

UGM Makes Biosolar from Cooking Oil Waste

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YOGYAKARTA - The Universitas Gadjah Mada Centre for Energy Studies has pioneered the production of biodiesel from cooking oil waste. The product named as Biosolar B15 is processed from waste oil collected from street food vendors. This is expected to introduce cheap oil and reduce carbon emissions from fossil fuel.


Head of the Centre, Dr. Deendarlianto, said the waste oil is the basic component of biodiesel to produce biosolar. An added 15 % percentage of biodiesel leads to the production of biosolar B15.

The choice for cooking oil waste, according to Endarlianto, is the potential of Yogyakarta as a destination for culinary experience for travellers with thousands of street food vendors. Each can produce up to 10-15 litres of oil waste. "In total, up to 3.6 tonnes of oil waste is produced every single day," he said on Monday (15/12). However, his institute can only produce as much as 150 litres per day.

In addition, in the near future, they will utilise firewood waste. "Biodiesel is source of renewable energy and we will make use of firewood waste, too. This is a preliminary step in the effort to realise national energy sovereignty," he said.

Separately, researcher in alternative energy sources, Prof. Ir. Arief Budiman, M.S., D.Eng, said the processing of biosolar is very simple. In turn, vendors will be able to do this themselves, thus allowing them to get additional income by selling biosolar to customers.

Arief said the waste cooking oil is mixed with methanol and catalyst, burned over 70 degree Celsius.



In one hour, the mixture will yield two layers, namely biodiesel and glycerol. "One litre of oil waste produces 90 percent of biodiesel and the remainder is glycerol," he explained.

The product has undergone lab testing and machine testing, examined according to the Indonesian National Standard, in collaboration with USAID, Sambal restaurant, and Association of Street Food Vendors, Trans Jogja, and Bimo Transport.

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