

Bioenergy Development: the Global Context

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Dr. Maria Michela Morese
Executive Secretary
Global Bioenergy Partnership
Food and Agriculture Organization of the United Nations (FAO)



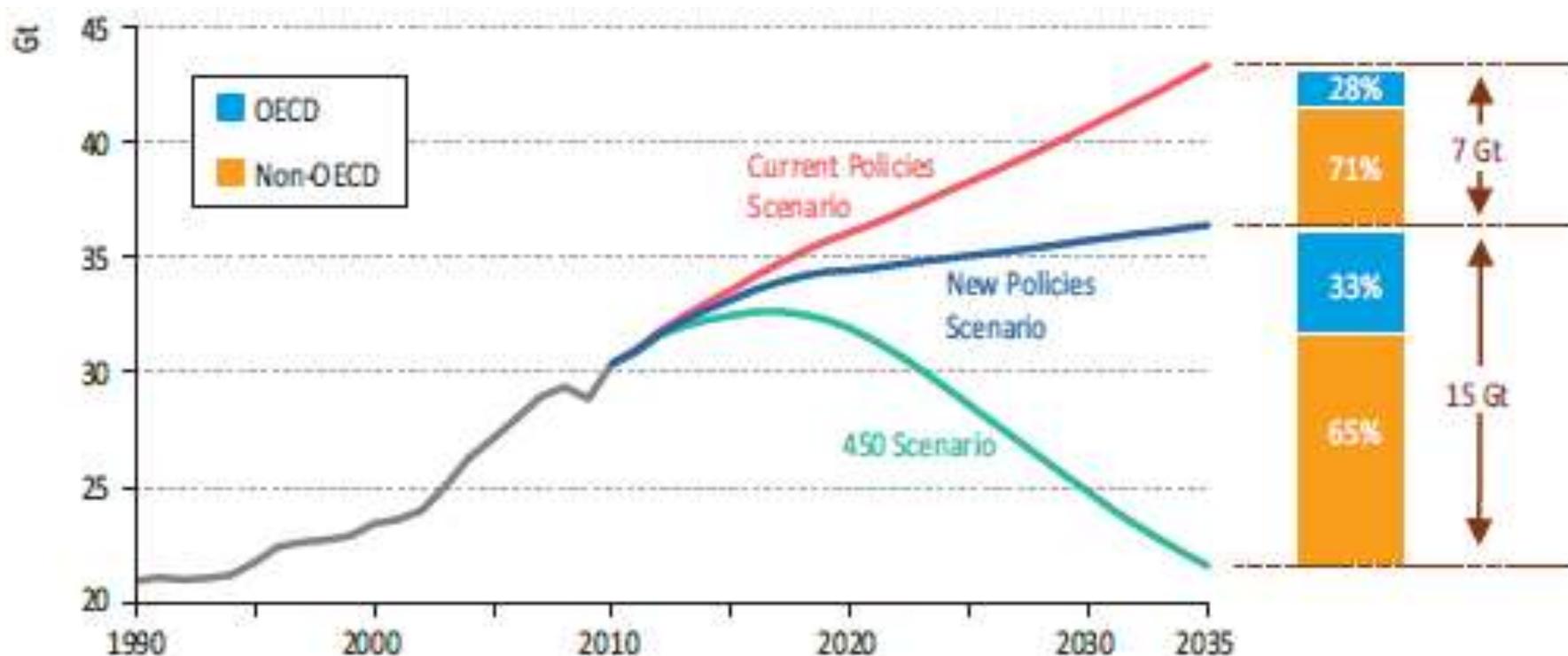
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GHG emissions: data and projections

