

PRESENTATION OF EUBIA

EUBIA is a founding member of EREC – The European Renewable Energy Council. EUBIA is based in the Renewable Energy House in Brussels, at the heart of the European Union institutions.

EUBIA aims to support and promote the sustainable development of the bioenergy sector in the EU and further afield. Bioenergy is a very wide sector, from transportation biofuels to bio-electricity and bio-heating.

EUBIA is actively involved in the following essential subjects related to bioenergy: Policy developments,

RTD and demonstration programmes, promotion of new technology for commercialisation, participation in innovative projects and studies, transfer of technologies and elaboration of Emission Trading Schemes, support to industries, data collection, conferences along with promotion and dissemination campaigns.

EUBIA has provided a contribution for the elaboration of the European Commission's White Paper and is a member of the Steering Committee of the G8 Global Bioenergy Partnership.



Micro Distillery

The European Biomass Industry Association was created in 1996 as an international non-profit organisation based in Brussels.

EUBIA is a direct representation of the biomass industry to the EU institutions. The activities of EUBIA aim to:

- ▣ Identify sustainable and economically viable bioenergy projects
- ▣ Support the industries that are active in the bioenergy sector and promote their projects;
- ▣ Involve the bioenergy industry in EU-funded projects
- ▣ Implement strategic studies in the bioenergy sector
- ▣ Provide the industries with relevant information from the EU institutions
- ▣ Provide the EU institutions with relevant information from the biomass industry
- ▣ Promote international cooperation and transfer of technologies

EUBIA's activities range from project participation, studies, consulting, data collection, conferences and promotional campaigns to institutional lobbying.

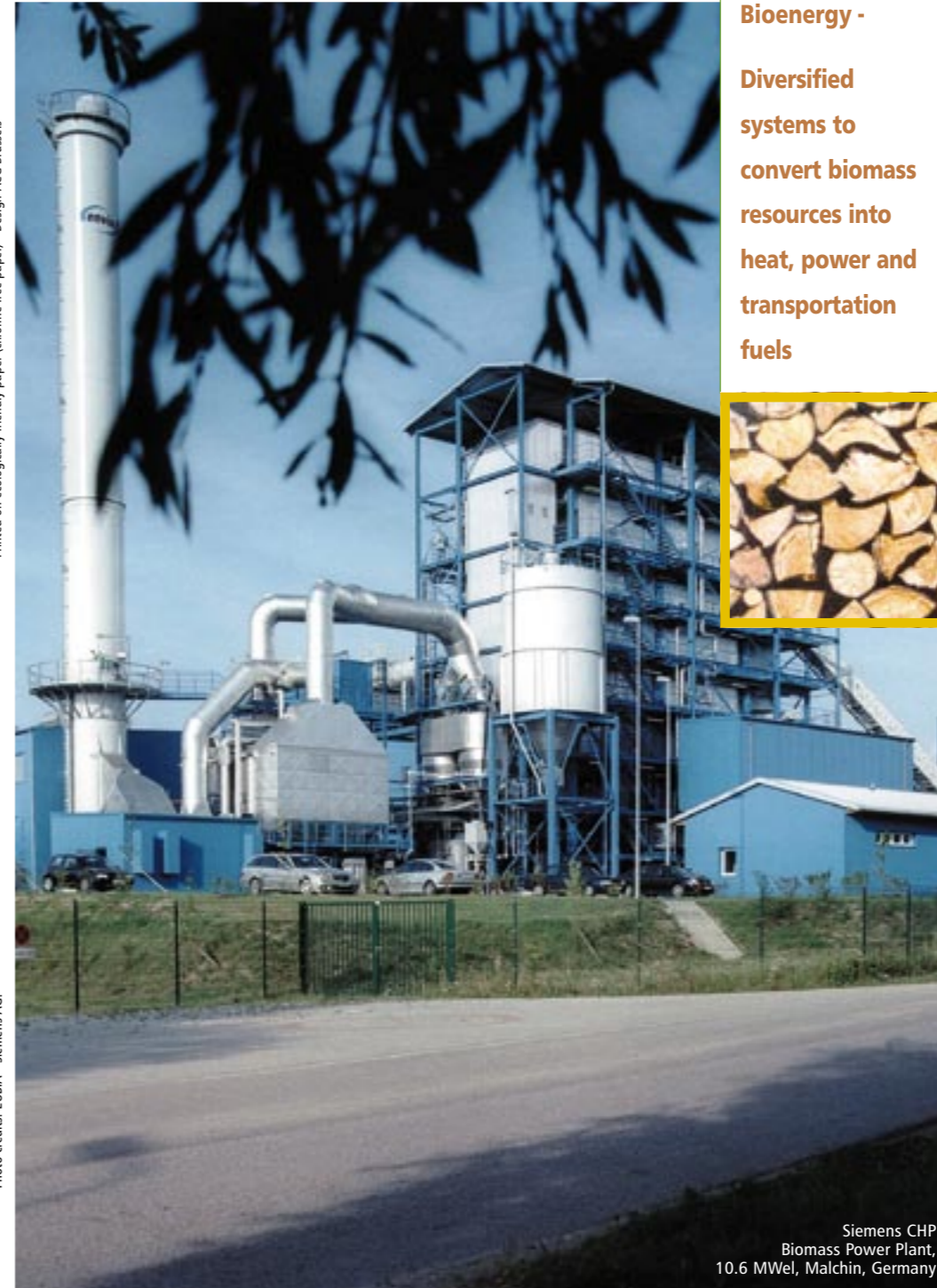
EUBIA's overall objective is to promote the industry of bioenergy and the related markets at small, medium and large scale in a modern, environmentally sound and sustainable way.

