

BIOMASS

Definition

From an ecological point of view, biomass is the total amount of living matter that exists in an ecosystem or in an animal or plant population. It is derived from organic material such as trees, plants, and agricultural and urban waste.

- (a) Agricultural crops, i.e. those grown for energy production, in Europe are predominantly herbaceous crops (e.g. miscanthus, reed canary grass, giant reed), oil seeds (e.g. rape seed, sunflower), sugar crops (e.g. sugar cane, sweet sorghum), and starch crops (e.g. maize, wheat), straw;
- (b) Forestry crops, which are predominantly short rotation plantation (e.g. willow, poplar and eucalyptus), and forest by-products (e.g. wood chips and blocks); agricultural wood production (e.g. vineyard, olive groves, orchards);
- (c) Industrial residues, such as industrial wood waste, sawdust from sawmills, fibrous vegetable waste from paper industries;
- (d) Waste, from parks and domestic gardens, demolition wood, biodegradable landfill waste, sewage sludge, municipal solid waste.

These various sources of biomass can be treated by chemical, biochemical or thermochemical processes to produce energy to generate renewable electricity or heat. They are chopped, chipped, pelleted or baled before being:

- burnt in a stove or boiler,
- mixed with coal for use in a conventional power station and
- used in a dedicated biomass power station.

Energy crops can also be grown for use in an anaerobic digester, where the organic material is broken down to produce biogas for heat and power.

Related terms

Biofuels, Biogas

Keywords

Bioenergy, Land use for energy



Figure 20a Non-food, perennial biomass, crops such as willows and miscanthus, can contribute to the reduction of CO₂ and play a role in mitigation against climate change. (Source: Test fields Szent István University/HU Alexandra Kruse 2017)

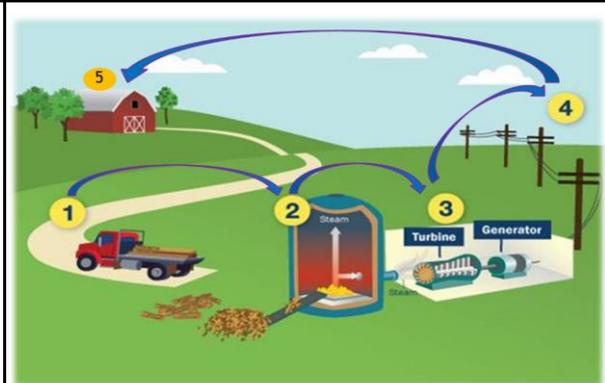


Figure 20b Biomass power plant – Scheme. (Source: [http23](http://23))

Sources

Definition developed by COST RELY Action.

Translations

Bosnia and Herzegovina **Biomasa**

Bulgarian **Биомаса**

Croatian **Biomasa**

Czech **Biomasa**

Danish **Biomasse**

Dutch **Biomassa**

Esperanto **Biomaso**

Estonian **Biomass**

Finish **Biomassa**

French **Biomasse** (*énergie*)

German **Biomasse**

Greek **Βιομάζα**

Hebrew **ביומס**

Hungarian **Biomassza**

Italian **Biomassa**

Islandic **Lífmassi**

Latvian **Biomasa**

Lithuanian **Biomasė**

Montenegrin **Biomasa**

Polish **Biomasa**

Portuguese **Biomassa**

Romanian **Biomasă**

Russian **Биомацца**

Slovenian **Biomasa**

Serbian **Биомаца**

Spanish **Biomasa**

Swedish **Biomassa**