



## BPCL to Launch CBG Plants in Chhattisgarh

### Why in News?

Recently, **Bharat Petroleum Corporation Limited (BPCL)** has partnered with the **Chhattisgarh Biofuel Development Authority** and Municipal Corporations of Raipur and Bhilai to establish **Compressed BioGas (CBG)** plants in the state.

### Key Points

- An investment of ₹100 crore each is earmarked for setting up state-of-the-art facilities in **Raipur and Bhilai**, aiming to convert municipal solid waste into **biofuel**.
  - The planned CBG plants, boasting a processing capacity of 100-150 tonnes per day, will utilize approximately 200-250 metric tonnes of municipal solid waste daily.
- This effort is not only aimed at fostering a **circular economy** but is also expected to generate about 60,000 man-days of employment annually, thereby contributing to the **region's economic development**.
  - A circular economy is **an industrial system** that is **restorative or regenerative** by intention and design.
- The initiative will produce organic fertilizer as a byproduct, supporting the state's push towards **organic farming** and **agricultural sustainability**.

### Compressed BioGas (CBG)

- Waste/Biomass sources like agricultural residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc. **produce Biogas** through the process of **anaerobic decomposition**.
- The Bio-Gas is purified to remove **hydrogen sulphide (H<sub>2</sub>S)**, **carbon dioxide (CO<sub>2</sub>)**, water vapour and compressed as **Compressed Bio-Gas (CBG)**, which has methane (**CH<sub>4</sub>**) content of more than 90%.
- CBG has **calorific value** and other properties similar to CNG and hence can be utilized as **green renewable automotive fuel**.
- Thus it **can replace CNG** in automotive, industrial and commercial areas, given the abundance of biomass availability within the country.

### Biofuels

- Any hydrocarbon fuel that is **produced from an organic matter** (living or once living material) in a short period of time (days, weeks, or even months) is considered a biofuel.
- Biofuels may be solid, liquid or gaseous in nature.
  - **Solid:** Wood, dried plant material, and manure
  - **Liquid:** Bioethanol and Biodiesel
  - **Gaseous:** Biogas
- These **can be used to replace or can be used in addition** to diesel, petrol or other fossil fuels for transport, stationary, portable and other applications. Also, they can be **used to generate heat and electricity**.
- Some of the main reasons for shifting to biofuels are the rising prices of oil, emission of **greenhouse gases** from fossil fuels and the interest in obtaining fuel from agricultural crops for

the benefit of farmers.

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