

## Survey of Measures to Combat Global Warming using Sewerage Resources : “Shigen no Michi” program (“The way of resources” program)

Whole term

2005.7 ~ 2006.3

### (Purpose)

In recent years, concerns about global warming are leading to hopes for the effective use of sewage sludge as energy, in addition to the effective use as material. The report of the “Subcommittee for a Mid- and Long-term Sewerage Vision” notes the creation of the “Shigen no Michi” program, which contributes to the energy independence of sewage treatment plants and to measures to combat global warming by utilizing the resource collection and supply functions of sewage systems.

With an eye to realization of the “Shigen no Michi” program presented in the abovementioned vision, this survey studies targets connected with mid- and long-term use of sewage sludge, establishment of objectives, and development of policies based on an examination of actual conditions surrounding sewage sludge treatment and energy use.

### (Outline)

The survey involved data processing, collection of materials, and study of the following seven items :

1 . Examination of current conditions surrounding sewage sludge / 2 . Examination of conditions surrounding sewage sludge energy use / 3 . Examination of conditions surrounding sewage sludge treatment / 4 . Examination of other policies and approaches pertaining to sewage sludge use / 5 . Arrangement of materials for policy study of sludge treatment and use based on regional circumstances / 6 . Arrangement of materials for study of sewage sludge usage plans that incorporate other biomass / 7 . Arrangement of materials for study of policies for promoting sewage sludge use

### (Results)

- 1 . Examination of current conditions surrounding sewage sludge
  - The amount of sludge produced and amount of power consumed are tending to increase in line with percentage of sewered population. However, the amount that is sent to disposal by sanitary landfill is decreasing due to efforts to promote waste reduction ; at the same time, the material recycling rate is showing a rising trend.
- 2 . Examination of conditions surrounding sewage sludge energy use
  - Sewage sludge is stably produced in terms of both volume and quality and is an effective form of biomass in terms of energy. However, the number of digesting facilities in Japan remains unchanged, and use of sewage sludge does not appear to be expanding.
  - In recent years, more cases of new energy use (conversion to solid fuel, use of natural gas, etc. ) are being seen.
- 3 . Examination of conditions surrounding sewage sludge treatment
  - Revision of the Sewerage Law in 1996 and other developments are among active efforts to further reduce sewage sludge volume. As a result, sludge treatment processes have introduced treatment methods that put emphasis on reduction of volume (incineration, etc. ).
- 4 . Examination of other policies and approaches pertaining to sewage sludge use
  - Policies to promote biomass use are being pursued based on Biomass Nippon and Kyoto Protocol plans. At the same time, examples of action being taken among local governments are being seen.
- 5 . Arrangement of materials for policy study of sludge treatment and use based on regional circumstances
  - Treatment plants are polarized, with some having a recycling rate of 0 % and others a rate of 100%. Major differences in recycling rate and conditions depending on the region are evident.
- 6 . Arrangement of materials for study of sewage sludge usage plans that incorporate other biomass
  - The public has come to demand the treatment and effective use of waste, including sewage sludge. Thus, the employment of facilities that treat waste in a consolidated manner has begun in recent years.

7. Arrangement of materials for study of policies for promoting sewage sludge use

- It will be necessary to present an evaluation index for organic separation, to introduce PFI and to promote development of new technologies through and LOTUS, etc.

Research commissioned by the Sewerage and Wastewater Management Department ; City and Regional Development Bureau ; Ministry of Land, Infrastructure and Transport

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key words

Shigen no Michi, Sewerage resources, Measures to combat global warming