

## Repurpose Used Cooking Oil

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Fried food items are the first choice when we crave for something tasty. But over long run, taste doesn't come handy since the Food Business Operators (FBOs) often use same cooking oil for repeated frying. The consumption of Used Cooking Oil (UCO) poses adverse health effects since, some of the polar compounds are formed during frying. The quality of cooking oil is measured in terms of percentage of Total Polar Compounds (TPC) in the oil. These compounds are associated with several diseases such as hypertension, atherosclerosis, Alzheimer's disease, liver diseases and so on. What could be the best way to avoid these health issues without even wasting the UCO?

Energy needs of the world are increasing day by day. This has given birth for the idea of the fuel for the future: Bio-fuel. Bio-fuel is a sustainable, eco-friendly source of energy that can be created from UCO. On 10<sup>th</sup> August 2018, the Food Safety and Standards Authority of India (FSSAI) launched RUCO (Repurpose Used Cooking Oil). It is an initiative that enables the collection and conversion of UCO to bio-diesel. Large scale users of cooking oil, such as restaurants, hotels and food processing industries can be divided into three types of users.

**User 1:** This user uses the oil multiple times even if the oil has turned dark and greasy.

**User 2:** This user uses the oil till it is burnt out and turns dark. To reuse it further, he tops it up with new oil.

**User 3:** This user stops the usage of the oil after 1-3 cycles.



In the first two cases, the oil is extremely unfit for consumption and is a potential health hazard. The used cooking oil is not disposed at all, or it is disposed in an environmentally hazardous manner. Sometimes it is sold to soaps and detergent industries and sometime it even finds its way to smaller restaurants, dhabas and street vendors through spurious dealers who buy the UCO, filter it and resell it. So, the sole purpose of RUCO is 'to STOP and WATCH whether we can further use that oil for cooking'. If the standards of the UCO have reached the TPC of 25 per cent, it is time to dispose it off. Ideally, we should use the oil for frying only once. The oil used once can be filtered and used for curries and the leftover oil must be used within 2 days after frying.



**Clogged pipe**



**TPC tester**

People usually dispose the UCO and clog the drain pipes which is perhaps the most illogical thing to do. But now, there is an opportunity to earn money out of it. We can sell the UCO to bio-diesel aggregators who are registered with state or national bio-diesel board. They will further give the oil to bio-diesel

manufacturers which can later be used as fuel for vehicles. To facilitate this process of collection and conversion of UCO, FSSAI and BDAI (Bio Diesel Authority of India) have currently recognized 64 companies, 200 aggregators and some 26 plants in 101 locations. The FSSAI has directed the FBOs (food channels like McDonald's, KFC, Burger king, *etc*) to maintain a record of utilization and disposal of cooking oil by them. Especially for those who use more than 50 liters of cooking oil per day. Also, they have to monitor the TPC of the cooking oil regularly.

### How does the model work?



The aggregators have their own vehicle with a driver and two helpers collecting UCO from eateries, hubs and restaurants, which is then converted into bio-diesel. RUCO has developed an app for Android and iOS users. The food business owner or oil discharger can request for a pick-up of the UCO on the

app. The food business owners earn Rs 30 per kg for the waste oil that they give away under the project. The fuel recovery rate is mostly between 70 per cent and 90 per cent. It implies that 10 liters of oil with TPC of 25 per cent or below can generate 9 liters of clean fuel. RUCO is currently running in Gujarat, Delhi-NCR, Andhra Pradesh, Tamil Nadu, Maharashtra and Karnataka.

### Collection and conversion of used cooking oil Biodiesel

We as an individual need to stand with RUCO



to acquire its benefits since it not only ensures health benefits, but, spurs economic growth by ensuring job creation, foreign exchange saving, and aids a healthy environment.

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