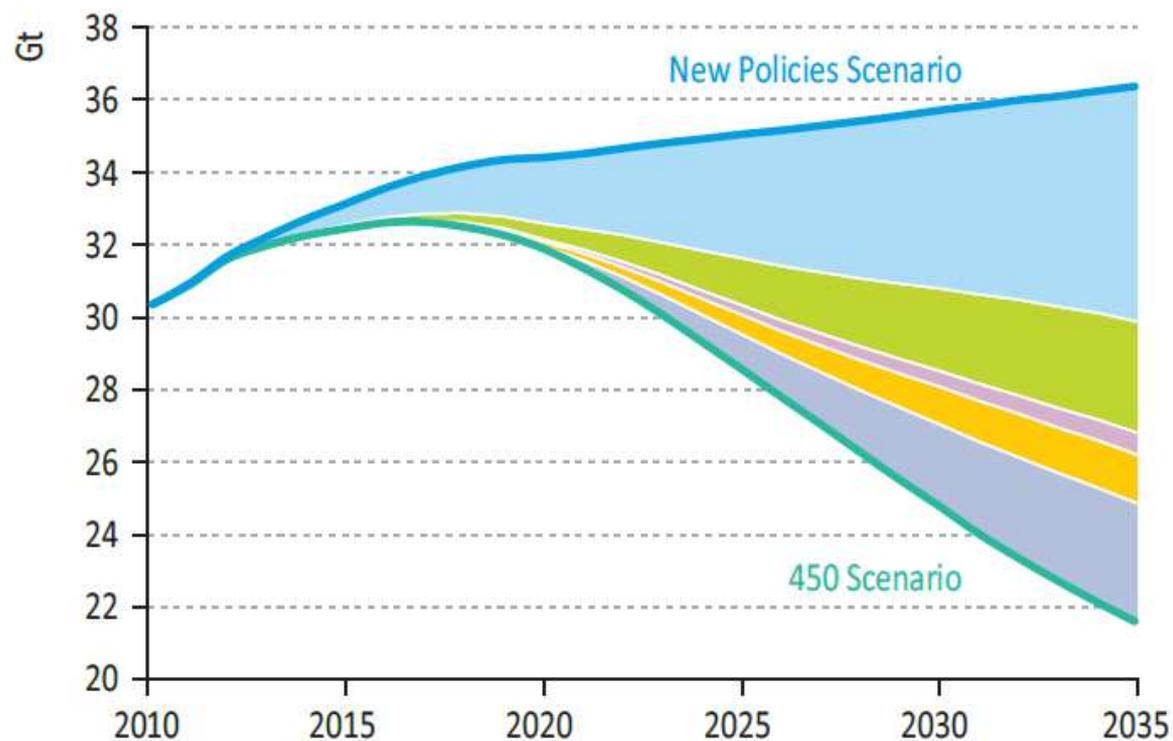
According to IEA, in order to contain the average global temperature increase within the 2° Celsius (if compared to 1990 levels) there needs to be substantial GHG emission reduction.

Non-OECD countries expected to play an important role.



GHG emissions: data and projections

In the 450 ppm scenario, IEA foresees a specific role for bioenergy

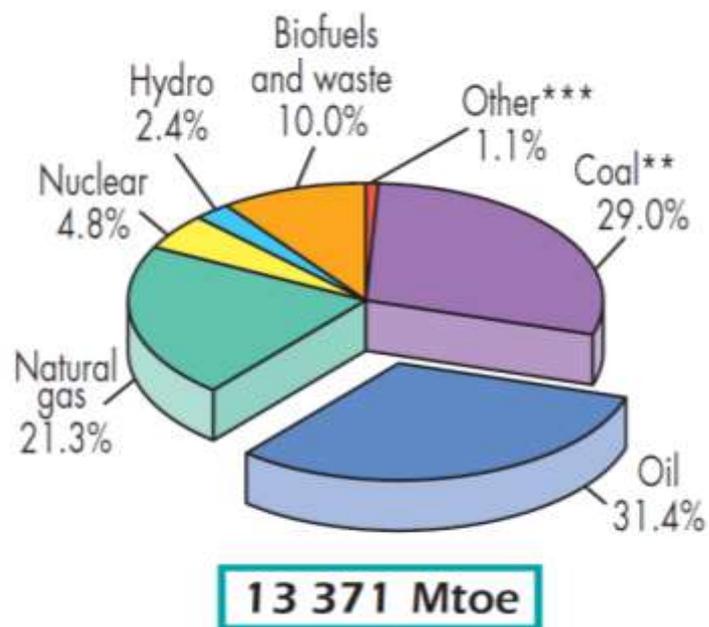


	Abatement	
	2020	2035
Efficiency	72%	44%
Renewables	17%	21%
Biofuels	2%	4%
Nuclear	5%	9%
CCS	3%	22%
Total (Gt CO₂)	2.5	14.8

Bioenergy

In 2012 bioenergy production reached 1.34 billion tons of oil equivalent or about **10% of world primary energy supply** (IEA, 2014).

