



***International Conference  
Sustainable Bioenergy Projects in Africa:  
Barriers and Opportunities for Financing***

***29 September to 1 October 2009***

***Dakar, Senegal***

***Conference Report and Recommendations***



COMPETE is co-funded by the European Commission in the 6<sup>th</sup> Framework Programme – Specific Measures in Support of International Cooperation (INCO-CT-2006-032448).

### **Conference Objectives**

This conference aimed to identify ways to overcome potential barriers and risks to financing of bioenergy projects in Africa, as well as highlight avenues for financing including bilateral and multilateral financing, carbon finance, trade, and policy avenues. Emphasis was placed on projects and initiatives that ensure social, economic and environmental sustainability and contributing to sustainable rural development.

This conference brought together speakers and representatives from the investor, financing and donor community, project developers, entrepreneurs, NGOs, international organisations as well as national and international energy experts to share experiences and examples of initiatives and projects that illustrate best practices.

### **Conference Organizers**

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All presentations held at the COMPETE Conference 'Sustainable Bioenergy Projects in Africa – Barriers and Opportunities for Financing' are available at the COMPETE project website [www.compete-bioafrica.net](http://www.compete-bioafrica.net).



## Conference Summary

### Opening session

Dr. Sana Faty, Director of Biofuels and Biomass, Ministry of Energy, Senegal

Mr. Mamadou Dianka, UEMOA, Burkina Faso

Dr. Jean-Philippe Thomas, ENDA-TM, Senegal

Ms. Martina Otto, UNEP, France

Dr. Rainer Janssen, WIP Renewable Energies, Germany

The COMPETE 'International Conference on Sustainable Bioenergy Projects in Africa – Barriers and Opportunities for Financing' opened with welcoming speeches from conference organizers and key participants. Key messages relayed from the opening session are presented below.

**Dr. Sana Faty** began with a message that stressed the importance of the field, and the opportunity that Senegal and the rest of the region have to develop the bioenergy sector.

**Mr. Mamadou Dianka** highlighted the financial opportunities of bioenergy and the magnitude of governance to support the burgeoning sector. He specifically highlighted the recent UEMOA report and guidelines for decision makers for sustainable bioenergy.

**Dr. Jean-Philippe Thomas** gave an overview of ENDA's programmatic activities in the areas of bioenergy with an emphasis on building collaboration with networks such as COMPETE.

**Dr. Rainer Janssen** welcomed the participants to the conference and spoke about the different areas that the COMPETE network has been working on, mentioning the significance of outcomes, reports, and recommendations that could be built from this conference.

**Ms. Martina Otto** as well welcomed the participants to the meeting and gave a brief introduction to the work being done at UNEP and the linkages the conference objectives have to other activities at the agency. She stressed the importance of finding innovative and creative solutions for financing bioenergy in the region.

### Session 1 – Setting the stage: Barriers, Risks, and the Potential for Solutions

**Mr. Thierno Bocar Tall, African Biofuels Renewable Energy Fund (ABREF), Togo**

#### ***Financing Bioenergy in an African Context***

Mr. Tall began the session by giving a presentation on bioenergy from an African perspective, looking at the context of priorities in the region. Key points stated include:

- Promoting development is the most important consideration in the African context, including economic development and energy access for rural communities.
- Africa, as a region, has the most significant amount of underutilized renewable energy sources, but has been slow at mobilising this potential.

- External financial flows have been small, relative to the potential. For example, there was no recorded venture capital in 2007.
- Barriers to bioenergy development include: financial barriers, lack of human resources, institutional barriers, lack of information of new technologies.
- Solutions to overcome these barriers require the provision of entrepreneurial and developer support services and the development of policies that establish transparent market access.
- The African Biofuels Renewable Energy Fund will provide support for investors structuring returns based on CERs and equity investments in the region.

### **Mr. Paul van Aalst, E +Co Europe, Netherlands**

#### ***Financing Bioenergy Projects: Barriers, Risks and Potential Solutions***

Mr. van Aalst started his presentation with an overview of E+Co, including its mission and business model (services + capital). E+Co's entrepreneur services include pre and post investment services, business planning, market research and assessments as well as financial, technical and accounting support. Biomass and biogas cover 47% of the company's portfolio. Mr. van Aalst highlighted several barriers and risks for investors and developers financing bioenergy projects.

- ***Investor barriers & risks:*** Developers are inexperienced, Local co-financing is inadequate; Bioenergy projects often involve higher risk; Investment pay-back times are often long.

In the framework of the COMPETE project, E+Co has elaborated a document on "***Practical Guidelines For Investors In Sustainable Bio-Energy In Africa***". These guidelines introduce potential investors to barriers and opportunities of investing in bio-energy in Africa, from the viewpoint of a practitioner. The guidelines are available at the COMPETE website [www.compete-bioafrica.net](http://www.compete-bioafrica.net).

