

## **WHO RUNS A BIOMASS UTILIZATION PROJECT?**

Takasaki City University of Economics, Japan, +81 27 344 7538, ysyama@tcue.ac.jp

### **OVERVIEW**

Biomass as renewable resources has attracted much attention since it not only plays a role in greenhouse gas emissions reduction and improvement of the local environment but also is likely to contribute to the local economic development. Both national and local governments now promote such utilization strongly both in developed and developing countries. Livestock waste, agricultural waste, food waste, sewage sludge, and wood residue, for example, are currently used to produce heat, power, compost, and others. The purpose of this study is to identify key factors for such a project, in particular in a local area, to be successful.

There are some studies concerning how to make utilization projects successful: Mårtensson et al. [1] examine the process of transformation into the bioenergy-integrated local energy system developing three qualitative models. Forsyth [2] investigates public-private partnerships in waste-to-energy projects identifying lessons for making them more deliberative.

The present study is concerned with who runs a biomass utilization project, what kind of support system for the project is implemented by a local government, and what role the residents play. It is true that a local government promotes the enhanced use of biomass, but the government itself does not always run such a project. It may be carried out by a private company, a cooperative organization, an NGO, or a consortium of these. Even in this case, the government still plays an important role: For example, organizing or coordinating a project, subsidization, communication with the residents, and so on. In this sense, public private partnership may play an important role in leading a project to success. Additionally, cooperation of the residents may be critical since they may be suppliers of biomass and at the same time, consumers of goods and services produced from biomass mentioned above. Of course, they are concerned with their own town.

Theoretically, it is understood that a government supplies public goods, which are characterized by non-rivalry and non-excludability. However, there are goods and services supplied both publicly and privately: for example, medical services and school education. In the early 1990s, private finance initiative (PFI) was introduced in the supply of public services and later this scheme was evolved into public-private partnerships (PPP) (Grout [3]; De Bettignies et al. [4]).

To clarify why a certain form of management has been chosen for each biomass utilization project among a variety of forms will give some lessons for successful biomass utilization.

### **METHODS**

Biomass utilization projects in Japan that seem successful are surveyed. The cases to be surveyed are collected as many as possible from websites and databases published. Then each case is examined regarding who runs a project and what support systems are given by a local government if it is not carried out by itself. Interviews are done with project participants and relevant parties if necessary.

### **RESULTS**

When food waste, livestock waste, or sewage sludge is utilized, such a project is run mostly by a local government or a private company. On the other hand, when wood residue and used food oil are utilized, such a project is run mostly by a private company or an NGO. In some

cases, for example, methane fermentation and producing compost from food waste and/or pruned off branches, PFI is observed.

Who runs a biomass utilization project depends approximately on what kind of biomass is utilized in the project. The projects using biomass generated by a relatively large number of parties such as food waste are likely to be run by a government. On the other hand, those using biomass generated by a relatively small number of parties such as wood residue are likely to be run by a private company.

When a local government itself does not run a project, it supports the project in most cases through subsidization and encouraging the residents to cooperate in the project. For example, a government subsidizes a company producing compost from food waste and/or the residents when they purchase it. These supports by a local government may be because it tends to consider a biomass utilization project as a new business that will lead to improvement of the economic situation in that area and offer labor opportunities to the residents. These benefits will serve as incentives for the residents to cooperate in the project.

## **CONCLUSIONS**

It is observed that who runs a biomass utilization project depends approximately on what kind of biomass is utilized in the project and that in most cases, a local government is involved in the project. From the viewpoints of public private partnership, a management system of a biomass utilization project may have room for efficiency improvement.

## **REFERENCES**

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