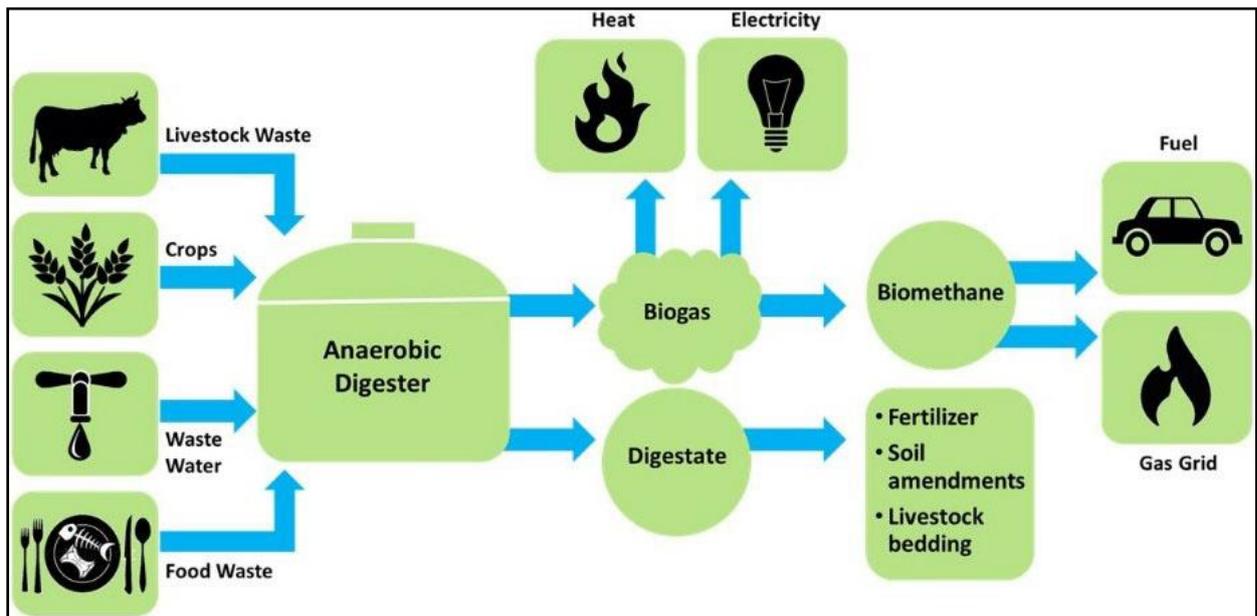


Biogas Energy : An Overview

What is Biogas?

It mainly comprises hydro-carbon which is combustible and can produce heat and energy when burnt. Biogas is produced through a biochemical process in which certain types of bacteria convert the biological wastes into useful bio-gas. Since the useful gas originates from a biological process, it has been termed as bio-gas. Methane gas is the main constituent of biogas.



Significance of Biogas Adoption:

Pollution Free Cities:

- The biogas solution can help make our cities clean and pollution-free.
- Leaching of toxic substances from landfills contaminates the groundwater.
- Decomposing organic matter releases huge amounts of methane into the environment, causing air pollution and global warming as methane is a very potent GHG.

Handling Organic Waste:

- Installing large-scale municipal biogas systems can help cities handle organic waste efficiently to overcome the environmental and socio-economic challenges posed by overburdened landfills.
- Municipal waste can be fed into these plants to create clean and green fuel, along with biofertilizers, while keeping the cities clean and hygienic.

Transform Energy Dependence:

- Biogas can play a critical role in transforming the energy dependence of rural and agricultural communities, which majorly depends on burning wood, dung, charcoal, coal and other fossil fuels for their energy needs.

- Only 26.53% of the total power generated in India is from renewable sources.
- The high dependence on non-renewable sources is the leading cause of the long-standing energy problems in the country.

Helpful for Women:

- Switching to biogas could be good for women because they won't be exposed to harmful smoke and pollution.
- Over four million people die every year all over the world due to high levels of indoor air pollution caused by the burning of fossil fuels and biomass.
- The female members of a household are affected by indoor pollution as they spend more time inside the house.

Reduces Carbon Dioxide Emissions:

- A fully functional biogas digester, for every tonne of feedstock processed, can reduce approximately 2.83 tonnes of carbon dioxide emissions in a year.
- Using biogas digesters to convert organic waste into clean energy can significantly contribute to countering challenges like pollution, climate change, livelihood inequalities and health in individual households as well as entire communities.

Improve Soil Quality:

- The digestate, a by-product generated in the biogas plants, can be used as a biofertilizer as it is rich in organic content and revitalises the soil.
- The digestate is rich in micro- and macro-nutrients required by the plants and can replace the synthetic fertilisers that deteriorate the soil quality over time.

Helpful in Achieving SDG Goal:

- Biogas can significantly contribute to achieving several UN-mandated Sustainable Development Goals (SDG) such as zero hunger, good health and wellbeing, gender equality, clean water and sanitation, sustainable, affordable and clean energy, decent work and economic growth, reduced inequalities, sustainable cities and communities, and climate action.

References:

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