Beat: Technology

Plant In Turkey Turning Algae Into Bio-Jet Fuel and More

Carbon-Negative Plant Opens

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USPA NEWS - Europe's first large-scale bio-refinery for turning algae into fuels and fertilizers, has been completed on the Black Sea shore of Istanbul, Turkey.

Powered entirely by wind energy, the refinery that is set to head up a new "bio-economy, will turn micro-algae and macro-algae species into carbon-negative jet fuel, supplements and fertilizers. They are carbon-negative because algae absorbs CO2 as plants do, but far faster and in greater amounts than woody plants like trees. Once processed into products, more of that carbon pulled from the atmosphere remains imprisoned than is released during production, thus being carbon negative.

The project was funded in partnership by the government of Turkey and the European Union, and is just one of a number of initiatives dubbed Project Independent. The bio-refinery, located at Bogaziçi University's Saritepe Campus, can process 1,200 tons of algae per year. Reports from the refinery say that the algae will be used to produce jet fuel that, when mixed with 5-10% fossil fuels, will power a flight leaving Istanbul by the end of the year.

Algae supplements are compounds that attract and dispose of heavy metals in the blood, such as cadmium, lead, mercury, and excess levels of less harmful metals. Non-synthetic fertilizer often comes from fish or shellfish waste like oyster shells, being that they're rich in nitrogen. Algae, can also be used to absorb phosphorus and nitrogen: two normal and important agricultural inputs that due to topsoil erosion from industrialized farming have greatly polluted freshwater and coastal resources. Producing fertilizer with algae produced in a carbon negative bio-refinery could revolutionize the sector, and return attention of legislatures and environmentalists to the real sources of emissions in the world, namely transport, energy, and manufacturing.

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