

Biomass Energy

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What is Biomass Energy?

- Biomass : -. Biomass is the organic - biological material derived from living, or recently living organisms.

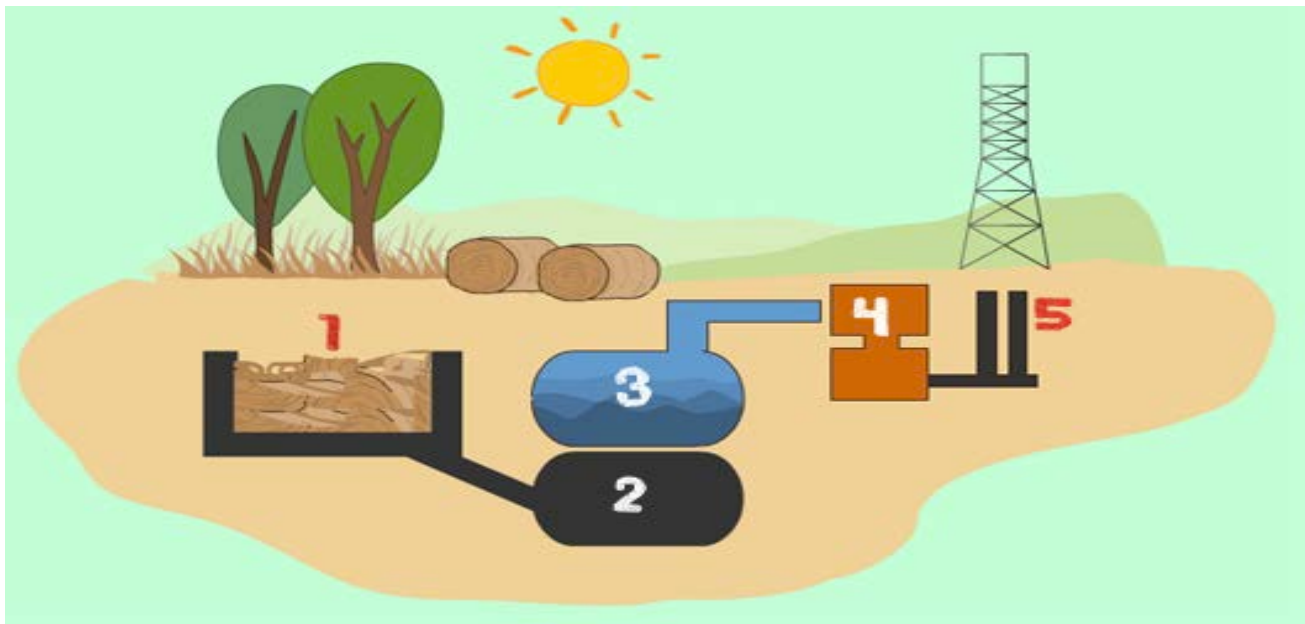


- Biomass Energy :-
 - Biomass can be used as a source of energy
 - The first form of energy

How is Biomass Converted to Energy?

