

LanzaTech Private Limited

Bio Refinery Gas Fermentation Process | China | PRACTICE

Description:

LanzaTech's process converts carbon-rich gas streams to valuable products using proprietary microbes that feed on gases (rather than sugars, as in traditional fermentation).

LanzaTech's naturally occurring microbe has been optimised to economically produce ethanol and enable economic routes for jet fuel and high-value chemicals from a variety of carbon-rich gas streams, such as:

- industrial off-gases from steel and ferro-alloy mills
- petroleum refineries, petrochemical complexes, and gas-processing facilities
- syngas generated from any biomass resource, including municipal solid waste, organic industrial waste, and agricultural waste
- reformed biogas and landfill gas.

By capturing the carbon contained in gas streams, LanzaTech's gas fermentation technology platform enables production of low-carbon fuels and chemicals that serve as building blocks to indispensable consumer products such as rubber, plastics, and synthetic fibres.

LanzaTech estimates that its products reduce greenhouse gas emissions by over 70% when compared to equivalent products derived from fresh fossil resources.

The first commercial plant started in China in May 2018 and has already produced over 90 million litres of fuel-grade ethanol from steel mill emissions while diverting over 200,000 metric tonnes of CO₂ from the atmosphere. In addition, early this year LanzaTech 2nd unit started this year in China will be utilising ferro alloy mill off gases to fuel grade ethanol.

Impact:

LanzaTech's commercial plant in China has produced 90 million litres of fuel-grade ethanol from steel mill emissions, and diverted over 220,462 tonnes of CO₂ emissions from the atmosphere.