The Global Bioenergy Partnership (GBEP) and its contribution to the sustainable development of bioenergy

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

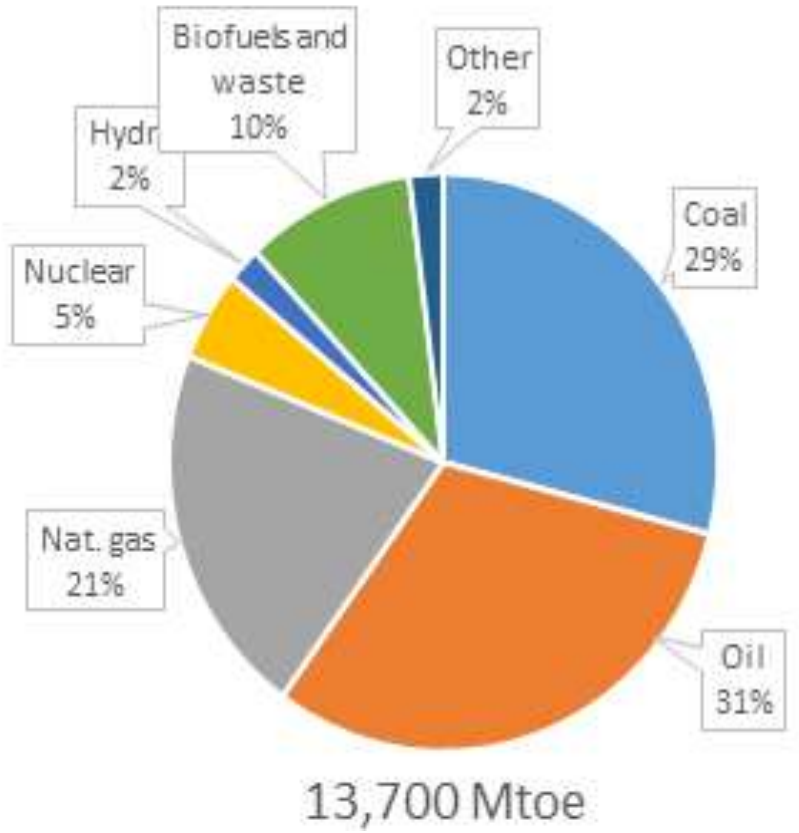
Global Bioenergy Partnership

Bioenergy production

In 2014 bioenergy production reached 1.37 billion tons of oil equivalent or about **10% of world primary energy supply** (IEA, 2016)

