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Process for Producing Synthetic Liquid Hydrocarbon

A highly efficient method converts all available biomass carbon into liquid hydrocarbon fuel using carbon-free energy, significantly reducing land area requirements for sustainable transportation sector support.

The transportation sector relies almost exclusively on liquid hydrocarbons as its energy source. The high energy density for gasoline far exceeds that of any proposed replacements. Additionally, the distribution system is efficient and already in place. Unfortunately this energy source is not sustainable forever and causes numerous environmental issues due to carbon dioxide emissions.

Purdue University researchers have developed a method to synthesize liquid hydrocarbon fuels using biomass and a carbon-free energy source. This process converts a larger amount of carbon in a biomass to hydrocarbon fuel than existing methods. Because of the increased efficiency in the carbon conversion, less land area is needed to produce the feedstock.

Advantages:

-Significant decrease in land area required to support entire transportation sector

-Conversion of all available carbon to liquid fuel

Potential Applications:

-Green technology

-Clean energy

TRL: 5

Intellectual Property:

Technology ID
64688

Category
GreenTech/Carbon Management
GreenTech/Circular Economy & Waste Reduction
Energy & Power Systems/Power Generation

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