

## **International Conference**

# **'Bioenergy for sustainable development in Africa'** Lessons learnt from COMPETE

BIOENERGY POLICY IMPLEMENTATION STRATEGIES FOR UEMOA

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## OUTLINE

- UEMOA SPACE
- ENERGY SITUATION
- VISION POLICY AND STRATEGIES
- PRBE A CASE OF IMPLEMENTATION
- REGIONAL & INTERNATIONAL BIOENERGY INITIATIVES
- CONTRAINTS AND RISKS
- WAY FORWARDS & CONCLUSIONS



# **UEMOA SPACE**

- 3,5 millions d Km<sup>2</sup>
- 72 millions inabitants
- 33% of GDP of West Africa
- Young population (60% < 25 yrs)



## **ECONOMIC SITUATION**

- WEAK ECONOMIES
- DEMOGRAPHY CONCERNS
- RAPID URBANISATION !!!
- HIGH EXTERNAL DEBT
- NOT ENOUGH MODERN INFRASTRUCTURES
- AN AGRIGULTURE NOT AS WELL PERFORMED !!!
- REGIONAL TRANSACTION WEAK
- INSTITUTIONAL CAPACITIES STILL WEAK



- **Reenforce** the competiveness of economic and financial activities of Member States (MS)
  - Assure the convergence of performances and macroeconomic policies of MS

**Create** between MS a common market based on free trafic of persons, goods, services, capitals and rules of establishment, common taxes (TEC), common trade policy

**4 Coordinate** National & sectorial policies by setting up common actions in large socio economic areas in MS

**5 Harmonise** economic laws in MS.

# **ENERGY SITUATION**

- ENERGY BALANCE DOMINATED BY BIOMASS FOR 80% USED MAINLY FOR HOUSEHOLDS COOKING
- DEPENDANCY ON PETRLEUM PRODUCTS: 15%
- ELECTRICITY REPRESENTS 5%
- WEAK UTILISATION OF R.E DESPITE BIG POTENTIAL
- HIGH COSTS & PRICES FOR CONVENTIONAL SOURCES OF ENERGY
- REGIONAL COOPERATION IS WEAK





- Secure the Union energy supply
- Assure an optimum management of energy sources of the Union with focus on grids interconnection
- Promote energy efficiency
- -Develop an improve for rural populations access to energy services
- Promote renewable sources of energy
- Contribute to preserve environment

## CHALLENGES



# UEMOA/AFRICA: Moving Towards an Integrated "Biomass Energy" Agenda

Vision: Contribute to Poverty Reduction and Sustainable Development in the Region through the development of Comprehensive, Sustainable and "Efficient" biomass energy sector policies, strategies and investment programs and projects.





## **PRBE - COST & FINANCING**

- Donor: DGIS Dutch Government
- Amount: 2.5 millions euro i.e 1.631 000 000 cfa

• UEMOA Contribution : 200 millions de FCFA

First phase duration: 3 years

## **PRBE - MAIN GOAL**

MAIN GOAL: to contribute on sustainable management of biomass energy and promoting alternative sources of energy in order to reduce the poverty and preserve the environment (ref MDGs)

## **PRBE - STRATEGY AND APROACH**

#### **\* 3 STRATEGIC DIMENSIONS**

- Holistic Approach: alliance between Energy, Agriculture, Environment, Industry & Land tenure
- Participatory Approach with involvment of all stakeholders: national teams, private sector, NGOs, Research Centers......
- Synergies with similar projects, programs and initiatives at regional and international level



## **PRBE - MAIN ACTIVITIES**

- B.E regional strategy formulation: vision paper, reference, goals to be reached
- Harmonisation of laws on charcoal chain and domestic fuels
- Standardization of laws on charcoal chain and on domestic fuels
- Analyse transboundary flows of domestic fuels
- Support MS on assessment of modern fuel/technologies large & scale development
- Colect b.e data, analysis: Energy Information System
- Elaborate a potfolio of national and regional projects:
   Business plan
- Fund raising before Donors meeting

## **PRBE RESULTS REACHED**

National B.E policies and strategies are harmonised

**Systems on wood energy supply are rationnalized** 

Modern use of biomass is promoted

Exchanges between MS are developped, competences and national structures are enhanced

Energy Information System is improved

Additional financing ressources are mobilised

International and regional coopération is enhanced

![](_page_17_Picture_0.jpeg)

## PARTICIPATORY FORESTS MANAGEMENT: Togo & Côte d'Ivoire

![](_page_18_Picture_1.jpeg)

## EX. BIOMASSE MALI . SA

![](_page_19_Picture_1.jpeg)

Naw malenal. Collon Slak

![](_page_20_Picture_0.jpeg)

Jarboniscu collon slaik

 Prior to agglomeratio n, the stalk is ground to a powder using a hammer mill

![](_page_21_Picture_1.jpeg)

![](_page_22_Picture_0.jpeg)

Production
 of the actual
 agglo briquettes

• The finished briquettes are packed and transported to the market, where they are sold to the customers

![](_page_23_Picture_1.jpeg)

![](_page_24_Picture_0.jpeg)

## **BIOTERRE Sn BRIQUETING**

![](_page_25_Picture_1.jpeg)

#### La transformation de balles de riz en charbon...

![](_page_26_Picture_1.jpeg)

![](_page_27_Picture_0.jpeg)

![](_page_27_Picture_1.jpeg)

![](_page_27_Picture_2.jpeg)

![](_page_27_Picture_3.jpeg)

![](_page_28_Picture_0.jpeg)