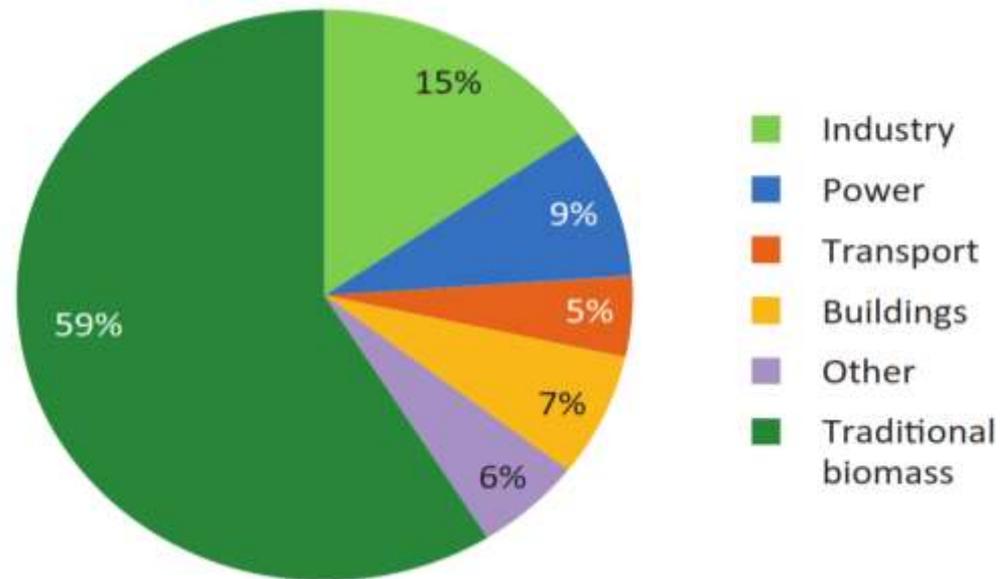
Bioenergy is the fourth most important energy source worldwide and the first among the renewables