### **Ms. Sabera Khan, Llyods Financial Ltd., Zambia**

#### ***Barriers to Success in CDM Projects in Africa***

Ms. Sabera Khan presented an overview on the key barriers and financing structure of CDM projects. Some of the barriers she noted, from a Zambian context, include a lack of understanding from the developers and financiers side. Financiers have cited problems like weak business proposals and high risks for bioenergy projects; and developers indicate that there is a lack of understanding of carbon finance structures. Ms. Khan continued with outlining specific mechanisms for solving these problems with innovative solutions:

- Lloyds Credit Enhancement Fund: Reducing risk to local finance institutions and opening opportunities for CDM projects.
- Africa Carbon Credit Exchange: Working through a trading platform it unlocks finance for carbon projects and in conjunction collaborates with the Green Knowledge Institute to develop capacities.

**Ms. Martina Otto and Dr. Moustapha Kamal Gueye, UNEP**

***Investing in Bioenergy within GEF and in context of the Green Economy Initiative***

Dr. Kamal Gueye gave an overview of the Green Economy Initiative at UNEP and its recent research on employment gains for bioenergy investment and economic spillovers. He purported that bioenergy has a particularly high potential to generate employment (a global investment of USD 63 billion would create 12 million jobs in bioenergy by 2030). Therefore, Mr. Gueye concluded that there is enough “policy space” for macro-level opportunities, that beyond individual investment returns, can drive bioenergy development.

Ms. Martina Otto gave a presentation on the Global Environment Facility (GEF) and the new GEF-5 strategy. She noted that bioenergy cuts across several focal areas of the GEF-5 including Climate Change Mitigation and Land Degradation, and that with co-financing, bioenergy projects can obtain financial support through the GEF.

- ***Climate Change Mitigation:*** Focus will be on building investment and technical capabilities. Although there is no specific focus on bioenergy, promoting biomass applications will be important.
- ***Land Degradation:*** Focus is on improving agro-ecosystem services and generating flows of forest ecosystem services.

**Roundtable 1 – Perspectives on Overcoming Barriers**

Chair: Dr. Rocio A. Diaz-Chavez, Imperial College Science, Technology and Medicine

Mamadou Dianka, UEMOA, Burkina Faso

Frank O. Atta Owusu, KITE, Ghana

Touria Dafrallah, ENDA-TM, Senegal

Serigne Amar, African Association for Biofuel Promotion, Senegal

Mamadou Kane, Wallonie-Brussels Delegation in Dakar, Senegal

Mouhamadou Gueye, Technical Advisor to the Presidency, Senegal

This first roundtable opened up the conference with a discussion on the big picture of ***barriers to finance for bioenergy***, including perspectives on how to overcome those barriers. Key discussion points included:

- There is a lack of clear regulatory and legal frameworks for bioenergy in many countries, reducing the interest of potential financiers.
  - This lack of frameworks might affect large scale projects, but does not necessarily affect the implementation of small scale projects for development purposes.
  - Policy frameworks for bioenergy need to be created holistically, along side rural development frameworks, social frameworks, land use frameworks, export frameworks, etc.

- Local and national resources need to be utilized first to ensure market competitiveness.
  - Focus needs to be placed on locally available resources first, then on local value added products (e.g. in Senegal groundnut shells, rice straw, teefa). These value added products can provide not only greater economic benefits, but can also be resource efficient, reducing land pressures.
  - Partnerships are very important in promoting bioenergy such as public-private partnerships, bilateral partnerships, and particularly South-South partnerships, which can also be bilateral, and need to be more realized.
  - Integrating the community and the people is the most important part of promotion of the sector.
  - Demand side needs to be supported before implementing bioenergy projects or investments in order to ensure sustainability.
- Decisions on bioenergy production need to be based on science.
- Traditional financing mechanisms have not worked in the past. Innovative financing mechanisms (e.g. microfinance, carbon finance) need to be exploited.

The following potential **strategies** should be used to remove abovementioned barriers.

- Support the creation of sustainable legal and regulatory bioenergy frameworks.
  - Encourage the adoption of national regulatory frameworks for bioenergy relative to social, environmental, and economic policy objectives. Clarify policy priorities for national frameworks. For example, some questions that should be asked are: Is the national priority to create bioenergy frameworks to support local use and rural development? Or is the priority to create bioenergy frameworks primarily for export markets?
- Improve scientific and technical capacity.
  - Support the implementation of national resource assessments for bioenergy potential, including the assessment of the potential of value added and local bioenergy supplies.
  - Improve communication between the scientific and technical networks within countries and projects working on bioenergy.
  - Create resource centres that provide information to both investors/donors and project developers.
- Focus on demand side and market development.
  - Market research needs to be integrated into business models. Stable markets for bioenergy need to be developed (e.g. through appropriate policies and regulations). One example is to provide financial support to consumers to spur the integration of new bioenergy technology.

