Accelerating global sustainable waste management: LanzaTech and Tadweer explore transforming solid waste into sustainable aviation fuel

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Feasibility study aims to advance the US and UAE's bilateral partnership for accelerating clean energy by laying the groundwork for bolstering waste management's role in a circular carbon economy

CHICAGO, Dec. 12, 2023 (GLOBE NEWSWIRE) -- LanzaTech Global, Inc. (NASDAQ: LNZA), the carbon recycling company transforming waste carbon into sustainable raw materials, and Tadweer (Abu Dhabi Waste Management Company), the sole custodian of waste management for the Emirate of Abu Dhabi, have joined forces to initiate an integrated Waste-to-Sustainable Aviation Fuel (SAF) feasibility study to scale SAF production from municipal and commercial solid waste.

This is the first major project in LanzaTech and Tadweer's partnership and forecasts that up to 350,000 tonnes of hard-to-recycle municipal and commercial solid waste per year can be transformed into 200,000 tonnes of ethanol per year, ultimately producing 120,000 tonnes of SAF annually.

Ali Al Dhaheri, Managing Director and CEO of Tadweer said: "The waste management industry has the potential to reduce almost 1.8 gigatonnes of emitted CO_2 per year, an indicator of its critical role in reducing greenhouse gas emissions. We look forward to working closely with LanzaTech on developing a waste-to-SAF solution, which strengthens our efforts to implement a sustainable waste management system in the Emirate. This builds on our vision of becoming an international model for a circular economy."

Jennifer Holmgren, Chief Executive Officer of LanzaTech, commented: "Recycling municipal solid waste, rather than letting it pile up in landfills, offers incredible potential to produce sustainable aviation fuel at scale and reduce air travel's carbon footprint. This solution creates an alternative, lower carbon supply chain. With LanzaTech's technology in Tadweer's facilities, this project is an opportunity to address the climate crisis on two fronts simultaneously and keep virgin fossil fuels in the ground."

Majed Al Marzouqi, serving as Project Manager of the WTSAF project under Tadweer, emphasized the project's key role in contributing to the UAE's National SAF Road Map. He underscored that the project aims to sustainably recover solid waste to produce SAF fuel, aligning with global environmental Life Cycle Assessment (LCA) standards. The WTSAF project not only advances the UAE's position in sustainable SAF production but also demonstrates a commitment to aligning with international environmental standards.

The facility will work by transforming solid waste streams into a synthesis gas consisting of CO, CO_2 and H_2, via a gasification unit licensed by sustainable technology solutions provider NextChem, part of MAIRE Group. The gas stream is then transformed by LanzaTech's microbe-powered bioreactor into CarbonSmart™ ethanol. The ethanol will then be converted to SAF by LanzaJet, a separate company spun-out of LanzaTech, focused on commercializing SAF.

LanzaJet's alcohol-to-jet (ATJ) technology is the leading and versatile platform enabling the production of SAF from a wide-range of feedstocks. LanzaJet is completing the construction of the world's first ATJ plant. The LanzaJet ATJ technology is a proven, efficient, and ASTM-approved pathway to produce sustainable fuels, reducing greenhouse gas emissions by up to 85% and particulate emissions by over 95% when compared to the typical Jet A-1 commercial aviation fuel. The LanzaJet ATJ technology is a culmination of over a decade of collaboration between LanzaTech, the US Department of Energy, and Pacific Northwest National Laboratory.

About LanzaTech

LanzaTech Global, Inc. (NASDAQ: LNZA) is the carbon recycling company transforming waste carbon into sustainable raw materials for everyday products. Using its biorecycling technology, LanzaTech captures carbon generated by energy-intensive industries at the source, preventing it from being emitted into the air. LanzaTech then gives that captured carbon a new life as a clean replacement for virgin fossil carbon in everything from household cleaners and clothing fibers to packaging and fuels. By partnering with companies across the global supply chain like ArcelorMittal, Zara, H&M Move, Coty, and On, LanzaTech is paving the way for a circular carbon economy. For more information about LanzaTech, visit https://lanzatech.com.

About Tadweer

Tadweer (Abu Dhabi Waste Management Company), part of ADQ, is the sole custodian of waste management for the Emirate of Abu Dhabi and is committed to developing an integrated waste management sector and becoming a leader in extracting value from waste to contribute to national sustainability ambitions.

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