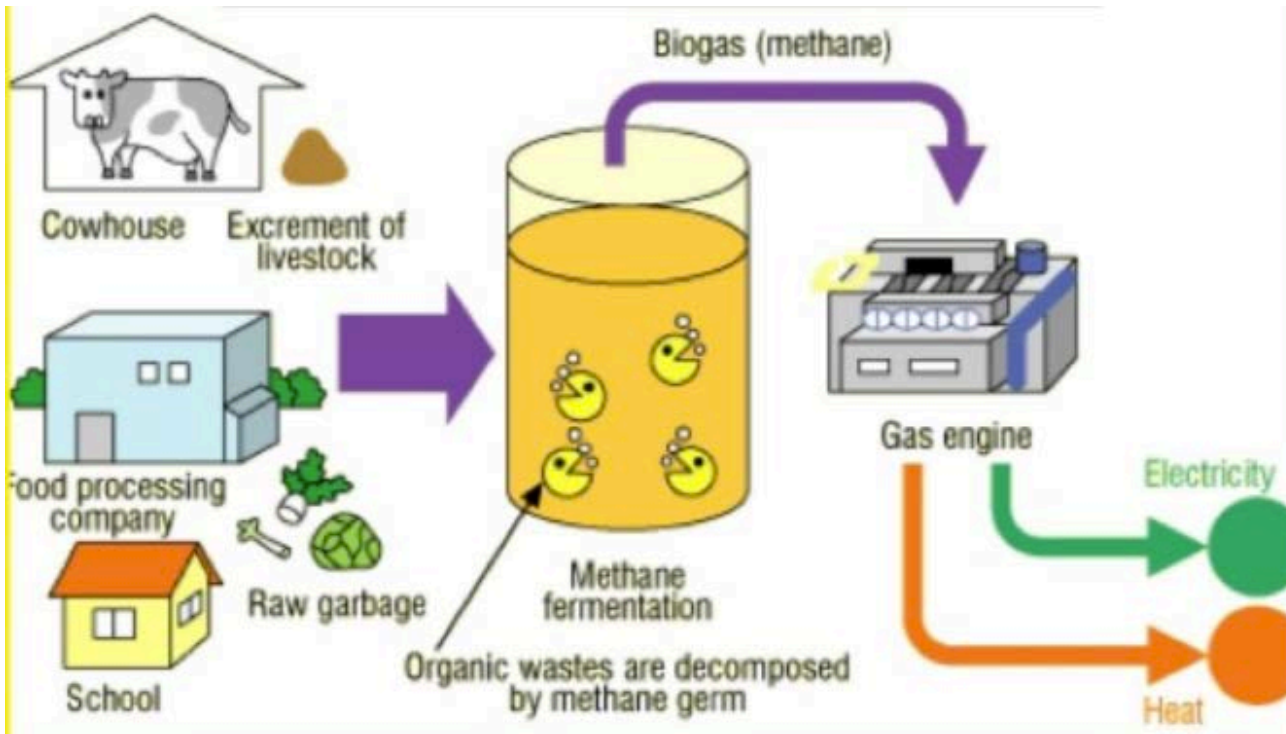
1. Burning

Sun -> Plants -> plants are burned -> water boiler -> heat energy -> turbines and generators -> electricity



How is Biomass Converted to Energy?