## **Session 2 – Bioenergy and Carbon Finance**

This session focused on carbon finance as a financial opportunity for bioenergy projects in Africa. It invited experts in the carbon finance field to speak about barriers and prospects for bioenergy in a variety of carbon markets.

### **Veronica Colerio, UNFCCC Secretariat**

#### ***Clean Development Mechanism: Challenges and opportunities for bioenergy projects***

Ms. Colerio opened the session with a presentation on the practical sides of CDM including existing key methodologies for bioenergy. The following key issues were highlighted:

- Until today, only 1.85% of CDM projects are implemented in Africa.
- The following elements are of key importance for CDM methodologies of bioenergy (specifically biofuel) projects: Project boundary, applicability conditions, baseline emissions, additionality, project emissions, leakage, emissions reductions and monitoring.
- Specifically, the issue of double counting is important for bioenergy projects as emission reduction credits can only be claimed once. CERs may be claimed by end users or producers.
- CERs can not be claimed for bioenergy produced for export.
- The following CDM methodologies exist for biofuels: AMS III. T 'Plant oil production and use for transport applications', and AM0047 'Production of biodiesel based on waste oils and/or waste fats from biogenic origin for use as fuel'.

### **Mr. Sebastian von Wolff, OneCarbon International, South Africa**

#### ***Carbon financing of bioenergy projects in Africa***

Mr. von Wolff focused on carbon finance in the African market for bioenergy. Topics highlighted:

- The following financing mechanisms and tools for financing bioenergy projects under CDM exist: equity, carbon loan, grants and subsidies, upfront payments, and structured sales.
- Carbon finance can only contribute to the partial financing of projects, as it usually represents less than 10-20% of the total costs.

**David Walden, Winrock International, USA**

***The US Voluntary Carbon Market and Sustainable Biofuels Standards***

Mr. Walden gave an overview of the US carbon market and options for the African bioenergy market within this evolving framework. Both, the US voluntary market and the US Waxman-Markey bill were reviewed. Some points discussed were:

- The Waxman-Markey bill has reduction targets that allow for international offsets (equivalent to \$24 billion/year for carbon financing). This may provide opportunities for projects leading to carbon emission reductions in Africa.
- Additionally, the US voluntary market provides opportunities for bioenergy projects. Voluntary markets include those such as the Chicago Climate Exchange (CCX) which have specific methodologies for the projects being registered.
- Lessons emerging from other regions on technology appropriate carbon finance projects could be applicable to Africa. One example, coming from Thailand, is utilizing biodigestors with palm oil mill effluent.

**El Hadji Mbaye Diagne, COMNAC (National Committee for Climate Change), Senegal**

***Bioenergy projects and CDM: opportunities***

Mr. Mbaye Diagne provided an introduction to CDM markets including information on operational and logistical concerns. Some barriers to the implementation of CDM projects in Africa are the large complexity of the CDM system (leading to too many actors involved), and the lack of information on CDM lending structures at commercial banks.

- In Senegal, currently only 3 CDM projects are registered.
- In general, bioenergy projects in Africa are small and do not provide a large amount of carbon offsets. Therefore they are not well suited to benefit from CDM opportunities.
- Investors and project developers need to be supported to take advantage of CDM opportunities.

**Session 3 – Successful Bioenergy Projects and Initiatives in Africa**

This session provided insight into successful bioenergy projects in Africa considering how they were implemented, what barriers were overcome, and what lessons can be drawn from them for other projects.

**Kamal Desai, Marli Investments, Zambia**

***Financing Sustainable Bioenergy Projects in Africa, Jatropha Outgrower Scheme in Zambia***

On behalf of Mr. Desai, Prof. Francis Yamba, Center for Energy, Zambia, gave a presentation on a jatropha outgrower project in Zambia where Marli Investments initiated a bioenergy scheme. The company has so far distributed seeds to small scale farmers who not only grow the jatropha, but also participate in training and lectures. The following lessons learnt were highlighted:



- The outgrower model should be based on local ownership of the land and plantations, seeds and training are provided for free.
- Marli Investments has shown that there needs to be a presence in the field to support the project, field officers and coordinators provide support for farmers.
- Marli Investments has entered into production agreements with farmers that assure the market for jatropha seeds.
- This project contributes 5% of its profit to development projects.
- Private funding/financing has been provided through the board of directors and share holders.
- A constraint is that funding from institutions has only been given on the production side, but not on the agronomy side which is important for the sustainability of the project.

#### **Dr. Ibrahim Togola, Mali-Folkecenter**

##### ***Garalo Bagani Yelen Jatropha-Fuelled Rural Electrification Project in Mali***

On behalf of Dr. Togola, Dr. Rainer Janssen, WIP Renewable Energies, Germany, shared a presentation on the Garalo jatropha project in Mali, a rural electrification project. The project is based on locally produced jatropha and will foster local SME/SMI development and job creation. Key points concerning barriers and opportunities were:

- Time and human resources are necessary to ensure community participation, village ownership is key.
- Economic potential of the community is needed to ensure sustainability of the initiative.
- Long term credit is hard to obtain from local banks, there is a need for multi-donor cooperation and funding.