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

TPES – 38% OECD, 35% Asia, 6% Africa



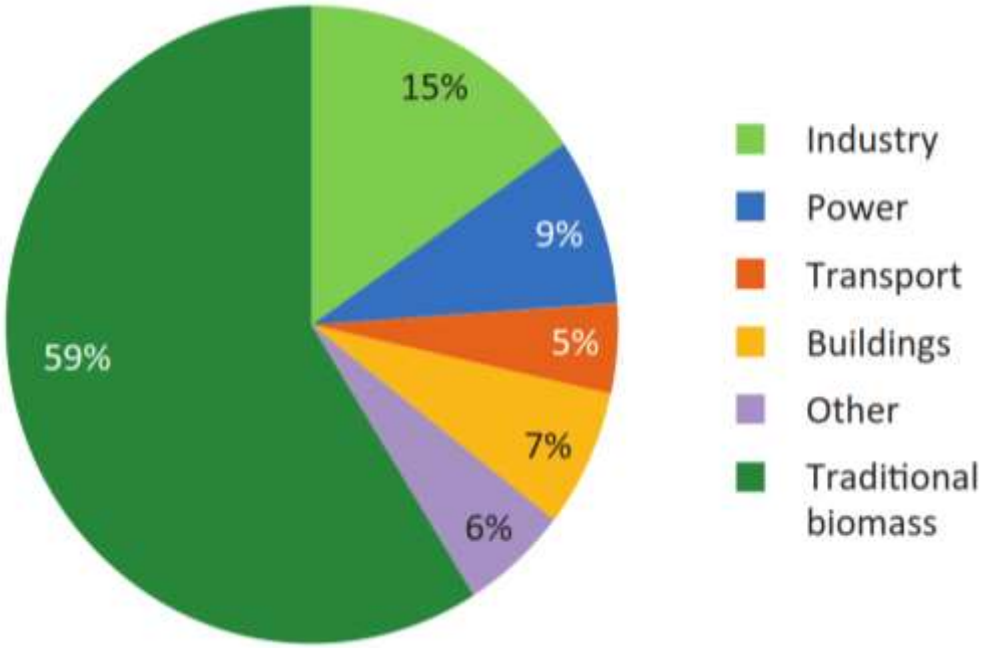
Source: IEA, 2016

GBEP
Global Bioenergy Partnership

Bioenergy use

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

Only 5% of the energy from biomass produced worldwide is employed in the transport sector