Bioenergy

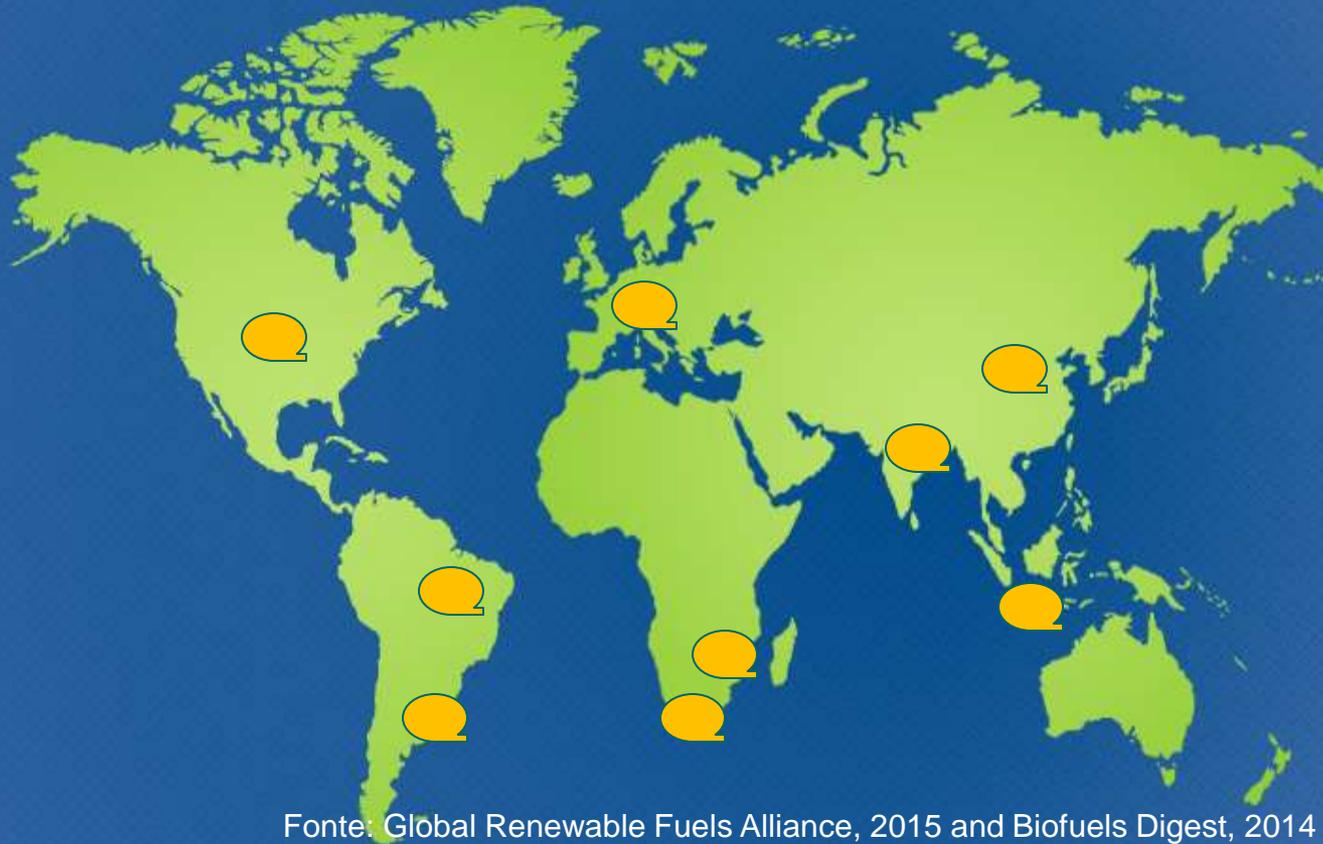
About **60%** of bioenergy produced is in the form of traditional biomass.

Whereas only 5% of the energy from biomass produced worldwide is employed in the transport sector.



Source: IEA, WEO 2012

Bioenergy - Policies



ARGENTINA current mandate
Ethanol: 5%
Biodiesel: 8%

BRAZIL current mandate
Ethanol : 20%
Biodiesel: 5%

CHINA current mandate
Ethanol : 10% in 9 province
Target for 2020
Etanol/Biodiesel: 10%