#### **Erik Wurster, E+Co, USA**

##### ***Gold Standard stove project***

Mr. Wurster gave a presentation on a cook stove carbon finance project in Ghana. He explained that through a local partner, E+Co is implementing an improved cook stove project that is expected to sell 50,000 VERs by 2010. Key comments made from the presentation are:

- Utilizing carbon finance in these types of projects can be very profitable. E+Co estimates a 26% increase in total revenues.
- There are tremendous benefits to improved cook stoves: emissions reductions, profitability, improved public health, etc.
- The monitoring process of the carbon project is complicated, but this barrier was reduced through incentives for the SME and a waiver/rebate exchange program which is obtained by the clients.
- It is important to select technologies and solutions appropriate for the local framework conditions (e.g. improved manufacturing and increase of efficiency).

**Alassane Ngom, PROGEDE, Senegal**

***Sustainable and Participatory Energy Management Project (PROGEDE)***

Mr. Ngom provided an overview of a bioenergy project from PROGEDE that attempts to utilize sustainable biomass resources for improved cooking techniques and conservation of forest areas. One of their projects is using jatropha oil to substitute diesel. The projects that are being implemented utilize sustainable implementation techniques such as encouraging the regeneration of areas before exploiting resources. Key issues discussed were:

- There are barriers to obtain financing because of the funding cycles (terms) from banks.
- The interest rates charged by banks are too high leading to difficulties for the creation of local markets.

**Roundtable 2 – The Practical Side of Overcoming Barriers: Financing and Implementation of Sustainable Bioenergy Projects in Africa**

Chair: Paul van Aalst, E+Co Europe, Netherlands

Mireille Afoudji, PERACOD (GTZ), Senegal

Michael Hofmann, Camco, United Kingdom

Jensen Shuma, TaTEDO, Tanzania

Marie-Vincente Padeloup, UN Foundation

Abdoulaye Diouf, Sugar Company of Senegal

Roundtable 2 brought together a group of participants for an open discussion on conquering the practical sides of removing barriers to finance. The roundtable discussed several barriers and then addressed them with key strategies.

***Identified Barriers***

- Difficulties for entrepreneurs to meet investors' requirements with respect to risk sharing, risk profile, long term security in terms of price guarantee.
- Lack of follow-up strategies from entrepreneurs.
- Problems to mobilise funds for feasibility studies.
- Difficulties for small scale projects to gain interest from banks (transaction costs) and the carbon market.
- Problems for local actors to benefit from technology transfer in the frame of joint ventures.
- Lack of legal framework to reinforce project visibility (e.g. regulations for biofuel blending, tax rebates, development of local and national markets).
- Lack of association of bioenergy crops and food production.
- Lack of harmonisation with respect to donor activities.

### ***Strategies to reduce those barriers***

- Development of joint-ventures (support for feasibility studies) and procedures that ensure technology transfer.
- Development of public-private partnerships.
- Elaboration of a clear legal framework that classifies bioenergy products and provides tax incentives.
- Establishment of mutual frameworks for the cooperation and consultation of all stakeholders.
- Provision of technical support services in the field of carbon finance.
- Development of a technical support entity to help project developers.
- Implementation of support tools for entrepreneurs.

### **Roundtable 3 – Partnerships for Sustainable Bioenergy Development**

Chair: Martina Otto, UNEP

Secou Sarr, ENDA-TM, Senegal

Cliff Spencer, UN Foundation

Estherine Fotabong, New Partnership for Africa's Development, South Africa

Marie Adelaïde Dione, Regional Bank for Solidarity, Senegal

Massaër Nguer, Agriculture Research Institute of Senegal

Roundtable 3 discussed the potential for partnerships in Africa for bioenergy on several levels including: regional level partnerships, inter-sectorial, public-private partnerships, and large and small scale cooperation opportunities. The participants noticed several barriers with partnerships and addressed strategies to remove them.

### ***Barriers for the establishment of partnerships***

- Lack of cooperation between financiers. Difficulties in efficiently allocating public AND private funds.
- Lack of cooperation between different ministries to develop a comprehensive approach and to create appropriate regulations.
- Lack of expertise within ministries.
- Lack of expertise of investors and banks (i.e. Foreign investors do not know national conditions/frameworks, national investors lack expertise in the bioenergy field).
- Lack of coordination between research and market.
- Lack of dissemination of research results and of training.
- Weak linkage of national support to the demand.

## ***Key strategies to increase cooperation and partnerships***

### *Local level*

- Increased cooperation with entrepreneurs and/or SMEs. As the AREED approach illustrates, partnerships with these entrepreneurs/SME/SMLs (with donors, PPP, hand holding organizations, etc.) can boost the dissemination of modern bioenergy technologies to local communities.

