



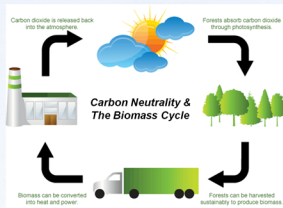
 L Solé

Biomass

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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 urban waste.

Biomass is the renewable resource that is abundant on the planet. This includes all organic material produced through metabolic processes of living organisms. Biomass is the first form of energy used by humans, with the discovery of fire.



The forms of exploitation of biomass energy (biofuels):

- * Direct burning with heat generation.
- * Combustion pyrolysis, with generation of syngas ($\text{CO} + \text{H}_2$).
- * Fermentation, the generation of biogas (CH_4) or ethanol ($\text{CH}_3\text{-CH}_2\text{-OH}$)
- * Type chemical processing of biomass by treating vegetable oil with alcohol and ester generation, eg methyl esters (biodiesel) and glycerol.
- * Enzymatic degradation of biomass to obtain ethanol or biodiesel.