

# **Actual conditions and prospects of BDF from used cooking oil projects promoted by municipalities**

Kiichi Nishio

*Key Word : used household cooking oil, BDF, municipalities, collecting rates, collecting cost, numbers of collecting base per households, efficiency, citizens*

## 1. Background of Research

BDF from used cooking oil projects has not only significance of proper abolishing used cooking oil but also contributing to sustainable society by renewable energy. Important actor are each regional municipalities which cope with recycling of garbage and disposal of waste, and some municipalities collect used household cooking oil. However, mostly BDF from used cooking oil projects promoted by municipalities have not developed enough efficiency and social necessity yet. So this thesis tries to analyze necessary conditions of becoming efficient and social projects by investigating three municipalities each with distinctive features in collecting systems, through cross-regional comparison and examination.

## 2. Themes and Methodology

The purpose of this thesis is to define actual conditions and prospects of BDF from used cooking oil projects promoted by municipalities. To describe concretely, targeting Kyoto city, Higashiomi city, Hiraduka city, [1] Analyzing costs on municipalities [2] Estimating collecting rates for used cooking oil ,and searching for some conditions which influence it [3] Explicating the distinctive features about three projects which three municipalities do, moreover, [4] Proposing schemes of efficient collection for municipalities, this thesis set up the above four themes. To approach these themes, the methodology taken was hearing and investigation for employee of municipalities and the persons of recycling projects, citizen in three regions, and compared and examined the results. It is methodology.

## 3. Comparison of three regions and Conclusion

First, by indicating the quantitative collecting / recycling costs, this thesis defines that municipalities which cope with BDF from used cooking oil projects bear large expenses presently. Besides, as a result of estimating collecting rates and finding some conditions which affect it, this thesis discovered that [numbers of collecting base per households] is most influential condition for collecting rates. However, it is not applicable to all cases, and this thesis found out each BDF projects from used cooking oil projects has distinctive features, too.

Moreover, in search for the scheme of efficient collection, by calculating “the comparison of benefit and cost by increasing one collecting base [per 1,000 household]”, this thesis discovered that in Higashiomi city / Hiraduka city, to increase collecting bases may leads to efficient collecting for not only citizen but also for municipalities, however Kyoto city did not have the same effect presently. On the case of Kyoto city, this thesis suggests that not increasing collecting bases but in collecting process, [1] Improving collecting rate by increasing collecting quantity per one collecting base, [2] dropping collecting cost for collecting trader, [3] alteration a new collecting system ,or introduction it.