Effective use of food waste and facilities that comply with the Food Recycling Law

Carbonization recycling system

Applicable field
(i) Recycle-based use of resources
(ii) Waste recycling facility

Features

- Effectively use food waste as thermal materials and other materials
- Recycling system that does not require advanced sorting of foreign materials included in food waste
- Realizes a negative carbon balance by developing a thermal waste recovery system (13.2 t – CO2/day)

Overview (Technical principles, actions, etc.)

The “Carbonization recycling system” uses “carbonization,” which is a traditional technology of Japan, as a core technology and has been developed as a more advanced industrial method.
This system is capable of accepting various types of food waste using specifically designed hoppers and removing foreign materials (such as packages and containers) from bagged food waste using high-performance bag openers.
Waste from which foreign materials are removed is temporarily stored in a tank and processed to adjust the moisture and ingredients to stabilize the quality of the recycled material. The waste is then transported to a drying process.
The dried waste is recycled as “charcoal” in a continuous carbonization system with self-sustained combustion.
A no-contact heat recovery system was developed for the waste gas emitted from the carbonization system. This builds a system for using heat energy in the drying process to realize energy conservation.
This system reduces carbon dioxide emissions by using the recycled “charcoal” for the thermal processes and materials in an effective cascade by fixing the carbon in the charcoal.

Effects

◎Effective use of recycled “charcoal” for thermal processes and as materials

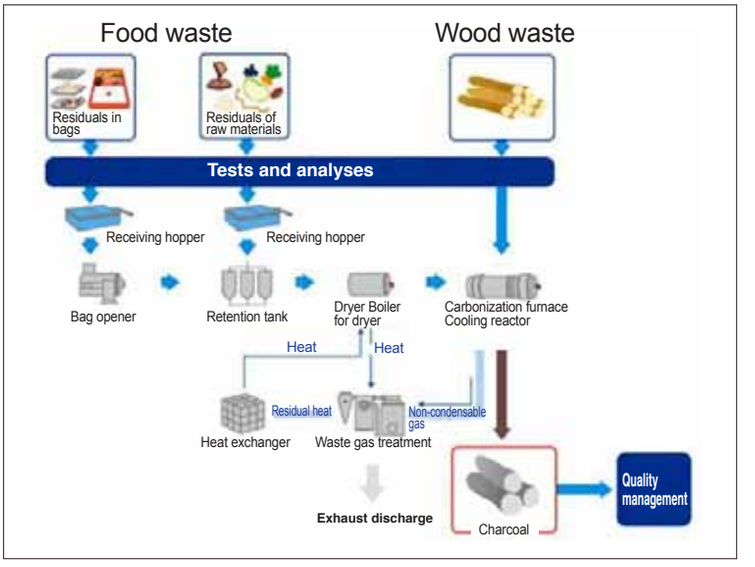
Recycled charcoal is used as fuel and a reducing agent in thermal uses to realize carbon neutrality as an alternative to fossil resources. The use of recycled charcoal as production materials (materials of gardening soil, materials for manure, etc.) is promoted in material uses. The effect of reducing carbon dioxide emissions by returning the carbon to the soil, or being so called “carbon negative,” is expected from this system.

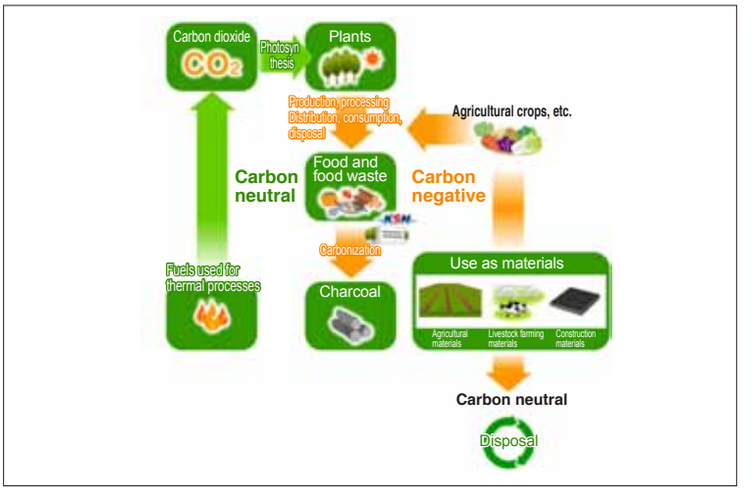
◎Promote the recycling of non-recycled food waste.

We reduce the burden of high-level separation by waste genetator, and receive a wide range of food waste.

◎Realization of energy conservation and negative carbon balance

The development of a heat recovery system using waste gases and using them in pre-treatment facilities (drying processes) realizes energy conservation and a negative carbon balance.





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