In order to carry out our objectives EUBIA aims to provide a multidisciplinary approach from Universities, research centers, consulting groups, industries, associations and financial organisations on topics related to the bioenergy sector.

EUROPEAN BIOMASS INDUSTRY ASSOCIATION



**Bioenergy -
Diversified
systems to
convert biomass
resources into
heat, power and
transportation
fuels**



Printed on ecologically friendly paper (chlorine free paper) - Design: ACG Brussels

Photo credits: EUBIA - Siemens AG.

Siemens CHP
Biomass Power Plant,
10.6 MWel, Malchin, Germany

B
I
O
E
N
E
R
G
Y

EUBIA

Contact details of EUBIA

EUROPEAN BIOMASS
INDUSTRY ASSOCIATION

Renewable Energy House

Rue d'Arlon, 63-65 • B-1040 Brussels

T : +32 2 400 1020 • F : +32 2 400 1021

eubia@eubia.org • www.eubia.org



Contact details of EREC

EUROPEAN RENEWABLE ENERGY COUNCIL

Renewable Energy House

Rue d'Arlon 63-65 • B-1040 Brussels • Belgium

T : +32 2 546 1933 • F : +32 2 546 1934

E: erec@erec-renewables.org

I: www.erec-renewables.org



WHAT IS BIOMASS?

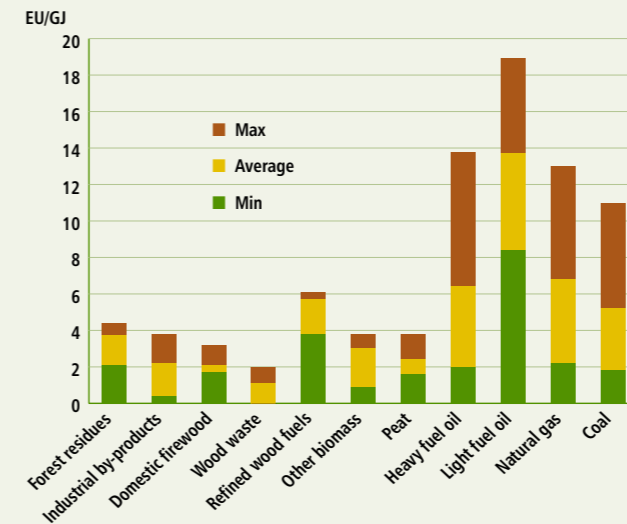
Biomass is the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste.

