

Case ID:M13-008P

Published: 12/6/2022

Inventors

Jean Andino

Tingting Gao

Contact

Shen Yan
shen.yan@skysonginnovations.
com

Photocatalytic Composite for Carbon Dioxide Conversion to Methane

Background

Power plants, automobiles, and many other sources expel billions of tons of greenhouse gases into the atmosphere each year. A major greenhouse gas is carbon dioxide. As the world's population increases, the amount of fossil fuel used to create energy increases, as the amount of fuel burned increases, the amount of carbon dioxide in the atmosphere increases. With a finite amount of fossil fuel, and an ever-increasing amount of carbon dioxide in the atmosphere, billions of dollars have been spent to try to limit both the amount of fossil fuel consumed, and the amount of carbon dioxide released. There is therefore a need to reduce CO₂ emissions by producing less harmful gasses that may have other beneficial uses.

Researchers at Arizona State University have developed the use of a solar initiated conversion of CO₂ over a high efficiency catalyst to produce significant amounts of Methane. This technology allows the user to convert CO₂, which would otherwise be disbursed in the atmosphere, into fuel. The solution helps to both reduce the amount of carbon dioxide in the air, and helps create a renewable source of energy.

Potential Applications

- Fossil Fuel Power Plants Recycling CO₂ Into Fuel
- Recycling Automobile Emissions Into Fuel
- Extracting CO₂ from Water at Water Treatment Plants and Turing it to Fuel

Benefits and Advantages

- Exclusive formation of Methane
- 30 times higher production rate than most technologies
- Occurs at Room Temperature
- Material used for structure allows for high surface area for conversion

For more information about the intentor and their research, please see [Dr. Andino's directory webpage](#)