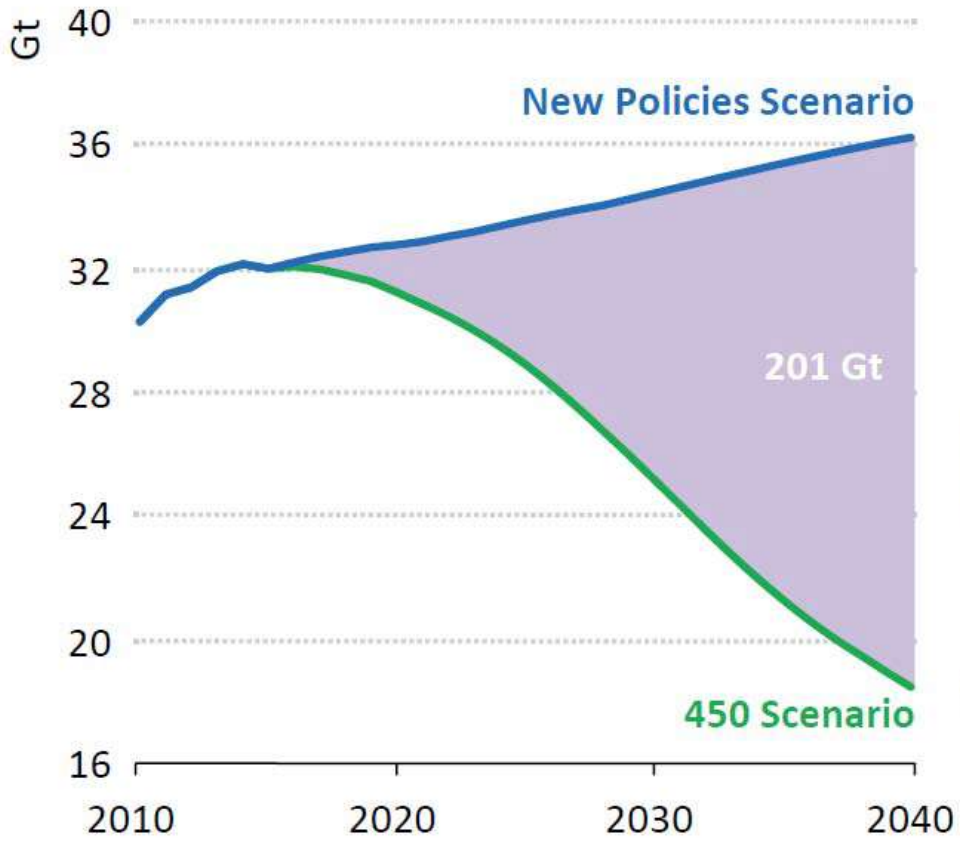


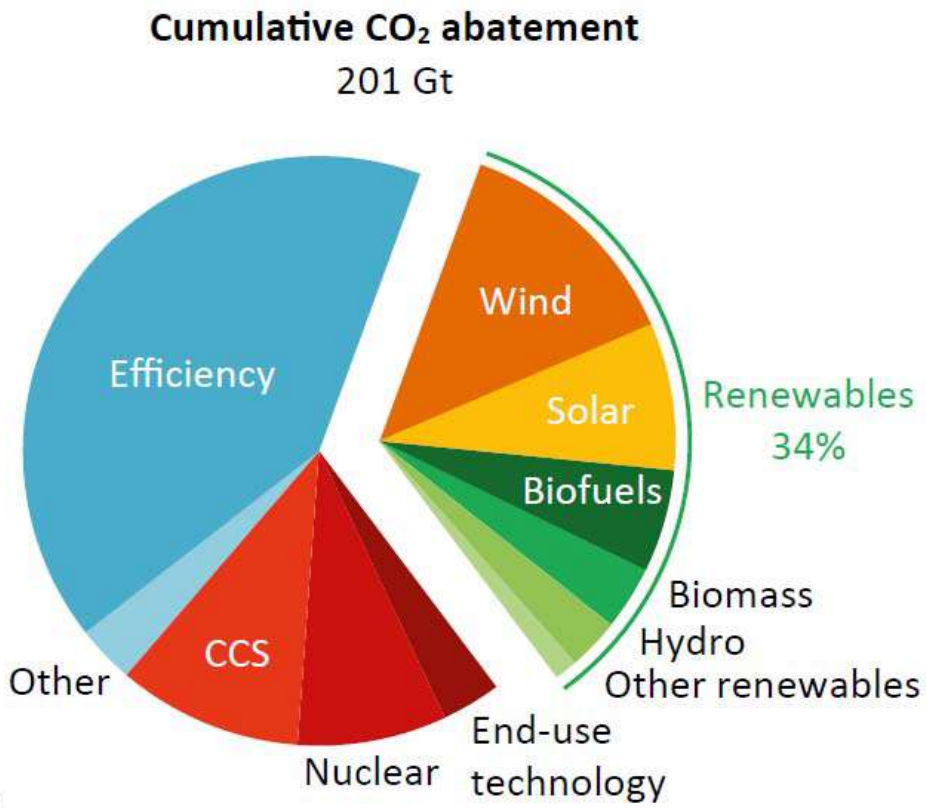
Source: IEA, WEO 2012

GBEP
Global Bioenergy Partnership

GHG emissions: data and projections

In the 450 ppm scenario, IEA foresees an important role for bioenergy



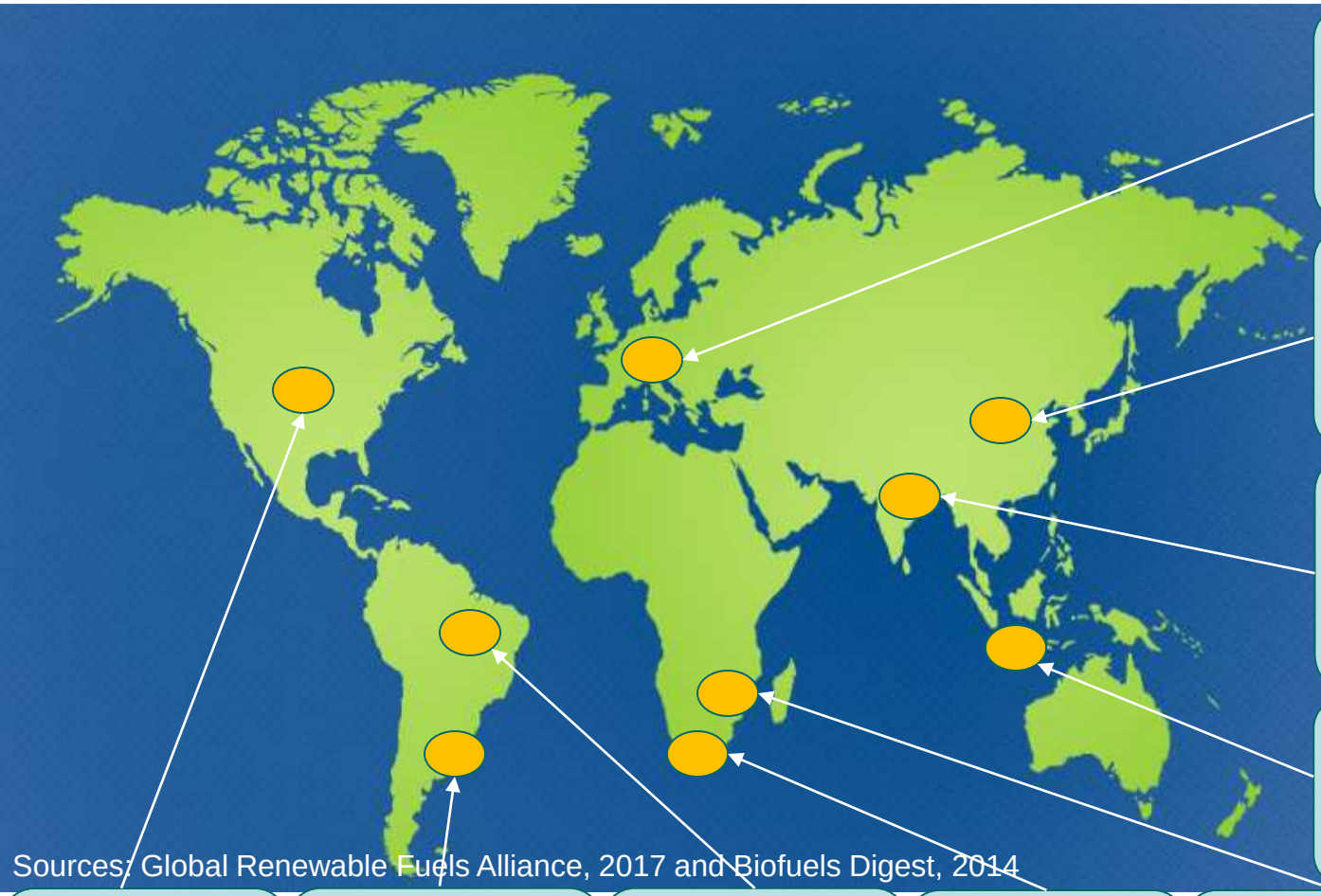


IEA long term scenarios→ bioenergy accounting for almost 20% of global CO2 emission reductions by 2060

Source: OECD/IEA 2016

GBEP
Global Bioenergy Partnership

Global Biofuel Policies and Mandates