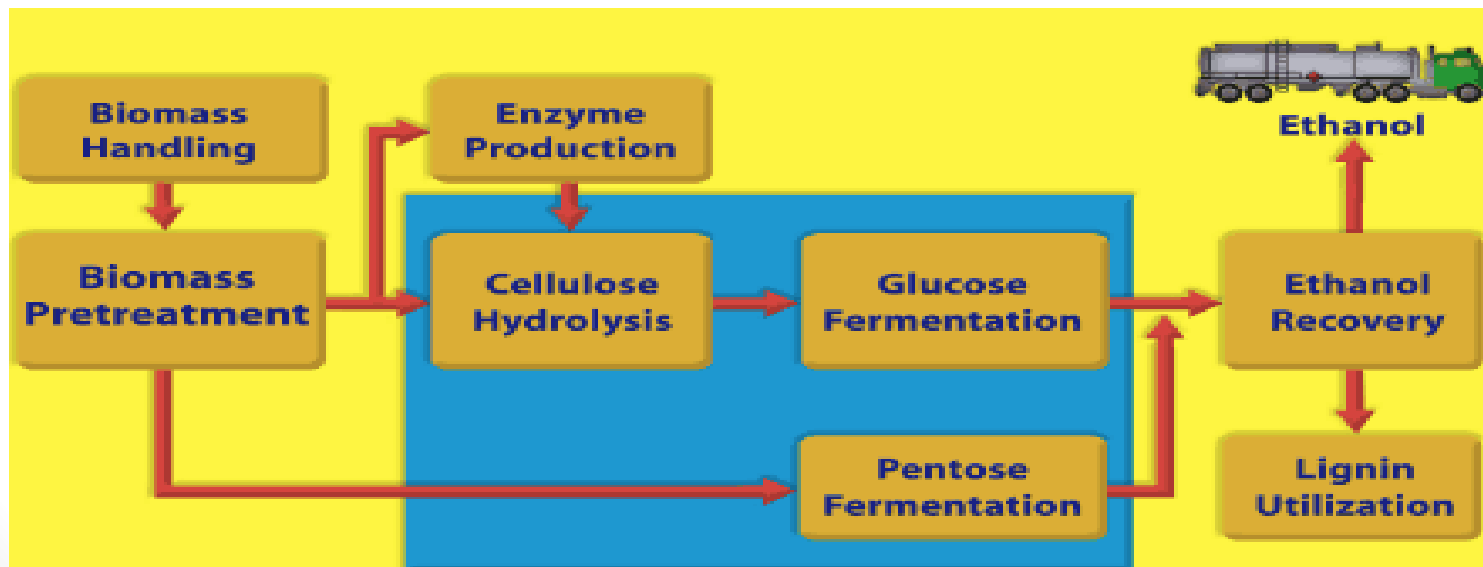
3. Decomposition



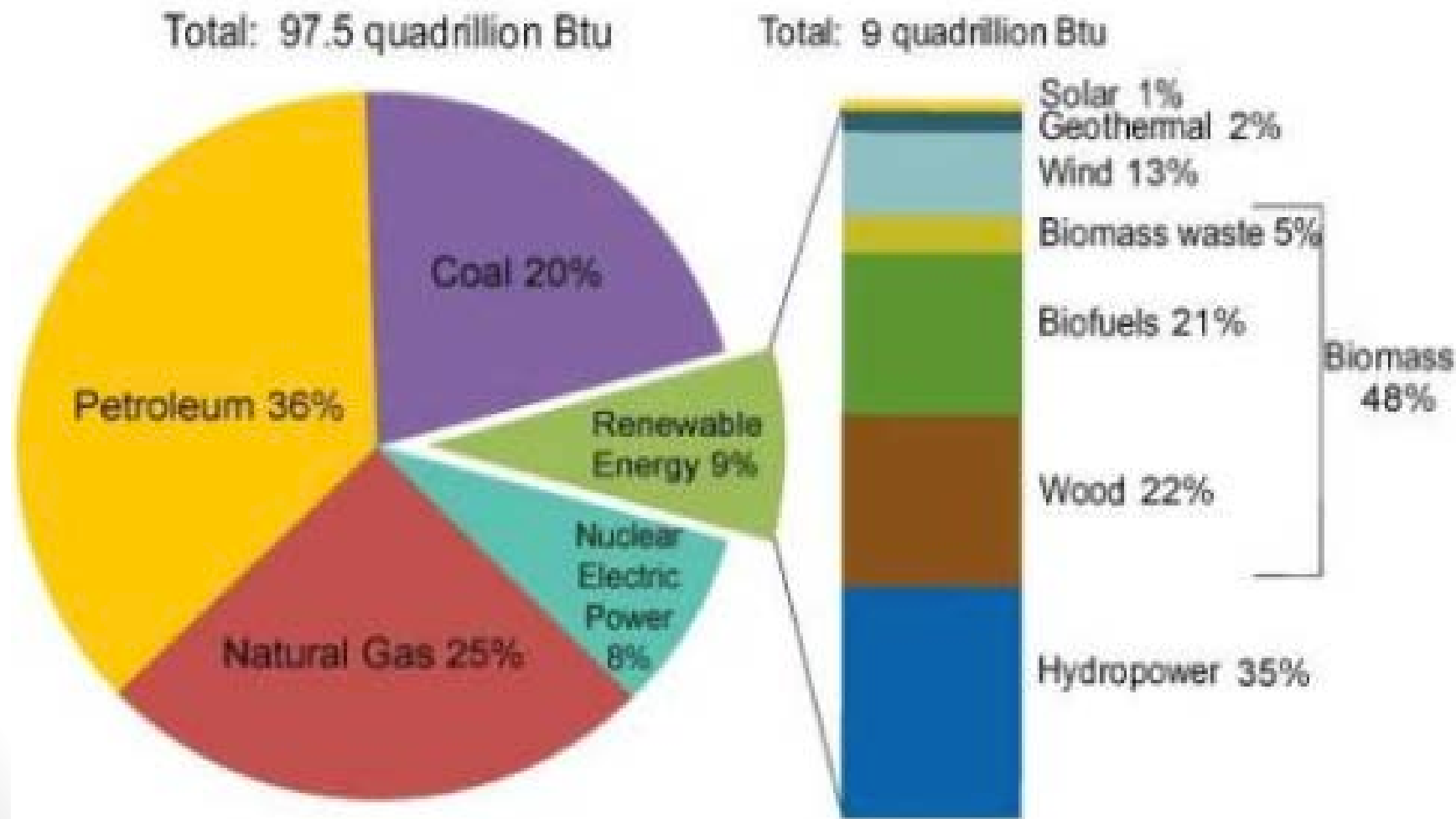
How is Biomass Converted to Energy?

