

Topic Page: [Biomass](#)

Definition: **biomass** from *Philip's Encyclopedia*

Total mass (excluding water content) of the plants and/or animals in a particular place. The term is often used to refer to the totality of living things on Earth; or those occupying a part of the Earth, such as the oceans. It may also refer to plant material that can be exploited, either as fuel or as raw material.



Image from: [biomass energy](#) in *The Macmillan Encyclopedia*

Summary Article: **biomass**

From *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

Total mass of living organisms present in a given area. It may be used to describe the mass of a particular species (such as earthworm biomass), for a general category (such as herbivore biomass – animals that eat plants), or for everything in a habitat. Estimates also exist for the entire global plant biomass. Biomass can be the mass of the organisms as they are – wet biomass – or the mass of the organisms after they have been dried to remove all the water

– dry biomass. Measurements of biomass can be used to study interactions between organisms, the stability of those interactions, and variations in population numbers. Growth results in an increase in biomass, so biomass is a good measure of the extent to which organisms thrive in particular habitats. For a plant, biomass increase occurs as a result of the process of photosynthesis. For a herbivore, biomass increase depends on the availability of plant food. Studying biomass in a habitat is a useful way to see how food is passed from organism to organism along food chains and through food webs.

Apart from the quantitative meaning described above, biomass can also be used as a shorthand for 'material of biological origin'.

Some two-thirds of the world's population cooks and heats water by burning biomass, usually wood. Plant biomass can be a renewable source of energy as replacement supplies can be grown relatively quickly. Fossil fuels, however, originally formed from biomass, accumulate so slowly that they cannot be considered renewable. The burning of biomass (defined either as natural areas of the ecosystem or as forest, grasslands, and fuel woods) releases 3.5 million tonnes of carbon in the form of carbon dioxide each year, accounting for up to 40% of the world's annual carbon dioxide production.

Plant biomass can be changed into liquid or gaseous fuels to generate electricity or heat, or to fuel internal combustion engines. Fuel from biomass is burned in a reactor to generate heat energy, which is then converted into mechanical energy to turn turbine blades in a generator to produce electricity. Biomass power stations of 80 megawatts can produce electricity to power approximately 42,000 homes.

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biomass. (2018). In Helicon (Ed.), *The Hutchinson unabridged encyclopedia with atlas and weather guide*. Abington, UK: Helicon. Retrieved from <https://search.credoreference.com/content/topic/biomass>



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