### *Regional level*

- Increased cooperation in the research field to create synergies.
- Increased cooperation in the elaboration of policies and legal frameworks (regional level can bring expertise to the states).

### *National level*

- Increased cooperation between ministries.
- Close cooperation of Government institutions with bioenergy experts, investors and entrepreneurs (this also applies to a local level).
- Creation of entities for foreign investors providing information about the country. This could help foreign investors get in touch with project developers and bioenergy stakeholders.
- Support of market development by Governments (for example, compulsory blending targets in gasoline and diesel, subsidies, feed-in tariffs, links to social development policies, etc.).
- Cooperation between research to disseminate research results, for example by reinforcing agriculture support services.

## Policy Recommendations

Modern bioenergy has enormous potential in Africa to be utilized as a renewable source of energy, contribute to energy security and energy access, and increase social welfare by providing development opportunities. However, there are many barriers that have contributed to lower levels of investment in the region relative to the potential that exists. This conference identified these barriers and offered key and concise pragmatic options to reduce them and support the bioenergy agenda in a sustainable fashion. Conference participants have provided a wealth of information and exchange on this topic from successful tools, approaches and best practices. The messages from the conference are reflected in the policy recommendations that are enclosed in this summary report.

### **Crucial to spurring investment:**

#### **A) Support the creation of clear and transparent national policy frameworks for bioenergy**

***National policy frameworks are a prerequisite for the development of bioenergy industries and projects by increasing investor security and creating markets (some frameworks, for example, might include subsidies, guarantees, mandates, credit enhancement mechanisms, etc). The policy measures under such frameworks are comprised of several key strategies.***

- ✓ Increase inter-ministerial communication and cooperation: ensure that cross-cutting issues of bioenergy (energy, agriculture, environmental, trade, development, etc.) are addressed within a framework that recognizes linkages to social, environmental, and economic agendas.
- ✓ Ensure that policies are based on scientific information and practical lessons learned.
- ✓ Ensure that policies are flexible enough to adapt to local needs and emerging science.
- ✓ Ensure that policy frameworks are transparent and accessible to the public and project developers to create the foundation for more foreign investment to enter African countries.
- ✓ Within this framework, identify local and national public funds that are available for the creation of bioenergy projects/ industries as macro effects warrant government budget support
- ✓ Lessons learned should be taken from other countries in the region with existing bioenergy policy frameworks. Some countries, such as Mozambique, have started implementing such frameworks and can serve as examples.

## **B) Improve capacity, communication and information sharing for resource mobilization**

***Supporting initiatives that build the capacity and collaboration of key stakeholders in the bioenergy field is instrumental to increasing its growth in Africa. Communication gaps and lack of information exchange between these stakeholders has been recognized as a key barrier in financing bioenergy projects. Adopting several strategies can reduce those barriers in order to increase the opportunity for investment.***

### *Between financiers and project developers*

- ✓ Create technical clearinghouses (investment promotion centres) that can provide information and services to both project developers and financiers with regards to financial structures, risk profiling, technology, and information on policy frameworks related to bioenergy. This initiative should utilize existing networks and trusted institutions. Some examples of topics that can be addressed in these promotion centres are below:
  - *On carbon finance:*
    - These promotion centres can encourage carbon finance for bioenergy projects by being a body where information and resources on carbon finance can be exchanged between banks/local finance institutions and project developers. This allows further communication to finance institutions to understand the structures of carbon finance and to developers to understand the needs of finance institutions.
  - *On micro-finance:*
    - These promotion centres can also provide information on learned lessons of other innovative forms of finance such as micro-lending and micro-finance. They can be intermediary bodies between local credit agencies and developers.
  - *On traditional lending:*
    - As traditional lending for bioenergy projects has been difficult in Africa, these promotion centres can reduce this barrier by providing information to financial institutions to become more aware of the specific financial needs of bioenergy projects. Financing for feasibility studies and agronomic activities, which is instrumental in developing projects, can be a focus.

### *Between project developers and project developers*

- ✓ Flagship projects and lessons learned need to be shared between developers so that best practices in finance can be utilized and successful projects can be replicated.

### *Between donors*

- ✓ Improve communication channels between all donors working on bioenergy projects to encourage coordination and prevent overlap.

**C) Increase public-private partnerships (PPP) to encourage bioenergy finance opportunities**

***Creating and strengthening effective PPP for bioenergy is an innovative form of financing that can unlock potential finance opportunities and investments in Africa. Enabling policy frameworks are as well invaluable to support these PPPs.***

- ✓ Enhance public- private partnerships for introducing new bioenergy technologies and services, based on local demand and inclusive decision making.
- ✓ Create communication channels between private sector partners, the community, and public partners for greater transparency.