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

CHINA current mandate
Ethanol : 10% in 9 provinces

Target
Ethanol/Biodiesel: 10%

INDIA current mandate
Ethanol : 5%

Target
Ethanol/Biodiesel: 20%

INDONESIA current mandates
Ethanol : 3%
Biodiesel: 10%

Sources: Global Renewable Fuels Alliance, 2017 and Biofuels Digest, 2014

USA
current mandate
136 billion liters by 2022

ARGENTINA
current mandate
Ethanol: 5%
Biodiesel: 10%

BRAZIL current mandate
Ethanol : 25%
Biodiesel: 5%

SOUTH AFRICA
current mandate
Ethanol : 10%

MOZAMBIQUE
current mandate
Ethanol : 10%

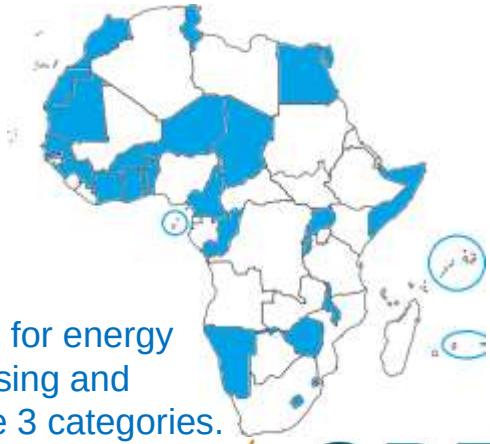
GBEP
Bioenergy Partnership

Policy and measures related to energy in and from agriculture in the African (I)NDCs

243 Policy and Measures (PAMs) related to energy in and from agriculture, representing 47 African countries.

87 PAMs related to **modern bioenergy** from 41 countries: 28 related to liquid biofuel, 26 to biogas, 15 to solid biofuel & 18 to non specified biomass feedstock.