3. Fermentation

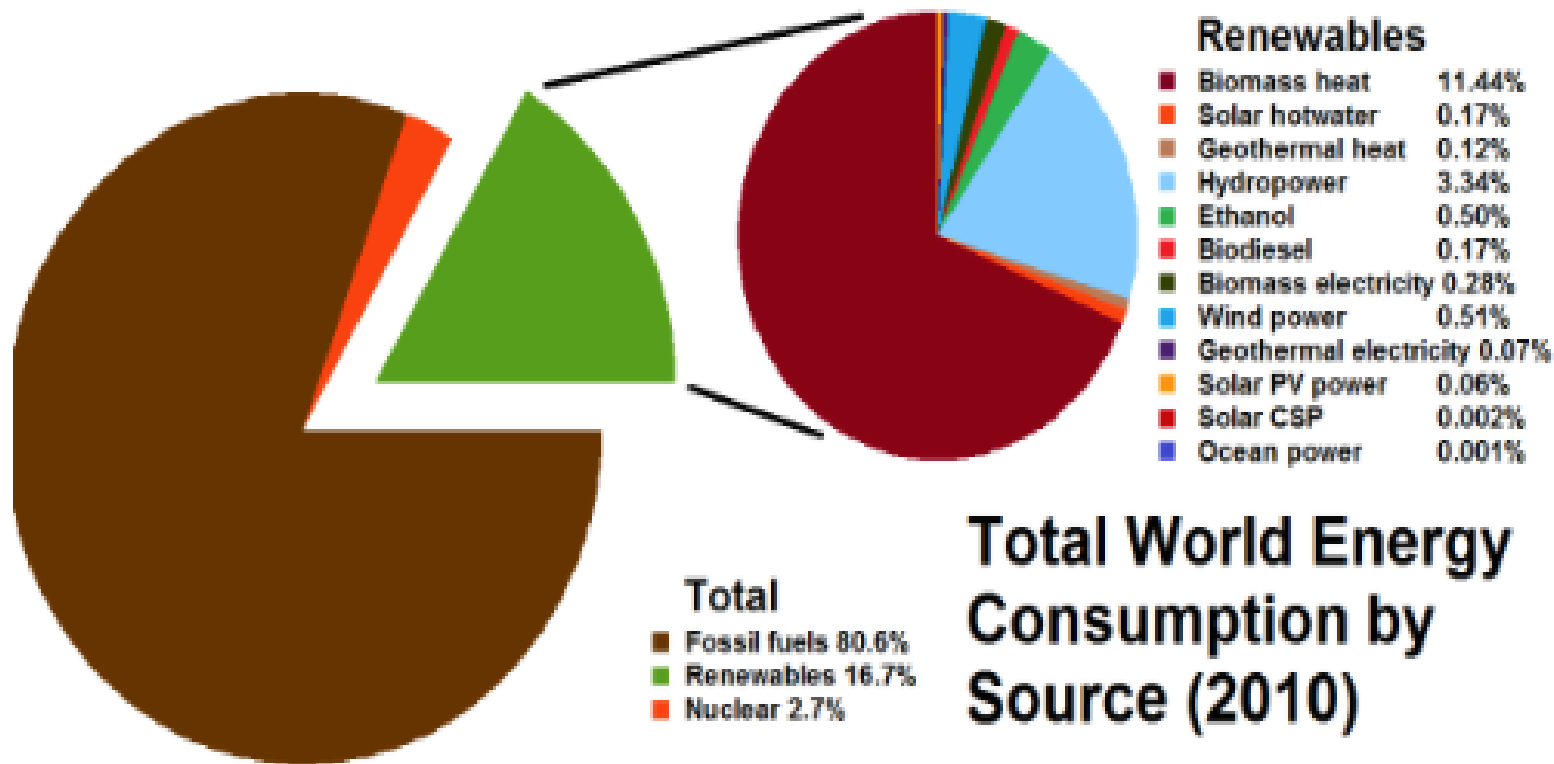
- Yeast or bacteria are added to the biomass
- The plant's glucose is converted to ethanol
- The ethanol is distilled and dehydrated to obtain higher concentration of alcohol
- Ethanol achieves the purity for the use of automotive fuel



U.S Energy consumption by energy source , (2011)



Total World energy consumption(2010)



Biomass Energy

- How effective is biomass energy?

In 1 year (2008)

Humankind : Consumes the equivalent 12 billion tons of oil

Biomass : equivalent to 72 billion tons of oil

Advantages and Disadvantages of Biomass Energy

✓ Advantages

- Renewable
- Carbon Neutral
- Cost-Effective
- Abundant

✓ Disadvantages

- Expensive
- Requires Space
- It produces bad smell
- Crops which are used to produce biomass energy are seasonal

Questions?

Reference

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