## Technical Tour



On 1<sup>st</sup> October 2009, the participants of the COMPETE conference visited two sites for the technical tour. The first site was a visit to an agricultural plot of jatropha owned and operated by a private landowner, and the second visit was to a community that has a women's operated jatropha cooperative.

The first visit allowed the participants to explore an experimental jatropha plantation in the village of Pout, located 50 km north of Dakar. The farm consisted of several hectares of jatropha while the main economic activity of the agricultural business (about 100 ha) focuses on the production of mango for export.

The jatropha farm was initiated about 2 years ago on available agricultural land in response to the Special Biofuel Programme (2007-2012) by the Ministry of Agriculture launched in July 2007 with the strong support of the President of Senegal. Thereby, objectives of the Senegalese biofuels programme include the planting of 321.000 ha of Jatropha (1.000 ha per rural community on unused land), and the production of > 1 billion litres of Jatropha oil by 2012. However, currently the implementation of the programme is delayed and only about 20.000 ha of jatropha plantations have been realised.

The second visit was made to the village of Thiallee in the Rural Community of Taïba Ndiyaë, a small community where a local cooperative, run by women, is producing jatropha oil for a buyer for which they had a formal agreement. The processing of the oil happens in various steps including drying of seeds, cooking of seeds into a cake, and extracting the oil from the cake by manual pressing. The women explained that it takes approximately 8-10 days to process 1 ton of seeds, and to produce 105 litres of oil.

Currently, the additional revenue created for the women group through the production of jatropha oil is rather limited. However, the women group has started to grow jatropha on an own plot of land of about 1 ha to engage as entrepreneurs. On the occasion of the visit of the COMPETE group to the village the chief granted an additional 1 ha of land to the women group which they may use to increase their business of jatropha production.



## Annex I - Conference Programme

### *Conference Programme*

**TUESDAY 29<sup>th</sup> September 2009**

08:00 – 09:00 Conference Registration

#### **Opening Session**

09:00 – 09:20 Welcome Address by the representative of the Government of Senegal  
Prof Sana Faty, Director of Biofuels and Biomass, Ministry of Energy, Senegal

09:20 – 09:30 Welcome Address by Union Economique et Monétaire Ouest Africaine  
Mamadou Dianka, UEMOA, Burkina Faso

09:30 – 09:40 Welcome Address by the Host Organisation  
Dr. Jean-Philippe Thomas, ENDA-TM, Senegal

09:40 – 09:50 Welcome address by United Nations Environment Programme  
Martina Otto, UNEP, France

09:50 – 10:00 Welcome Address by the COMPETE Project Co-ordinator  
Dr. Rainer Janssen, WIP Renewable Energies, Germany

10:00 – 10:30 Coffee Break

#### **Session 1: Setting the stage: Barriers, Risks and the Potential for Solutions**

This session will look at the current risks and barriers to financing bioenergy in an African context, including a showcase of best practices to address them.

Timing 10:30 – 12:30 (30 minutes/speaker: 20 mins presentation, 10 mins questions)

Chair Dr. Rainer Janssen, WIP Renewable Energies, Germany

10:30 – 11:00 Financing Bioenergy in an African context  
Thierno Bocar Tall, African Biofuels Renewable Energy Fund (ABREF), Togo

11:00 – 11:30 Barriers, Risks and Potential Solutions for Financing Bioenergy projects  
Paul van Aalst, E+Co Europe, Netherlands

11:30 – 12:00 Barriers to project financing in Africa: potential solutions to be implemented  
Sabera Khan, Lloyds Financial Ltd., Zambia

12:00 – 12:30 Bioenergy and the GEF and in the context of the Green Economy Initiative  
Dr. Moustapha Kamal Gueye and Martina Otto, UNEP

12:30 – 14:00 Lunch Break

## Roundtable 1: Perspectives on Overcoming Barriers

This Roundtable will bring representatives from various sectors to identify barriers and risks specific to Africa for bioenergy financing including perspectives from the fields of bilateral/ multi-lateral financing and biomass/ bioenergy trade.

Timing	14:00 – 16:00
Chair	Dr. Rocio A. Diaz-Chavez, Imperial College Science, Technology and Medecine, United Kingdom
Rapporteur	Punjanit Leagnavar, United Nations Environment Programme, France
Panellists	Mamadou Dianka, UEMOA, Burkina Faso Frank O. Atta Owusu, KITE, Ghana Touria Dafrallah, ENDA-TM, Senegal Serigne Amar, African Association for Biofuel Promotion, Senegal Mamadou Kane, Wallonie-Brussels Delegation in Dakar, Senegal Mouhamadou Gueye, Technical Advisor to the Presidency, Senegal
16:00 – 16:30	Coffee Break

## Session 2: Bioenergy and Carbon Finance

This session will present challenges and opportunities offered by carbon credits and green certificates for the financing of bioenergy projects in Africa.

