



ORGANIC RECYCLING SYSTEMS LIMITED

CLEANTECH | INNOVATION | ENGINEERING

4th July 2025

BSE Limited
Department of Corporate Services
Listing Department
P J Towers,
Dalal Street,
Mumbai - 400001
Scrip Code: 543997

Dear Sir/Madam,

Sub: Press Release.

In accordance with Regulation 30 of the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015, please find enclosed herewith Press Release about ORS (the Company) joins hands with IIT Bombay, and IIT Kharagpur for Breakthrough BioCCU Technology.

We request you to take the same on record.

Thanking you,

Yours faithfully,

For Organic Recycling Systems Limited

Seema Gawas
(Company Secretary & Compliance Officer)

Organic Recycling Systems Ltd

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ORSL, IIT Bombay, and IIT Kharagpur Join Hands for Breakthrough BioCCU Technology

Navi Mumbai, Maharashtra | 4th July 2025

In a significant stride towards sustainable bioenergy and carbon neutrality, *Organic Recycling Systems Limited (ORSL)* has unveiled a revolutionary **BioCCUS (Biological Carbon Capture, Utilization, and Sequestration)** research platform in collaboration with **IIT Bombay** and **IIT Kharagpur**. The initiative promises to transform how CO₂ emissions from biogas plants are handled—by **capturing and converting them into valuable biofuels and biochemicals**.

This groundbreaking partnership was formally sealed with the signing of **Memorandums of Understanding (MoUs)** between ORSL and the two premier institutes. The project integrates **biological and catalytic CO₂ conversion pathways** into a single, scalable biorefinery model.

This collaboration with ORSL provides a real-world platform to validate and scale our work on algal photobioreactors,” said Prof. Indrajit, IIT Bombay. With high oil yields and phytochemical recovery, we re not just sequestering carbon—we re transforming it into resources.”

At the heart of this innovation is a **anaerobic digester** that processes **Napier grass** to generate biogas. The **CO₂-rich fraction**, instead of being released, is purified and routed into two parallel paths:

- **Algal cultivation** at IIT Bombay to produce **bio-oils and nutraceutical compounds**
- **Photocatalytic conversion** at IIT Kharagpur to synthesize **C₂-C₅ mixed alcohols**, which are precursors to jet fuel

Our photocatalytic systems use ambient light and mild conditions to turn waste CO₂ into green alcohols,” added Prof. Koustuv Ray, IIT Kharagpur. This partnership allows us to transition from lab-scale to impactful field deployment.”

The **BioCCUS** research platform offers a **truly circular solution**—capturing CO₂, generating **bio-CNG**, producing **value-added chemicals**, and utilizing **digestate as biofertilizer**. The result is a **zero-waste, multi-output biorefinery** ideal for rural and urban setups.

We are proud to lead this next-generation carbon circularity initiative,” said Dr. Manju D. Tanwar, Chief Scientist and Head – R&D, ORSL. Together with IIT Bombay and IIT Kharagpur, we re demonstrating how India can convert biogenic CO₂ into clean fuels, chemicals, and climate impact.”

This collaboration is expected to set a new benchmark for **bioenergy innovation**, aligning with India's **Net Zero 2070** and **Atmanirbhar Bharat** missions in green chemicals and energy security.

About Organic Recycling Systems Limited (ORSL)

Organic Recycling Systems Limited (ORS) is a pioneering environmental engineering company specializing in sustainable waste management and valorisation solutions. Established in 2008 by technocrats, ORS develops and deploys robust, cost-effective, and eco-friendly technologies across the entire waste value chain.

ORS operates India's first municipal solid waste (MSW) processing plant based on a patented anaerobic biomethanation process, recognized by the Government of India under the National Master Plan. One of its flagship projects is located in Solapur, Maharashtra, where biodegradable waste is converted into **Compressed Bio-Gas (CBG)** and **fermented organic manure**, exemplifying a scalable circular economy model.

The company's operations span three strategic business verticals:

- **Project Development & Technology Licensing** – Delivering turnkey projects and technology solutions for waste valorisation.
- **Product Vertical** – Offering a growing portfolio of bio-based products such as CBG, organic manure etc. that support sustainable energy and agriculture.
- **Consulting Vertical** – Providing specialized advisory services in environmental strategy, waste management, and regulatory compliance.

Recognized under the Swachh Bharat Mission for operational excellence and innovation, ORS is actively pursuing EPC (Engineering, Procurement, and Construction) opportunities nationwide.

ORS's research and innovation efforts are reinforced through collaborations with esteemed institutions such as **IIT Bombay (IITB)**, **AGH University Poland**, **University of Birmingham (UOB)**, and other technical partners. These partnerships continue to drive the company's intellectual property development and technological advancements in the environmental sector.

For further information on the Company, please visit <https://organicrecycling.co.in/>