INDIA current mandate
Ethanol : 5%
Target for 2017
Etanol/Biodiesel: 20%

Fonte: Global Renewable Fuels Alliance, 2015 and Biofuels Digest, 2014

INDONESIA mandates:
Ethanol : 3% -> 20% 2020
Biodiesel: 10% -> 30% 2020

MOZAMBIC
current mandate
Ethanol : 10%

SUD AFRICA
current mand.
Ethanol : 10%

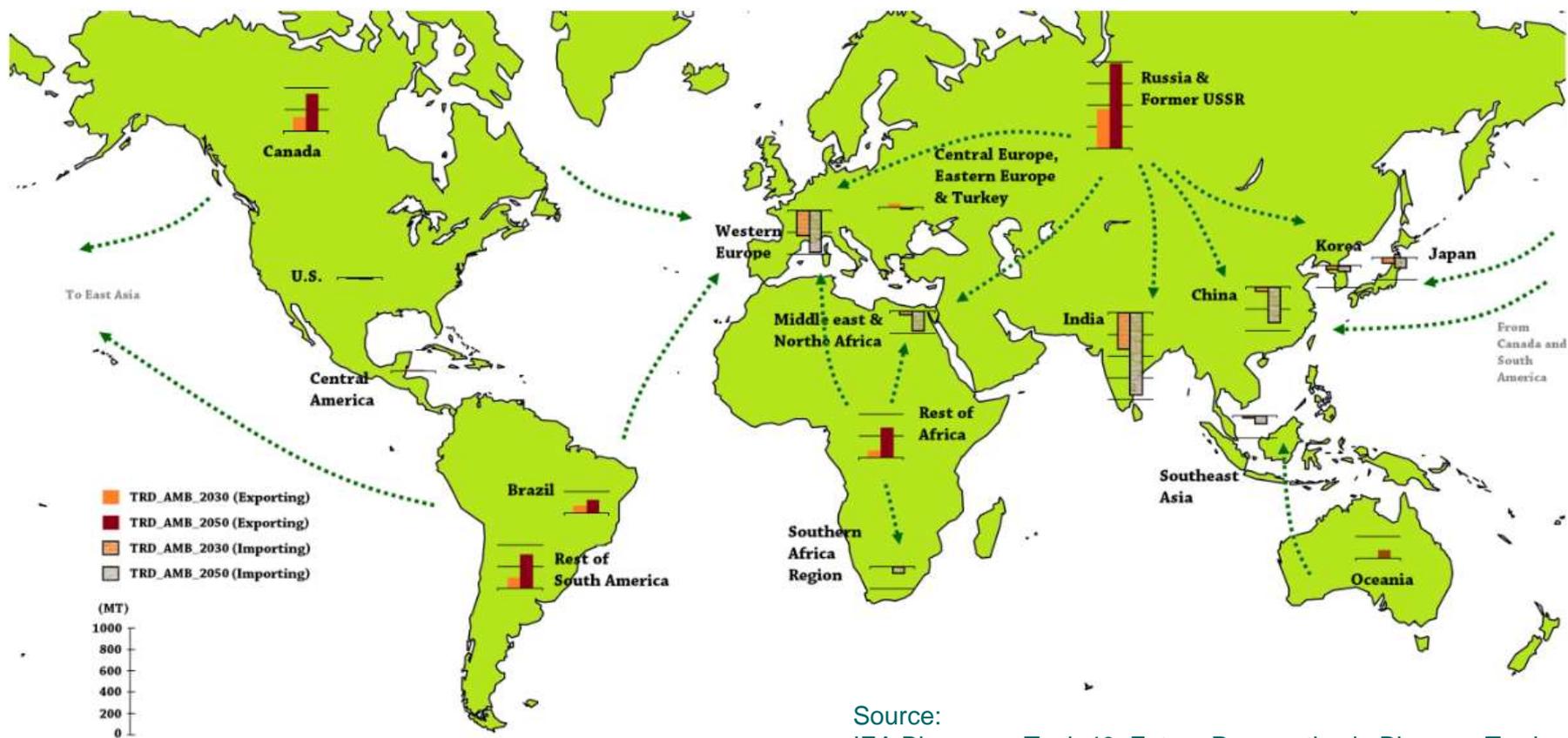
USA current mandate
136 billion liters by 2022

EU current mandate
10% renewables in transport sector
(up to 7% from food crops)

Bioenergy – solid biomass

Pellet production, trade and consumption –future scenarios (2030, 2050):

- Europe, India e China main importers
- Russia, Canada, Latin America and Africa main exporters



Source:
IEA Bioenergy Task 40: Future Perspective in Biomass Trade

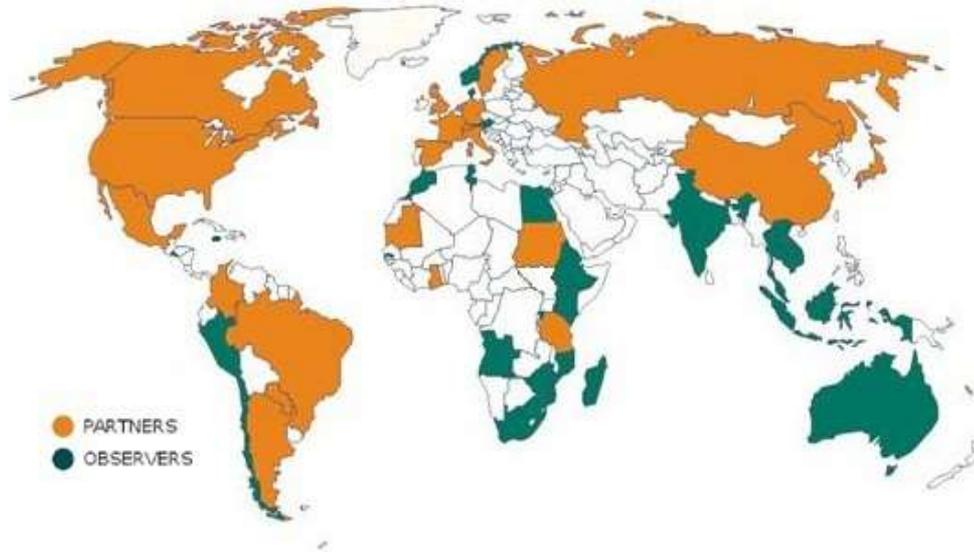
The Global Bioenergy Partnership (GBEP)