![](_page_29_Picture_0.jpeg)

![](_page_30_Picture_0.jpeg)

Energy Access services from Jathropha: Djoliba Mali

![](_page_31_Picture_1.jpeg)

![](_page_31_Picture_2.jpeg)

![](_page_31_Picture_3.jpeg)

![](_page_31_Picture_4.jpeg)

![](_page_31_Picture_5.jpeg)

![](_page_31_Picture_6.jpeg)

![](_page_31_Picture_7.jpeg)

![](_page_32_Picture_0.jpeg)

#### **MEE-UEMOA**

Projet de Motorisation Agricole (Tracteur et équipements de transformation agricole convertis à huile pour participer au vaste programme de mécanisation agricole du Gouvernement)

![](_page_32_Picture_3.jpeg)

# Regional & International Initiatives

## **Initiative ETOH GELFUEL**

![](_page_34_Picture_1.jpeg)

![](_page_34_Picture_2.jpeg)

![](_page_34_Picture_3.jpeg)

![](_page_34_Figure_4.jpeg)

![](_page_34_Picture_5.jpeg)

![](_page_34_Picture_6.jpeg)

## STUDY: DEVELOPPING LIQUID BIOFUELS CHAIN FOR COOKING IN UEMOA SPACE

![](_page_35_Picture_1.jpeg)

#### **BTG Biomass Technology Group & EPM Consulting**

Dakar, november, 2006

## **Conclusion (1)**

#### 1. Household energy

- In all the UEMOA countries, the production cost of éthanol are higher than market price of butane. However, butane gas is highly subsidised in most of the case)
- In Cote d'Ivoire and Sénégal, ethanol production cost could compete with non subsidised butane gas
- Ethanol could be economically used as a source of household energy if the subsidies on the butane gas are removed or an equal subsidies to provided.
- In any case, the use of ethanol as biodiesel is more indicated in terms of price and affordability.

## **Conclusion (2)**

#### 2. Biodiesels

- The study shows that in all the UEMOA countries besides Benin and Guinée Bissau, the cost price of biodiesel (from ethanol) can be lower than fossil oil products.
- The cost price of biodiesed from Jatropha oil can be equally lower than diesel from fossil orogin in Togo and Niger. However, the price is highly dependant on the price of the jatropha seeds.

## **Conclusion (3)**

#### 3. Potential impacts in l'UEMOA Region

- Reduction on the dependancy on imported fossil oil: 63 millions litres of benzine and 19 millions litres of gasoil
- 22 billions FCFA of forex: 34 millions €
- Reduction of emission of CO<sub>2</sub> will depends on the feedstocks and energy sources used with an estimation of about 100 000 t/y

#### **Implementation Strategy (1)**

- 1. Actors
- Strong implication of the private sector
- **UEMOA** regional coordination
- Ministeries in charge of energy création of favorable conditions for the production and use of biodiesel
- Ministeries in charge of agriculture création of favorable conditions for the cultivation of energy crops.
- Ministries in charge of environment institutional support toward MDP projects.
- **Ministères of finances** creation of favorable fiscal conditions
- **Others** universities, banking sector...

#### Implementation Strategy (2)

#### 2. Identified Constraints

- Lack of sensibilisation and familiarisation of the private sector on the agricultural, industrial and commercial opportunities especially, the agricultural and technological informations are lacking.
- Lack of financial instruments and mechanism to promote the investment and trade in the sector.
- High cost of feedstock: agricultural infrastructure, cost of transport and logistics.
- Market and legislation: underdeveloped market because of the absence of appropriated incentives and legislation in the sector.

#### Implementation Strategy (3)

#### 3. Recommandations

- 1. Adoption of common policies, directives and legislations to promote the market
- 2. Development of a capacity building program to disseminate the knewledge and information
- 3. Development of energy crops policies targetign the long ter m perspectives.
- 4. Stimulate the emergence of an organised private sector association to promote and professionalise the sector
- 5. Creation of a regional funds to promote the sector in association with the financial instition of the Region (BOAD, Fagace) and development of a pilot project per country.
- 6. Assistance to the private sector to enable the emergence of production and trade projects.

![](_page_42_Picture_0.jpeg)

Bioenergy, Agriculture and Rural Development In Member Countries of The West African Economic and Monetary Union (UEMOA)

> UN FOUNDATION
>  Hub for Rural Development in West and Central Africa
>  I STD

![](_page_44_Picture_0.jpeg)

![](_page_44_Picture_1.jpeg)

Competence Platform on Energy Crop and Agroforestry Systems for Arid and Semi-arid Ecosystems – Africa WIP RENEWABLE ENERGIES- MUNICH

![](_page_45_Picture_0.jpeg)

## Bioenergy potential per region: different scenarios, year 2050 Exajoules/yr

![](_page_46_Figure_1.jpeg)

Source: Juergens and Mueller forthcoming 2007, based on data from WWI 2006)

## **NEW PARADIGM & NEW DEAL**

- FAO: the current century could see a net reduction of fossil fuels use to the benefit of bioenergy . Agriculture and forestry would be come the main sources of biomass for bioenergy such as wood energy, charcoal, wood pellet, bioethanol, biodiesel, and bioelectricity
- Kyoto CC Protocol ( post Copenhague)
- EU Directives on Renewbles7

# BIOENERGY COULD STOP YOUTH EXODUS !h

![](_page_48_Picture_1.jpeg)

# PARTNERSHIP

![](_page_49_Figure_1.jpeg)

![](_page_49_Figure_2.jpeg)

![](_page_50_Picture_0.jpeg)