95 PAMs related to **traditional bioenergy** from 41 countries: 24 countries combine more sustainable wood to energy systems with more efficient cook stoves; 15 countries support efficient stove programs only; and 2 countries support more sustainable wood to energy systems only.



61 PAMs related to **energy use in agriculture** from 30 countries: 33 PAMs for energy use at the production stage; 16 PAMs for food value added through processing and marketing; and 12 PAMs for post-harvest handling. 6 countries combine the 3 categories.

GBEP
Global Bioenergy Partnership

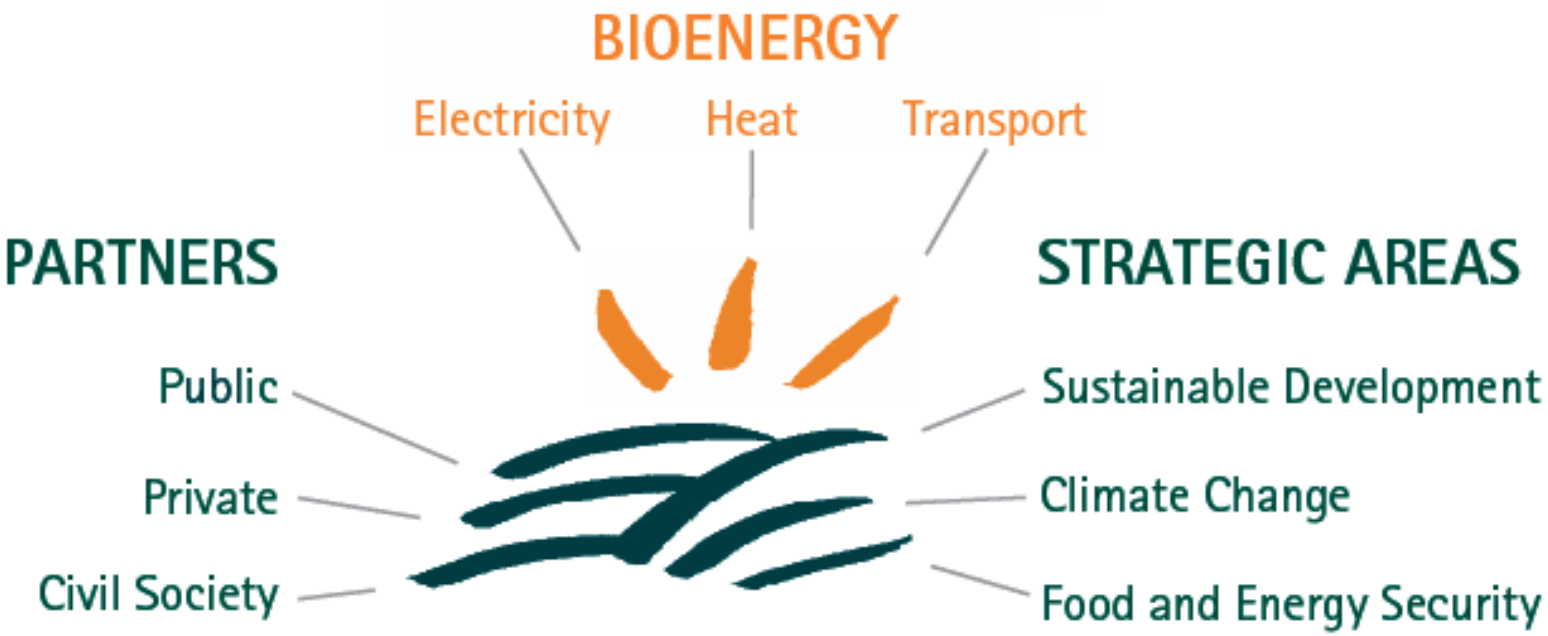
The Global Bioenergy Partnership (GBEP) Membership

37 Partners and 40 Observers

(Governments and International Organizations)

GBEP
Global Bioenergy Partnership

The GBEP focus



Italy and **Brazil** are currently Chair and co-Chair of the Partnership.
The Secretariat is hosted at FAO in Rome.

