

Survey/Research on Establishing of Energy Conservation Technology Information Database

Year of Research

2007

(Objective)

A direction has been provided for efforts in the sewerage field to prevent global warming by saving and creating energy. This includes setting CO₂ emission reduction targets for the country as well as specific approaches in the use of sewage sludge as a resource.

However, each sewage works administrator has just begun specific approaches to the use of sewage sludge. With the exception of certain wastewater treatment plants that have to establish energy-saving targets in accordance with the Rationalization in Energy Use Law, energy conservation at present greatly depends on the independent efforts of the administrators.

Even if administrators are at the stage of implementing specific energy conservation measures, most of them can be assumed to be not fully familiar with effective energy conservation measures in individual plants. It is also evident from a survey implemented by the government in the year 2005 that most administrators have requested government support for energy conservation.

On the basis of the present situation and problems related to energy conservation in sewerage, a survey and research project has been undertaken to systematize technical information in energy conservation in order to establish a plan for creating a database that would help local governments utilize the energy conservation technology.

This work deals with "Establishing a Database in which Technical Information is Systematized" to be included in the "Survey on the Development of New Technology for Conversion of Sewage Sludge to Usable Resources through Industry-Academic-Government Collaboration and Related Trends."

(Conclusions)

Building a database for studies of energy conservation technology involves a process of compiling information on energy conservation technology.

To create the database, the energy conservation technologies were first classified and systematized in terms of treatment processes and measures, followed by rearrangement of database entries. Finally, a review was conducted of the specific contents of the database. The contents to be entered were selected while referring to comments received from administrators. It was decided that the contents would consist of ① An outline of the technology, ② Energy conservation effects, ③ Approximate costs, ④ Remarks, and ⑤ Reference materials. A typical database for water treatment facilities is shown below.

The database on energy conservation technologies will prove to be effective only when it is widely opened to promote use by the administrators, and establishing a technology information Web site has been studied.

Table 1. A typical technology information database

Water treatment facilities	Primary and final settling tank facilities	Improvement of operation methods
		Introduction of highly efficient equipment
	Reactor	Improvement of operation methods
		Improvement of operation methods
	Blower	Improvement of aerators
		Adjustment of blower piping shape and route
		Employment of blowers driven by steam turbines
		Improvement of operation methods
	Advanced wastewater treatment	Introduction of highly efficient equipment
		Improvement of operation methods
Disinfection facilities	Introduction of highly efficient equipment	
	Improvement of operation methods	
Others	Adjustment of sludge withdrawal concentrations	

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Key words

Prevention of global warming, energy conservation