- **Conventional crops for non-food use:** starch crops (maize, wheat, corn, barley), oil crops (rape seed, sunflower) and sugar crops (sugar cane, sugar beet, sweet sorghum...)
- **Dedicated crops:** short rotation forestry (willow, poplar) and herbaceous (grasses)
- **Forestry by-products:** logging residues, thinnings
- **Agricultural by-products:** straw, animal manure
- **Industrial by-products:** residues from food, and wood based industries
- **Biomass Waste:** demolition wood waste, sewage sludge and organic fraction of municipal/industrial solid waste

Source: EU Directive 2001/77/EC

BIOMASS IS CHEAPER THAN FOSSIL FUELS

Prices of fuels at industrial energy plants in baltic countries (min, average and max, in 2004).



Source: Eija Alakangas, EUBIONET, www.eubionet.net

KEY ADVANTAGES OF BIOMASS

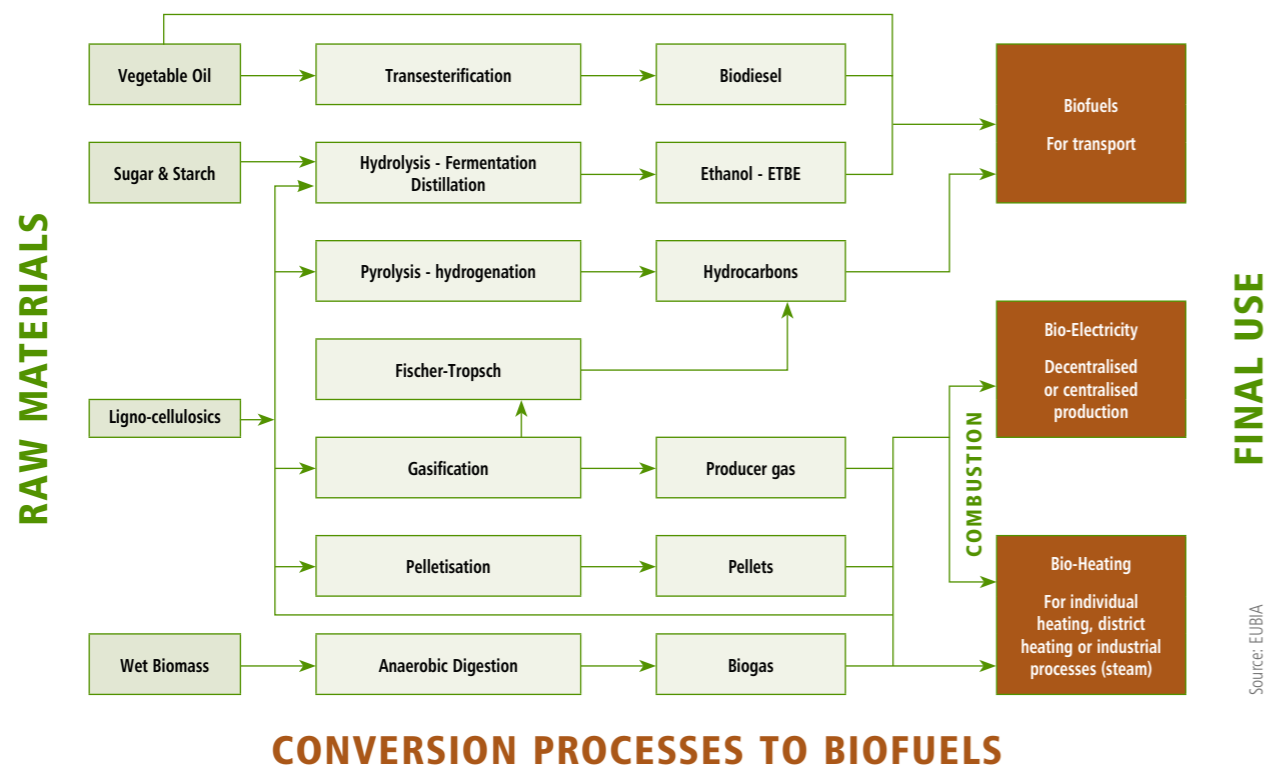
- Widespread availability in Europe and abroad
- Contribute to the security of energy supply
- Stable fuel cost compared to fossil fuels
- Can be stored and used on demand
- Stable employment opportunities, especially in rural areas
- Good opportunities for technology exports and Cooperation
- Reduced CO₂ and other emissions
- Source of many business opportunities
- Contribution to a balanced growth of agriculture

BIOENERGY

Three ways of using the biomass resources constitute the bioenergy sector:

