PRESS RELEASE

The GoodByO Project kicks off: the biorefinery of the future that turns waste and CO_2 into sustainable products for the manufacturing industry

Ten partners from five European countries, coordinated by IIT in Turin. A new European project is born to innovate the industrial sector and contribute to the fight against climate change.

Turin 07/04/2025 – A new step towards a circular and sustainable economy comes with the **GoodByO project**, coordinated by the **Italian Institute Technology (IIT)** and funded by the **European Union** through the **Circular Bio-based Europe Joint Undertaking (CBE-JU)** program. The project aims to develop a next-generation biorefinery that transforms agro-food waste, biogenic CO_2, and industrial wastewater into sustainable products, addressing the growing need to reduce the environmental impact of the manufacturing industry.

Under the leadership of **Fabrizio Pirri**, head of IIT's Turin-based Center for Sustainable Future Technologies, and researcher **Valeria Agostino**, GoodByO seeks to revolutionize industrial processes.

"The GoodByO approach will help Europe achieve its circular bioeconomy goals, fostering more efficient industrial development", **Valeria Agostino** stated. GoodByO aims to introduce a circular approach that generates the molecules required by green chemistry from biomass and production chain waste. *"This is possible thanks to microorganisms and their extraordinary metabolic diversity."*, Agostino continues. *"They can feed on a wide variety of carbon sources, including CO_2, and can be specifically trained to produce what we need."*.

Over the next three years, GoodByO will develop and validate **four innovative microbial factories at pilot scale**, leveraging **ChainCraft biorefinery side-streams as feedstocks**. These gaseous and liquid waste streams will be used to produce bio-octanoic acid, bio-hexanol, carotenoids, bio-fertilizers, and microbial proteins. These products have applications in industries such as cosmetics, nutraceuticals, food, agriculture, and animal husbandry. The goal is to demonstrate the long-term stability of these bioprocesses on a pilot scale, collecting useful data for industrial-scale expansion.

As part of the energy transition, GoodByO is also developing a renewable energy-based system to efficiently store and use energy, reducing dependence on fossil fuels. Another key objective is to make "bio" products competitive in the

market, challenging petroleum- and palm oil-derived products and encouraging companies to adopt more sustainable solutions.

Officially launched in Turin, GoodByO brings together **ten partners from five European countries**. Italian partners include the **National Research Council (CNR), Politecnico di Torino, and CIB-Consorzio Italiano Biogas**. Other collaborators include the Dutch company **ChainCraft**, Greece's **Centre For Renewable Energy Sources And Saving (CRES)** and **Brite Solar**, Austria's **Technische Universität of Wien** and **Krajete GmbH,** and **Masarykova Univerzita** in Brno, Czech Republic.

Finally, the project's **official website** was presented and is available at the following link: www.goodbyo.eu

The GoodByO project represents not only a technological innovation but also a significant opportunity for the European manufacturing industry to reduce its environmental impact, making a concrete contribution to the fight against climate change.

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