuels Policy and Strategy principles are:
  - ❑ **Inclusiveness** – the establishment of business opportunities for the private investors and rural community, including big and small producers;
  - ❑ **Transparency** – to ensure that pricing mechanism is handled in as transparent manner as possible, so overall management of the National Biofuels Program allows for the participation of all stakeholders;
  - ❑ **Environmental and social protection** – to provide mechanism to enhance the environmental and social benefits of biofuels production and use, while avoiding or mitigating any negative impacts;
  - ❑ **Incrementalism** – the development of biofuels in the country should be gradual and flexible, permitting all shareholders to develop institutional capacity.



## POLICY AND STRATEGY PRINCIPLES (Cont)

- ❑ **Fiscal Sustainability** – the development of the biofuel sector should pose as short term financial burden to the state as possible, and in the long term it should make a positive contribution in fiscal as well as macro economic terms;
- ❑ **Innovation** – agriculture and industrial innovation, attracting investment in commercial proven technologies that are new to the country;





# BIOFUEL POLICY AND STRATEGY

## STRATEGIC ACTIONS

### ❑ **Creating Market**

- ❑ **Demand** – ensure a mandatory gradual blending and the use of *flexfuel* vehicles and export to the international market;
- ❑ **Supply** – promote the biofuel production intensifying: the land mapping, provision of the agriculture inputs, basic infrastructure and equipment for processing and refining biofuels;

### ❑ **Environmental impact management** – establishment of a regulatory framework which ensure that the biofuel sector assume the mitigation of negative impacts;

### ❑ **Institutional Organization** – i) establishment of the National Biofuel Program to financially support activities and specific projects; ii) establishment of a National Biofuel Commission, to supervise the implementation of the strategy;



# BIOFUEL POLICY AND STRATEGY

## BIOFUEL FEEDSTOCK

The assessment done in the biofuel study identified several crops and selected suitable for biofuel feedstock in Mozambique:

### ❑ Etanol Production :

- Assessed crops: a) *sugar cane*; b) *sweet sorghum*; c) *cassava*; d) *maize*;
- Selected crops: *sugar cane and sweet sorghum*

### ❑ Biodiesel Production:

- Assessed crops: a) *jatropha curcas*; b) *coconnut*; c) *sunflower*; d) *soya*; e) *peanut*;
- Selected crops: a) *jatropha curcas*; b) *coconnut*







# BIOFUEL POLICY AND STRATEGY IMPLEMENTATION

## Legal Framework:

- ❑ Biofuels Energy Legislation defining:
  - ❑ The level of blending for Biodiesel and Ethanol;
  - ❑ The starting period for implementation of mandatory blending;
  - ❑ Establishment of a National Biofuel Commission, including the condition for the operationalization;
  - ❑ Establishment of a National Program for Biofuel development;
  - ❑ The criteria for sustainable biofuel production;
  - ❑ The guidelines for approval of land allocation for biofuel projects;





# BIOFUEL POLICY AND STRATEGY IMPLEMENTATION

- National legislation related to:
  - Biofuel quality;
  - Certification of biofuel production;
  
- Regional coordination Agreements:
  - Establishment of common biofuel norms and guidelines;
  - Establishment of a common vision for sustainability criteria;





# BIOFUEL POLICY AND STRATEGY IMPLEMENTATION

## The role of the stakeholders:

- Government – assure the formulation of policy, strategy and other adequate instruments;
- Civil Society – support the community in preparation and development of biofuel projects, including in the negotiation with the project promoters;
- Academic Institutions – support the research and development of technical capacity;
- Entrepreneurs Sector – development biofuel productive chain;
- Multilateral and Bilateral Institutions – technical and financial assistance and support.





# BIOFUEL POLICY AND STRATEGY ACTION PLAN

## □ National Market Creation through:

- Biofuels buying for national market, according to availability;
- Phased mandatory blending:
  - Pilot Phase (2009-2015) – increase the level of blending up to 10% ethanol (E10) and 5% of biodiesel (B5);
  - Operational Phase (2015-2021) - E10 e B5 available nationwide with possible increase up to E20 e B20;
  - Expansion Phase (from 2021) : development of parallel distribution network for blending above E75- E100 e B100;



# BIOFUEL POLICY AND STRATEGY ACTION PLAN

- Definition of areas for biofuels projects through land mapping;
- Establishment of National Biofuels Development Programme (NBDP) through the Energy Fund (FUNAE) to support:
  - Small scale producers;
  - Infrastructure projects;
  - Research and Development for new crops for feedstocks.





## Remarks

- Recognizing the need to consolidate our vision on development of biofuels, Mozambique hosted the Conference on Powering Africa: The Biofuels Option (PABO) on 4-6<sup>th</sup> March 2009, which concluded that:
  - Biofuels provide opportunities for Africa;
  - The challenges are there, but ready to be dealt with;
  - The key conditions for sustainable development were identified as promoting transparency, participation, accountability and monitoring towards a healthy relationship between the involved public and private stakeholders;



## Remarks

- ❑ A framework for operationalizing and achieving this objective could be the establishment of an innovative public private partnership (PPP) attached to financing mechanisms;
- ❑ Such a PPP should take the whole value chain into account, making sure that everybody from local producers and out growers consumers benefits from Africa's biofuels potential



# THANK YOU !

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