

Feedstock security, not subsidies, will determine CBG's commercial future

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Exclusive AgroSpectrum interview with OPTA CEO Parshva Shah on feedstock security, rural ownership, bio-slurry monetisation and the policy shifts needed to build a bankable CBG ecosystem



In an exclusive AgroSpectrum interview, Parshva Shah, Chief Executive Officer, OPTA— One Place to Another, argues that the GOBARDhan framework has made CBG more fundable by reducing revenue uncertainty, but long-term commercial viability will depend on execution. Shah identifies feedstock security as the sector's biggest bottleneck, stressing that reliable biomass supply and plant utilisation matter more to project economics than subsidies or tariffs. He calls for a shift from treating farmers and villages merely as biomass suppliers to giving Panchayats, SHGs and FPOs a genuine economic stake in CBG projects. Shah also argues that CBG economics must go beyond gas sales by properly valuing bio-slurry, carbon benefits and avoided waste-management costs. He advocates treating crop residue and municipal organic waste as strategic resources and securing long-term, legally enforceable feedstock arrangements to make projects more bankable. According to Shah, a decade-long secured biomass supply could significantly reduce investor risk and help CBG evolve from a policy-supported sector into a commercially sustainable rural bioeconomy.

Can the GOBARDhan framework make CBG commercially viable on its own, or will long-term viability continue to depend on subsidies, incentives and assured offtake?

No. GOBARDhan makes CBG fundable, but it does not yet make it fully commercially viable on its own. The blended offtake mechanism is important because it helps create assured demand for CBG. But ultimately, a plant succeeds or fails on the cost and reliability of its feedstock supply and its operating uptime, rather than simply on the tariff. No subsidy can rescue a plant that is operating at 50 per cent capacity because its feedstock supply chain has collapsed in the eighth month of operations. The GOBARDhan framework has done an important job by helping de-risk the revenue side of the business. The next challenge is for the industry to earn its margins through execution. In the long term, CBG should need assured offtake — which is now supported through the blending obligation — far more than it needs capital subsidies. The objective should ultimately be to build an industry that can stand on its own commercial economics, rather than one that remains dependent on incentives indefinitely.

What is the biggest economic bottleneck for CBG plants today — feedstock aggregation, plant utilisation, financing, gas pricing, logistics, or the monetisation of digestate?

Feedstock is the biggest bottleneck. Most of the other elements of the CBG business have moved significantly forward. The technology works, pricing mechanisms have been established and financing is increasingly available for projects that demonstrate credible economics. But biomass is fundamentally different from conventional industrial raw material. Dung and agricultural residues such as stubble are distributed across lakhs of farmers, and those farmers do not have a contractual obligation to supply a CBG plant unless a structured ecosystem is created around them.

India has 1,908 registered CBG plants, but only 217 are currently operational. That gap tells us something important. It is not simply a capital problem. It is fundamentally a supply-chain and execution problem. A CBG plant can have the right technology, financing and offtake arrangement, but if the feedstock does not reach the plant consistently and at the right price, the economics will deteriorate rapidly. Therefore, the industry needs to focus much more aggressively on biomass aggregation, farmer linkages, collection infrastructure, storage and long-term feedstock contracts.

How can GOBARDhan evolve from a waste-management programme into a bankable rural bioeconomy model, where farmers, local bodies and CBG operators all have a clear economic stake?

We need to change the way we think about rural participation. Instead of simply asking villages to supply biomass, we should explore mechanisms that allow villages to own part of the value chain. Panchayats, Self-Help Groups and Farmer Producer Organisations could potentially hold equity in CBG plants rather than simply selling biomass to them. The distinction is important. People protect what they own. They negotiate or arbitrage what they merely sell to. If local communities have a genuine economic stake in a CBG project, their relationship with the plant changes. Biomass collection becomes a local economic activity rather than an external procurement exercise. This could create stronger incentives for farmers and local institutions to ensure reliable feedstock supply, maintain collection systems and participate in the broader circular economy.

The GOBARDhan framework can therefore evolve from being primarily a waste-to-energy programme into a rural bioeconomy platform, where farmers, panchayats, FPOs, SHGs and CBG developers all have clearly defined economic interests.

Does India need to rethink the economics of CBG beyond gas sales by fully valuing bio-slurry, carbon benefits and avoided waste-management costs — and could these additional revenue streams materially change project returns?

Absolutely. One of the fundamental mistakes is that we continue to describe a CBG facility simply as a gas plant. It is much more than that. A CBG facility is effectively a nutrient factory that happens to produce fuel. Gas may account for roughly 60–70 per cent of the revenue opportunity, but the remaining value can come from manure, carbon benefits and the waste-management costs that society avoids because the material is being processed rather than dumped or burned.

These streams need to be properly valued. If we price only the gas, we are effectively ignoring a significant portion of the economic and environmental value created by the plant. The bio-slurry has agricultural value. Carbon reduction has an environmental and potentially financial value. And avoided waste-management costs have an economic value for local governments and communities. When all four elements are properly accounted for — gas, nutrients, carbon and avoided waste-management costs — the economics of a CBG project can look materially different. This is why the industry needs to move towards a broader bioeconomy valuation model, rather than assessing projects purely on their gas output.

If CBG is to scale from individual projects to a national ecosystem, what policy intervention would have the greatest multiplier effect: easier financing, feedstock guarantees, stronger offtake mechanisms, carbon markets, or greater integration with city and rural waste systems?

Feedstock guarantees would have the greatest multiplier effect. India should begin treating crop residue and municipal organic waste as strategic resources rather than simply as waste. One possible approach would be to create long-term, legally enforceable rights to biomass — similar in principle to how mineral resources are allocated. If a CBG developer can

secure 10 years of reliable biomass supply, banks will have much greater confidence in financing the project. The fundamental issue is that lenders are not only looking at the plant and its technology. They are looking at whether the plant will continue receiving enough feedstock five, seven or ten years from now. A long-term and enforceable feedstock arrangement would substantially reduce that risk. If developers can demonstrate secure biomass for a decade, the sector could potentially attract financing without depending on a subsidy-driven model.

The next stage of India's CBG policy therefore needs to move beyond simply supporting plant construction. It needs to create a system in which feedstock itself becomes bankable. That would fundamentally change the investment equation for the sector.

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