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energy carriers

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Scientists from NTU (Nanyang Technological University) Singapore say they have created a process that can upcycle most plastics into chemicals useful for energy storage.

The method uses light-emitting diodes (LEDs) and a commercially available catalyst, and is conducted at room temperature. The NTU says many types of plastics have a strong carbon-carbon bond that is difficult to break, making them resistant to many chemicals and have high melting points.

The new method devised by NTU scientists can easily dissolve these plastics, the University says, breaking them down into chemical compounds useful for making fuel cells to generate electricity or as liquid hydrogen carriers to support Singapore's transition towards a hydrogen economy.

The NTU says the process also reuses the carbon trapped in these plastics instead of releasing it into the atmosphere as greenhouse gases through incineration.