1. Project Name

2.3.2 Feasibility Study on Energy-saving Rationalized Network for Industrial Water 2005

2. Objectives

Situations of energy efficiency in various industries in Japan are progressed nearing the limit, and the efforts are directed to energy savings in the overall consumption, than in the individual processes of energy use. Even under such circumstances, for energy conservation, including rational use of water for industrial use, attempts to target a wide range of industrial complexes and industrial parks are not yet planned in the studies.

This project aims to promote the energy efficiency of industrial zones, such as complexes, by the advancement of the rational use of water for industrial use through application of a water use rationalization technique that has been proposed within chemical processes called, "water pinch technology," to a large-scale industrial complex. Also, after selecting a wastewater treatment and reuse technology needed to rationalize water use, the energy efficiency of the equipment as a whole, including the energy efficiency are to be evaluated.

Furthermore, we will also evaluate the energy-saving wastewater treatment technology currently under development, intended to expand the scope of energy-saving technologies in the water treatment process.

In 2005, with the focus of the Kashima complex and the Goi district complexes, an investigation was done for the possibility of applying the water pinch technology as well as the industrial water usage situation, in addition to the investigation regarding the application of the water pinch technology within the virtual complex, paired with the technological movements with the water pinch technology.

In addition, the pinch analysis of business districts within the Goi complex was done for those with high possibilities for the application of the "water pinch technology." As a result, the industrial water saving by 13.6%, total water cost savings of 40,000,000JPY, and 10,000kL of heavy oil savings with energy was found to be possible.

3. Reference

Outsourcing : New Energy and Industrial Technology Development Organization (NEDO)