Timing	16:30 – 18:00 (20 minutes/speaker: 15 mins presentation, 5 mins questions)
Chair	Thierno Bocar Tall, African Biofuels Renewable Energy Fund (ABREF), Togo
16:30 – 16:50	Clean Development Mechanism: Challenges and opportunities for bioenergy projects Veronica Colerio, UNFCCC Secretariat
16:50 – 17:10	Carbon Financing of Bioenergy projects in Africa Sebastian von Wolff, OneCarbon International, South Africa
17:10 – 17:30	The US Voluntary Carbon Market and Sustainable Biofuels Standards : how these are evolving and relate to financing bio-energy projects David Walden, Winrock International, United States of America
17:30 – 17:50	Bioenergy projects and CDM: opportunities El Hadji Mbaye Diagne, COMNAC (National Committee for Climate Change), Senegal

## WEDNESDAY 30<sup>th</sup> September 2009

### Session 3: Successful Bioenergy Projects and Initiatives in Africa

African project developers will present recent successful bioenergy projects and initiatives in East, Southern, and West Africa.

Timing	09:00 – 10:30 (20 minutes/speaker: 15 mins speak, 5 mins questions)
Chair	Prof. Francis Yamba, Center for Energy, Environment and Engineering Zambia (CEEEZ), Zambia
09:00 – 09:20	Financing Sustainable Bioenergy Projects in Africa, Jatropha Outgrower Scheme in Zambia Kamal Desai, Marli Invest, Zambia
09:20 – 09:40	Garalo Bagani Yelen Jatropha-Fuelled Rural Electrification Project in Mali Dr. Ibrahim Togola, Mali-Folkecenter, Mali
09:40 – 10:00	Gold Standard stove project Erik Wurster, E+Co Carbon finance Manager, United States of America
10:00 – 10:20	Sustainable and Participatory Energy Management Project (PROGEDE) Alassane Ngom, Coordinator PROGEDE, Senegal
10:20 – 11:00	Coffee Break

### Round Table 2: The Practical Side of Overcoming Barriers: Financing and Implementation of Sustainable Bioenergy Projects in Africa

This Round Table will involve stakeholders from European and African countries to discuss successful concepts for the financing and implementation of bioenergy projects in Africa with a clear focus on sustainable rural development.

Timing	11:00 – 13:00
Chair	Paul van Aalst, E+Co Europe, The Netherlands
Rapporteur	Secou Sarr, ENDA-TM, Senegal
Panellists	Mireille Afoudji, PERACOD (GTZ), Senegal Michael Hofmann, Camco, United Kingdom Jensen Shuma, TaTEDO, Tanzania Marie-Vincente Pasedeloup, UN Foundation, France Abdoulaye Diouf, Sugar Company of Senegal, Senegal

### Round Table 3: Partnerships for Sustainable Bioenergy Development

This roundtable will involve strategy analysts and representatives from funding agencies and programmes to discuss the different public or private partnership concepts that can be applied to develop sustainable bioenergy projects.

Timing	14:00 – 16:00
Chair	Martina Otto, United Nations Environment Programme, France
Rapporteur	Alexandre Thébaud, WIP Renewable Energies, Germany
Panellists	Secou Sarr, ENDA-TM, Senegal Cliff Spencer, UN Foundation, United States of America Estherine Fotabong, New Partnership for Africa's Development, South Africa Marie Adelaïde Dione, Regional Bank for Solidarity, Senegal Massaër Nguer, Agriculture Research Institute of Senegal, Senegal
16:00 – 16:30	Coffee Break

### Conference Summary and Conclusion

This session will serve to summarise the results of this conference with respect to: recommendations for successful financing and implementation of bioenergy projects in Africa with a clear focus on sustainable rural development.

Timing	16:30 – 18:00
16:30 – 17:30	Summary of Roundtables Rapporteurs of Roundtables 1 to 3
17:30 – 18:00	Conclusion and Outlook of the Conference Touria Dafrallah, ENDA-TM, Senegal Martina Otto, UNEP, France Dr. Rainer Janssen, WIP, Germany

**THURSDAY 1<sup>st</sup> October 2009**

### COMPETE Technical Tour

8:00 – 16:00	Visit of Jatropha plantation in the village Pout and presentation of a jatropha press for the production of jatropha oil.
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## Annex II – List of Participants