- GBEP was established to implement the commitments taken by the **G8 in 2005** to **support “biomass and biofuels deployment**, particularly in developing countries where biomass use is prevalent”

GBEP aims mainly to:

- Promote high-level **policy dialogue** on bioenergy and facilitate international **cooperation**;
- support national and regional bioenergy **policy-making** and **market development**;
- favour the transformation of biomass towards more efficient and **sustainable practices**; and
- foster **exchange** of **information**, **skills** and **technologies** through bilateral and multilateral **collaboration**.

GBEP Membership



GBEP Sustainability Indicators for Bioenergy

ENVIRONMENTAL		ECONOMIC
1. Lifecycle GHG emissions		Productivity
2. Soil quality		Net energy balance
3. Harvest levels of wood resources		Gross value added
4. Emissions of non-GHG pollutants, including air toxics		Change in consumption of fossil fuels and traditional use of biomass
5. Water use and efficiency	 <p>THE GLOBAL BIOENERGY PARTNERSHIP SUSTAINABILITY INDICATORS FOR BIOENERGY FIRST EDITION</p>	Training and re-qualification of the workforce
6. Water quality		Energy diversity
7. Biological diversity in the landscape		Infrastructure and logistics for distribution of bioenergy
8. Land use and land-use change related to bioenergy feedstock production		Capacity and flexibility of use of bioenergy

Barriers to Sustainable Bioenergy Development: Policy Frameworks

- Lack of **coordination** among relevant **sectors** and related **policies** and **institutions** (e.g. energy, agriculture, environment, etc.)
- Lack of coherent and stable **policy frameworks**

HOW GBEP
HELPS...

Since 2006, GBEP has been fostering **institutional coordination, multistakeholder dialogues** and **policy dialogues** at both national and regional levels

Barriers to Sustainable Bioenergy Development: Lack of Evidence – Potential & Sustainability

- Lack of **understanding** of biophysical and especially techno-economic **potential** of bioenergy, as well as of the environmental, social and economic **sustainability** of bioenergy
- Lack of **evidence-based** and political support for bioenergy **policies**

HOW GBEP
HELPS...

The GBEP indicators are contributing both to the **generation of evidence** and to **assess the sustainability** of bioenergy production and use

Barriers to Sustainable Bioenergy Development: Data and Skills

- Lack of effective **strategies** and **mechanisms** for **data collection** and **management**
- Limited **availability** of – and **access** to – **data**
- Lack of **skills** and **capacity** to undertake necessary analysis

HOW GBEP
HELPS...

GBEP is **compiling** the necessary **data**, with a view to **filling** data **gaps**, and is **strengthening** the **capacity** of relevant institutions

Conclusions

- Bioenergy has the potential to reduce GHG emissions **and offer opportunities to agriculture and forestry sectors;**
- **West Africa** could play an important role
- **Sustainability** is key;
- **Monitoring sustainability** is a **necessary step** in order to understand, evaluate and improve the performances of the sector
- **GBEP is actively working** on the diffusion of **sustainability** in the processes of production and use of bioenergy resources with several activities and tools, including the **GBEP Sustainability Indicators for Bioenergy**
- Particularly for **policymakers** GBEP represents an important forum for discussion and harmonization **policies**

Thank you



GBEP-Secretariat@fao.org

<http://www.globalbioenergy.org>

