

NIT-K initiates pilot project to produce hydrogen from biogas

The institute at Surathkal, while appealing for funding, intends to develop a Steam Biogas Reformer unit to extract hydrogen from biogas

The Hindu Bureau
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The National Institute of Technology-Karnataka (NIT-K), Surathkal, has initiated a pilot project to produce hydrogen, the future energy, from biogas.

A unit, Steam Biogas Reformer, which it intends to develop to extract hydrogen from biogas can be shifted from one place to another, like a mobile generator set, to generate hydrogen from biogas plants located elsewhere.

Co-ordinator of the project and Assistant Professor in the Department of Mechanical Engineering M. Vasudeva said that hydrogen can be used as fuel cell by transportation sector, for power generation, for industrial purpose, for oil sands processing and to build heat.

The carbon dioxide derived in the process of producing hydrogen from biogas can be used as a fire extinguisher or for refrigeration purpose. Slurry from biogas plants can be used as fertilizer or soil conditioner for farming purposes.

A research scholar at the institute N.S. Sudeep, who is leading an eight-member team which is working on the project, said that 35 kg of biogas can be produced from a



The 500 kg food waste biogas plant installed on the premises of NITK, Surathkal, is in operation.
SPECIAL ARRANGEMENT

500 kg capacity food waste biogas plant.

From 35 kg biogas, 6.5 kg hydrogen and 3 kg of carbon dioxide can be generated.

Mr. Vasudeva said that NIT-K has a 500 kg capacity food waste biogas plant on its premises which is in operation. The project team will use the biogas generated from the plant to produce hydrogen through Steam Biogas Reformer which it intends to develop.

Appeal for funding

Mr. Vasudeva said that the total cost of the pilot pro-

ject has been estimated at ₹2 crore. The project cost is partially funded by Technimont Private Limited (TCMPL) under its corporate social responsibility head.

The institute is exploring various options to meet funds shortage.

It is looking for a tie-up with industries in the field directly on the MoU route and/or through CSR funding route.

"We request all the alumni and industries to participate in this project and donate as much as possible to make the project a reality," he said. "Do-

nations, if any, or CSR Fund can be routed through NITK/ KREC Endowment Fund and it is eligible for 100% tax exemption under section 80G of Income Tax," he said.

Mr. Krishnamurthy, an alumnus of the 1981 batch, came up with the initial concept for the project, which is carried out through the Mair Technimont Centre for Research in Waste Recycling and Circular Economy, a joint effort of NITK and TCMPL, which has also funded the setting up of the biogas plant.