- Biomass for heating purposes (bio-heating)
- Biomass for electricity production (bio-electricity)
- Biomass for transport fuels (transportation biofuels)

The diagram below shows the great variety and potential in the possible transformation processes of biomass, from raw materials to final use:



CONVERSION PROCESSES TO BIOFUELS

BIOENERGY AND GREENHOUSE GAS

All these processes enables one to take advantage of the CO₂ mitigation potential of biomass. The CO₂ released is equivalent to the amount of CO₂ absorbed by biomass (photosynthesis) in the growing phase. Practically, the equivalent of 10 to 30% of the energy content of the raw biomass is used in cropping, transport,

conversion and upgrading. This amount of energy can partially come from the biomass itself, which makes, in many cases, the overall CO₂-balance neutral. Therefore, biomass can substantially contribute to reaching the Kyoto Protocol targets and to reduce long-term greenhouse gas emissions

BIOMASS POTENTIAL

The potential for Bioenergy is very large and widely distributed throughout the world. Today, biomass is already the principle contributor to total world energy needs of all renewable energy technologies available, and reaches 12 % (50 EJ/y) of the total world need (406 EJ/y). The use is essentially based on agro-forestry residues and natural forest. In the long term biomass should be able to supply a considerable amount of energy (~600 MTOE/y for the world) to an increasing number of market sectors. Because bioenergy can be implemented at small, medium and large scale for heat, power and transport biofuels production, it is suitable for a wide variety of situations with different resources and processing / utilisation schemes. There is a need for wider availability of commercially viable, modern and efficient technologies and great efforts are now being made to promote the contribution they can make towards environmentally, technically and economically sustainable use of biomass residues. In the future, a large contribution to Bioenergy production may also derive from dedicated crops (Short Rotation Forestry plantation, herbaceous crops).

JOB CREATION

Bioenergy production creates new and stable jobs, mostly in rural areas. It contributes to a balanced diversified growth of agriculture. High demand for biomass conversion and utilisation technologies can be expected in the future in both industrialised and developing countries. This means major export opportunities for European technologies, know-how and services, particularly for small and medium capacity plants. The table below shows how the implementation of the Biomass Action Plan would involve the creation of 182.000 additional jobs in the EU.

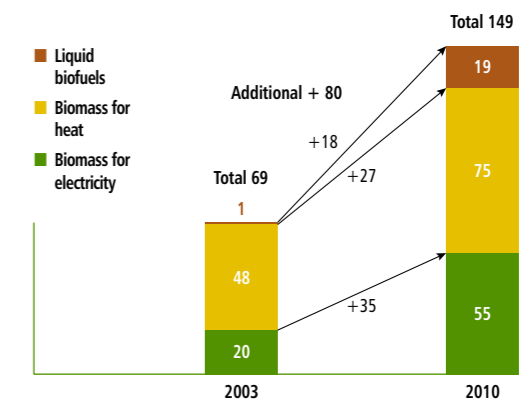
Direct employment effects in rural regions of the EU-25

Jobs created in Full Time Equivalent / Year in 2010	Due to additional liquid biofuel	Due to additional bio-electricity generation	Due to additional heat generation from biomass	Total
Scenario BAU	34.020	44.370	6.150	84.540
Scenario BAP	102.627	96.390	68.158	267.175
Difference BAP-BAU	68.607	52.020	62.008	182.635

BAU: Business as usual / BAP: Biomass

Source: COM(2005)608 p.36

Targets for Europe 25 according to the Biomass Action Plan (Mtoe)



BIOMASS ACTION PLAN of the European Commission for a coordinated approach to biomass policy

The Biomass action plan sets out measures to increase the development of biomass energy from wood, wastes and agricultural crops by creating market-based incentives to its use and removing barriers to the development of the market. The Biomass Action Plan is a coordinated programme for community action, including measures to improve demand for biomass; improve supply; overcome technical barriers; and develop research. In this way Europe can cut its dependence on fossil fuels, cut greenhouse gas emissions and stimulate economic activity in rural areas. Cost effective measures in favour of biomass need to be developed at European level to:

- Draw maximum advantage from national & local innovation
- Provide a clear way forward for industries organised on a European scale
- Share burdens fairly