

Global Bioenergies and LanzaTech launch a collaboration to assess the bioproduction of isobutene from carbon monoxide

Evry (France) / Auckland (New Zealand), November 23rd, 2011 - Global Bioenergies S.A. and LanzaTech Ltd, two industrial biology companies, today announce the beginning of a feasibility study to examine whether Global Bioenergies' pathway, leading to the direct production of isobutene, can be functionally transferred into LanzaTech's carbon monoxide using organism.

Global Bioenergies' core technology consists in a proprietary artificial pathway allowing the direct fermentative production of isobutene from renewable resources. This pathway has so far been expressed in a classical production microorganism using carbohydrates such as glucose as feedstock.

LanzaTech's processes use proprietary microorganisms that use nonfood resources as feedstocks. In the study with Global Bioenergies, the focus is on the use of carbon monoxide gas for isobutene production. Carbon monoxide can be readily found in waste industrial gas streams such as those found in steel mills, or can be produced through gasification of waste resources such as municipal waste or other organic substances.

The feasibility study to be carried out has the purpose to examine whether Global Bioenergies' artificial isobutene pathway can be expressed in LanzaTech's carbon monoxide consuming microbe.

Philippe Marlière, co-founder of Global Bioenergies and president of its Scientific Advisory Board, comments: *"Carbon monoxide combines the attractive features of biochemical versatility and virtuous sourcing. Metabolic conversions of this gas are manifold in the natural living world and will be further diversified by synthetic biology. Most importantly, carbon monoxide retains a large part of the energy stored in photosynthetic biomass when it is generated by pyrolysis from agricultural or municipal waste and non-edible plants. Exploring the strategic potential of carbon monoxide as an agro-industrial intermediate for making biofuels is in line with Global Bioenergies' mission and we welcome the opportunity to collaborate with LanzaTech toward this endeavor."*

LanzaTech's chief executive Dr Jennifer Holmgren says *"LanzaTech's strategy is to diversify its product portfolio beyond ethanol to key chemical intermediates and drop in aviation fuels through developing key technology partnerships. Global Biotechnologies' technology could contribute to this strategy as isobutene can be directly converted to polymers and jet fuel relevant C-12 molecules. This work is a natural extension of the Global Biotechnologies and LanzaTech technology platforms."*

About Global Bioenergies

Global Bioenergies is one of the few companies worldwide, and the only one in Europe, that is developing a process to convert renewable resources into hydrocarbons through fermentation. The Company initially focused its efforts on the production of isobutene, one of the most important petrochemical building blocks that can be converted into fuels, plastics, organic glass and elastomers. Global Bioenergies continues to improve the yield of its process and prepares the phase dedicated to pilot testing. The company is also looking to replicate this success with other members of the gaseous olefins family (propylene, ethylene, linear butylenes, butadiene...), key molecules at the heart of petrochemical industry. Global Bioenergies is listed on NYSE Alternext Paris (FR0011052257 – ALGBE).

About LanzaTech

Founded in New Zealand in 2005, LanzaTech has developed a novel gas-liquid fermentation process that produces fuels and chemicals from gas resources. Backed by global investment, LanzaTech employs a strong technical team based in the USA, China and New Zealand and has a rapidly growing patent portfolio. LanzaTech's technology enables energy partnerships between multiple industries. With agreements now in place across a variety of sectors internationally, including steel, coal, refining and chemicals, LanzaTech's technology is being scaled to commercial production.

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