


Uttar Pradesh takes a ‘Green Leap’ with expanded Compressed Bio Gas initiative

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In a significant move towards sustainable energy, the Uttar Pradesh government has partnered with Reliance Industries Limited (RIL) to advance its green energy agenda through the establishment of Compressed Bio Gas (CBG) plants across the state. This initiative marks a pivotal step in Uttar Pradesh’s commitment to environmental conservation and renewable energy.

Currently, two CBG plants are operational in Barabanki and Prayagraj, producing a combined total of 40 tonnes of CBG daily. These state-of-the-art facilities exemplify the shift towards cleaner energy solutions and underscore UP government's dedication to enhancing renewable energy production. The Barabanki plant, the first to come online, has a daily output of 20 tonnes of CBG, with plans to expand to a total of 52 CBG plants throughout Uttar Pradesh.

The Uttar Pradesh government’s collaboration with Reliance Industries aligns with the country’s ambitious target of installing 5,000 CBG plants by 2030. This effort is aimed at transforming agricultural waste into biogas, thus reducing reliance on fossil fuels and addressing environmental challenges such as air pollution from stubble burning.

Rajesh Mohan, Head of Operations for CBG Business at Reliance Industries, highlighted the significance of the project: “Our investment in CBG plants is a major step towards a greener future. The Barabanki plant is just the start. We are committed to expanding to 52 plants across Uttar Pradesh, which will significantly contribute to clean energy production and help in reducing greenhouse gas emissions.”

Supporting this green transition, the Uttar Pradesh government has introduced a range of subsidies and incentives for the bio-energy sector. This support has accelerated the development of CBG projects, with six plants currently under construction and seven more in the planning stages.

Each CBG plant is designed to handle between 250 and 500 tonnes of feedstock daily, producing 10 to 20 tonnes of CBG. The estimated investment for a 10-tonne-per-day plant is around Rs 100 crore. The feedstock, sourced from farmers and sugar mills, includes agricultural residues such as sugarcane press mud and stubble, which are typically burned and contribute to pollution.

The CBG project is poised to boost local economies by creating job opportunities for farmers, transporters, and farm laborers, and by providing organic manure to enhance soil quality and crop yields. This approach not only supports agricultural productivity but also promotes sustainable farming practices.

Mohan further emphasized the environmental benefits: “Our CBG plants use agricultural residues and biomass, which helps manage waste and prevent environmental degradation. Importantly, our facilities generate zero solid or liquid discharge from paddy-based feedstock, reinforcing our commitment to sustainability.”

Uttar Pradesh’s green energy strategy extends beyond the current facilities. The state is planning additional CBG plants in the following districts:

Operational plants by RIL

- Barabanki
- Prayagraj

RIL plants under execution

- Barabanki
- Prayagraj
- Chandauli
- Hapur
- Unnao
- Ayodhya

RIL plants in planning stages

- Ambedkar Nagar
- Aligarh
- Azamgarh
- Hardoi
- Jalaun
- Pilibhit
- Sant Kabeer Nagar

Earlier Union Petroleum Minister Hardeep Singh Puri had announced plans for Uttar Pradesh to eventually host 100 CBG plants. These facilities are expected to play a crucial role in environmental conservation, augmenting farmers' income, and enhancing the state’s energy self-sufficiency. The state currently operates 10 CBG facilities, utilizing agricultural residues, press mud, and cow dung to produce biogas and organic fertilizer.

As Uttar Pradesh advances its green energy agenda, it stands as a model for sustainable development and renewable energy innovation in India.