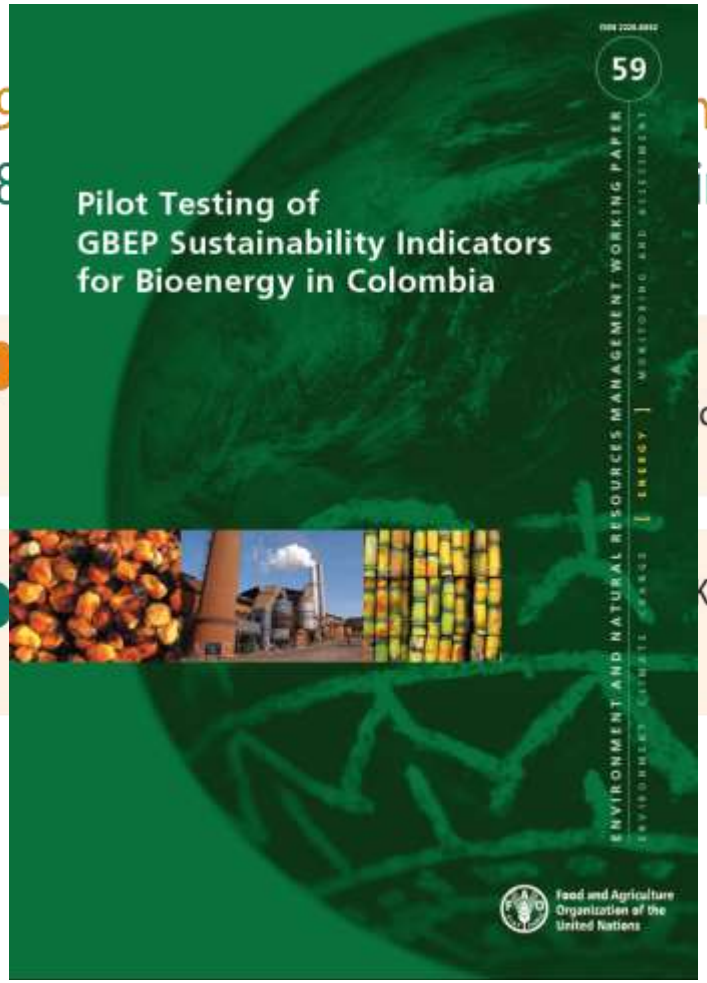
GBEP
Global Bioenergy Partnership

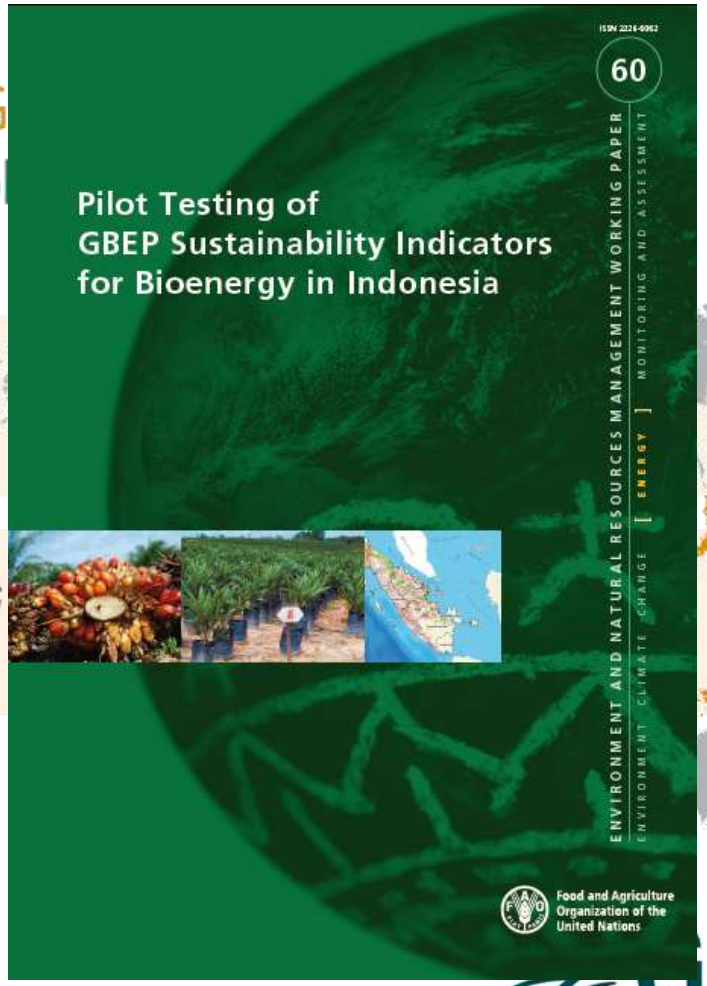
1. GBEP sustainability indicators for all types of bioenergy

ENVIRONMENTA	ECONOMIC
1. Lifecycle GHG emiss	Productivity
2. Soil quality	Net energy balance
3. Harvest levels of woo resources	Gross value added
4. Emissions of non-GH pollutants, including toxics	Change in consumption of fossil fuels and traditional use of biomass
5. Water use and efficie	Training and re-qualification of the workforce
6. Water quality	Energy diversity
7. Biological diversity in landscape	Infrastructure and logistics for distribution of bioenergy
8. Land use and land-u change related to bio feedstock production	Capacity and flexibility of use of bioenergy

GBEP
Global Bioenergy Partnership

Implementation of the sustainability indicators





Global Bioenergy Partnership

Further guidance on the GBEP indicators

- Development of an **Implementation Guide**, based on lessons learnt from measurement of the GBEP indicators at country level
- To provide guidance on **methodological** and **practical issues** related to the implementation of certain indicator methodologies
- Further guidance on:
  - **Attribution** of impacts to bioenergy production and use – identifying a range of suitable approaches for each indicator
  - Linkages with international processes, such as monitoring of progress towards the **Sustainable Development Goals**

GBEP
Global Bioenergy Partnership

2. GBEP work on capacity building

Activity Groups

1. ***Promoting Sustainable Modern Bioenergy in West Africa*** *(leading Partners: U.S. and ECOWAS) – Contributed to the development of the Regional Strategy on Bioenergy*

2. ***Raising awareness, and sharing of data and experience on the implementation of GBEP indicators*** (leading Partners: Germany and Indonesia)

3. ***Study tour for capacity building and training*** (leading Partner: Brazil) – 5 Bioenergy Weeks so far, in different regions of the world

4. ***Sustainable modern wood energy development*** (leading Partner: FAO)

5. ***Global Bioenergy Atlas*** (leading Partner: IRENA) – Final report in 2015

6. ***Bioenergy and Water*** (leading Partner: IEA/IEA Bioenergy)

7. ***Biogas*** (leading Partners: Viet Nam and ECOWAS) – Just established

8. ***Advanced Biofuels*** (leading Partner: U.S.) – Just established

GBEP
Global Bioenergy Partnership

Conclusions

- Bioenergy has the potential to reduce GHG emissions **and offer opportunities to agriculture and forestry sectors**
- **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 of **policies**

GBEP
Global Bioenergy Partnership

Thank you

GBEP-Secretariat@fao.org

http://www.globalbioenergy.org

GBEP
Global Bioenergy Partnership