

Brazil's FS set to produce the world's first carbon-negative corn ethanol

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FS, one of the largest producers of ethanol and animal nutrition in Brazil, has just completed technical studies that prove suitable geological conditions for injecting carbon dioxide (CO₂), emitted in the fermentation phase of biofuel production, in the subsoil. Hence, the company can become the world's first ethanol producer with a negative carbon footprint and the first to develop BECCS technology (acronym in English for bioenergy production with carbon capture and storage) in the production of ethanol outside the U.S., as announced by the Brazil's Minister of Mines and Energy, Alexandre Silveira, during the 3rd Energy Transition Working Group, G20 meeting, which took place in the Brazilian state of Minas Gerais.

The adoption of the technology will prevent the release of approximately 423 thousand tons of CO₂ into the atmosphere per year by the industry's operation in Lucas do Rio Verde (MT). Subsequently, the solution can be implemented in other industrial units of the company, reaching a potential for removing CO₂ from the atmosphere of more than 1.8 million tons of carbon per year.

The technology is an innovative solution for capturing carbon, one of the main causes of the greenhouse effect, and injecting it underground into deep geological layers, where it will be safely stored for thousands of years, without influencing global warming.

Currently, there are only two ethanol producers in the world with BECCS technology in operation, both in the United States. Mato Grosso's industry, however, will be the first carbon-negative industry, as it only uses second-crop corn as a raw

material and renewable biomass from planted forests as an energy source.

FS CEO, Rafael Abud. "In addition to utilization in automobiles, ethanol produced with the technology can be used to produce sustainable aviation fuel (SAF) and marine fuel, making Brazilian ethanol increasingly one of the largest contributors to the world's energy transition".

As soon as the senate approves the regulation of the activity included in the bill for the Fuel of the Future program, FS will invest an additional R\$350 million in the implementation of equipment to capture, dehydrate, compress and inject CO₂ underground. Work could begin later this year, with completion scheduled for the end of 2025.