

Background Note on Used Cooking Oil

1. It is well known that the consumption of Used Cooking Oil poses adverse health effects. In the interest of safeguarding public health, ***the Food Safety and Standards Authority of India (FSSAI) has notified the Food Safety and Standards (Licensing and Registration of Food Businesses), First Amendment Regulation, 2017. These regulations prescribe the limit for Total Polar Compounds (TPC) to be maximum 25% beyond which the Cooking Oil is not suitable for use.*** From 1st July, 2018 onwards, all Food Business Operators (FBOs) are required to monitor the quality of oil during frying by complying with the said regulations.

2. At present, Used Cooking Oil is either not discarded at all or disposed of in an environmentally hazardous manner choking drains and sewerage systems. Also, Used Cooking Oil from organised Food Business Operators reportedly finds its way to small restaurants / dhabas and road-side vendors. Given that Used Cooking Oil is a potential feedstock for biodiesel, its use for making biodiesel will be environmentally safe and prevent diversion of used cooking oil.

3. Annually, about 23 million MT Cooking Vegetable Oil is consumed in India. There is potential to recover and use about 3 million MT of this for production of bio-diesel.

4. Effective implementation of Used Cooking Oil standards and its disposal requires a **'Triple E Strategy'** and a coordinated effort. First 'E' in the 'Triple E Strategy' is **'Education'** i.e, educating both the consumers and food businesses about public health consequences of spoiled 'Used Cooking Oil'. Second 'E' is **'Enforcement'**, particularly amongst large food processing plants, restaurants and fast-food joints that are frying food in large quantities; and third 'E' is developing an **'Ecosystem'** for collection of Used Cooking Oil and producing biodiesel from it.

5. Also, Biodiesel opens a great entrepreneurship opportunity and employment in the country. **Honorable Prime Minister Shri Narendra Modi has said that** *"social entrepreneurs can benefit from Swachh Bharat programme as it has huge business element, while stressing on the need to convert waste into wealth. He has said that waste to wealth is a belief that is gaining momentum. If we consider waste as waste, then we have lost our precious possession."* Government bodies, oil industry and biodiesel associations can collaborate to plan a strategy to collect used cooking oil and convert it into an environment friendly resource.

Way Forward-

Biodiesel is a green fuel that can be used in diesel engines. It is a methyl ester of long chain fatty acids made from vegetable oils including waste/recycled oils and animal fat meeting the BIS specification of IS15607:2016.

1. At present about 4000 OMC retail outlets are supplying B5 Blend of Biodiesel. the program is mainly in the eastern states. The OMC's will procure about 8CR liters of Biodiesel for this financial year till October 2018. National biodiesel blending program is being implemented by the Ministry of Petroleum and Natural Gas.
2. The suggested stakeholders should include the
 - a. Ministry of Petroleum and Natural Gas- Coordinating Ministry for National Biofuels Policy 2018.
 - b. State Biofuel Boards/competent authority.
 - c. Ministry of Health and family welfare.
 - d. The Revenue Department Ministry of Finance.
 - e. The Central Pollution Control Board
 - f. Major Dischargers-
 - i. Processed food manufacturers
 - ii. Fast food and Hotel chains
 - iii. Hotel Associations
 - iv. Canteens with large capacity
 - v. Municipal authorities for small/unorganized food vendors
 - g. The Major consumers -Oil Marketing Companies/Indian Railways
3. The Government is aware about the harmful effects of UCO on public health. The National Biofuels Policy 2018 considers UCO as one of the key feedstocks for manufacture of Biodiesel. At the same time disposal challenges can be converted into a feedstock opportunity for the Biodiesel Industry
4. Suggested mechanism
 - a. Identification and quantification of UCO sources- Dischargers
 - b. Creating unique identity with complete traceability- suggest use of coloring agent for UCO- only designated Transport/Storage/Final consumption to be permitted.
 - c. Pricing and collection infrastructure- OMC's/railways/large fleet operators/Industrial consumers would be the major consumers of Biodiesel in the country
 - d. Awareness about the legal obligations towards safe disposal by the Discharger to authorized collection agencies.
5. The FSSAI has defined vegetable oil having polarity value of more than 25 as unfit for human consumption.
 - a. The State Pollution Control Boards need to make UCO a part of NOC/permission. The Material Balance including projected consumption and discharge figures to be mentioned in the NOC/permission.
 - b. The State authorities to synchronize the consumption and discharge parameters in their license for monitoring purposes.
 - c. The FSSAI to issue license to collection agencies who fulfill the requirements and create the collection infrastructure.

- d. As per National Biofuels Policy the MoP&NG to coordinate and fix price for UCO based Biodiesel in consultation with all stakeholders.

UCO availability for Biodiesel				
		18 Months	3rd Year	4th Year
		30%		
Total Vegetable oil consumption per Annum	Tons	2,30,00,000.00		
Vegetable oil used by Household and others 70%		1,61,00,000.00	2,41,500.00	7,24,500.00
Vegetable oil used by Processed Food 30%		69,00,000.00	14,49,000.00	20,70,000.00
Collection possible after announcement of Policy		10,35,000.00	16,90,500.00	27,94,500.00
conversion to BD in KL		11,89,655.17	19,43,103.45	32,12,068.97
Cost of Biodiesel	52000/Kilo lit	₹ 61,86,20,68,965.52	₹ 1,01,04,13,79,310.35	₹ 1,67,02,75,86,206.90
Revenue generation	GST 12%	7,42,34,48,275.86	12,12,49,65,517.24	20,04,33,10,344.83
	Total	₹69,28,55,17,241.38	₹ 1,13,16,63,44,827.59	₹ 1,87,07,08,96,551.72
Projected annual Business	Crores	₹ 6,928.55	₹ 11,316.63	₹ 18,707.09