<i><b>NAME</b></i>	<i><b>INSTITUTION/COMPANY</b></i>	<i><b>Country</b></i>
Sana Faty	Director of Biofuels and Biomass, Ministry of Energy	Senegal
Touria Dafrallah	ENDA Energie	Senegal
Jean-Phillippe Thomas	ENDA Energie	Senegal
Secou Sarr	ENDA Energie	Senegal
Rainer Janssen	WIP Renewable Energies	Germany
Alexandre Thebaud	WIP Renewable Energies	Germany
Martina Otto	UNEP	France
Leangnavar Punjanit	UNEP	France
Rocio Diaz-Chavez	Imperial College London	United Kingdom
Josef Rathbauer	BLT-Biomass, Logistics, Technology	Austria
Teo Sanchez-Campos	Practical Action	United Kingdom
Paul van Aalst	E+Co Europe	Netherlands
Erik Wurster	E+Co	USA
Francis Yamba	CEEEZ	Zambia
Jensen Shuma	TATEDO	Tanzania
Mamadou Dianka	UEMOA - PRBE	Burkina Faso
Michael Hofmann	Camco	United Kingdom
Raffaella Bellanca	Eco. Ltd.	United Kingdom
Thierno Bocar Tall	FABER	Togo
Sabera Khan	Lloyds Financials Limited	Zambia
Moustapha Kamal Gueye	UNEP	Switzerland
Frank Atta-Owusu	KITE	Ghana
Mamadou Kane	Délégation Wallonie-Bruxelles à Dakar	Senegal
Mouhamadou Gueye	Conseiller à la Présidence	Sénégal
Sergine Amar	AAPB	Senegal
Sébastien von Wolff	One Carbon International	South Africa
Veronica Colerio	UNFCCC	Germany
David Walden	Winrock International	USA
Elhadji Mbaye Diagne	SPIDS	Senegal
Kamal Desai	Marli Invest	Zambia
Alsasane Ngom	PROGEDE	Senegal

<b>NAME</b>	<b>INSTITUTION/COMPANY</b>	<b>Country</b>
Mireille Affoudji Ehemba	GTZ - PERACOD	Senegal
Marie Vincente Pасdeloup	UN Foundation	France
Abdoulaye Diouf	CSS	Senegal
Clifford Spencer	UN Foundation	USA
Estherine Fotabong	NEPAD	South Africa
Marie Adélaïde Dione	Juene Chambre Internationale Senegal	Senegal
Massaer Nguer	ISRA	Senegal
M Yaya Dia	Le Senat, République du Senegal	Senegal
Diodio Dieye	Direction des Biocarburants et de la Biomasse	Senegal
Clément Akouedenoudje	Ministère de l'Energie et de l'Eau	Benin
Pacôme N'Guessan	Ministère de l'Energie et de l'Energie	Cote D'Ivoire
Julio Antonio Raul	Energy Ministry	Guinea
Yaovi Nyamador	Ministère de l'Energie et de l'Eau	Togo
Ibrahim Soumalia	Ministère de l'Energie et de l'Eau	Niger
Cheick Ahmed Sanogo	Ministère de l'Energie et de l'Eau	Mali
Fadil Baby	Radec Mali	Mali
Fadel Zaoui	Noor Bio Energie/AAPB	Mali
Ann-Marie Caulker	NaCepa	Sierra Leone
Hannah Koroma	NaCepa	Sierra Leone
Ibrahima Niang	Focal Point PRBE Senegal	Senegal
Coumba Loum Thiam	BRS Senegal	Senegal
Ousmane Niang	BRS Senegal	Senegal
Tome Gbehi	SIVTA	Cote D'Ivoire
Fatou Mbaye	Action aides	Senegal
Souley Kitane	BAD Senegals	Senegal
Abdoul Aziz Ndiour	Shell Senegal S:A	Senegal
Ahmed Bachir Diop		Senegal
Mamadou Niang	G.P.E	Senegal
Bocar Sada Sy	SEMIS	Senegal
Alioune FAYE	ADER	Senegal
Sam McMeekin	Senegal Ecovillage Microfinance Fund	Senegal
Matteo Bigoni	Senegal Ecovillage Microfinance Fund	Senegal
Al Hassan Sy	Senat Senegal	Senegal
Marc-Andre Ledoux	Senevert / Soseer	Senegal

<b><i>NAME</i></b>	<b><i>INSTITUTION/COMPANY</i></b>	<b><i>Country</i></b>
Lamine M. Dieng	AGEBEC	Senegal
Yves Marlière	Chargé de mission diplomatique de la Rép de Hongrie	Senegal
Yaovi Collins Nyamador	Direction Gemfrale d'Energie	Togo
Sergine Moustapha Sylla	President National du Mouvement Senegalais pour le Development M.S.D. Plateforme Paysane	Senegal
Christophe Lesuer	The Hub	Senegal
Mamadou Fall	Consultant	Senegal
Ramader Niang	GPE	Senegal
Natalie Yves	AGEBEC	Senegal
Michael Joey Chevalet	BAUR	Senegal
Abdou Ndour	ENDA Energie	Senegal
Haby Sow	ENDA Energie	Senegal
Nathalie Koffi	ENDA Energie	Senegal
Verena Ommer	ENDA Energie	Sénégal

### **COMPETE Project Coordination WP7 Coordination - Dissemination**

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### **WP1 Coordination – Current Land Use**

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### **WP6 Coordination – Policies**

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