

Making Petrol from Carbon

Scientists in California have discovered it's possible to harness solar energy to convert carbon dioxide into a material that could be used to make plastics and fuel.

The research marks a breakthrough in the search to find a use for carbon dioxide, a significant greenhouse gas.

How does it work? Apparently light can be absorbed and converted into electricity by a silicon electrode which in turn drives a reaction which converts carbon dioxide into carbon monoxide and oxygen. Carbon monoxide is used in the chemical industry to make plastics and synthetic fuels.

It's an exciting breakthrough which, although in its early stages, could potentially help reduce future CO₂ emissions into the atmosphere if adopted for large-scale operations. One scientist commented : "any chemical process that uses CO₂ as a feedstock, rather than having it be an end product, is probably worth doing. If chemical manufacturers are going to make millions of pounds of plastics anyway, why not make them from greenhouse gases rather than making tons of greenhouse gases in the process?"

Carbon monoxide can be combined with hydrogen to create the synthetic fuel 'SynGas' using a technology known as the Fischer-Tropsch process. The method has also been used successfully to create petrol from coal, but this latest development suggests the process could be achieved using CO₂ – a throwaway gas. .

Realistically, there is still much work to be done on developing the technology, and fully operation commercial production is thought to be over a decade away. As yet, the large

scale practicalities of making fuel this way have yet to be discovered. One scientist on the project added: "For large-scale applications, it's likely we would need to use catalyst-coated nanoparticles to increase surface area, speeding up reactions."...

