

<p>1. Technology</p> <p>1.4 Treatment of Sewage Wastewater by Combining Technologies</p>
<p>2. Project Name</p> <p>1.4.8 Research and development of an ultra energy-saving sewage treatment system using FO membranes</p>
<p>3. Keyword</p> <p>Sewage treatment, Membrane process, Energy saving, Anaerobic treatment</p>
<p>4. Objectives</p> <p>Unlike the standard activated sludge method, which is the primary method of sewage treatment in Japan and has the problem of consuming a significant amount of energy, this project aims to establish an energy-saving sewage treatment system centered on the anaerobic wastewater treatment method (methane fermentation method), which has the advantage of consuming much less energy.</p>
<p>5. Contents/Results</p> <p>In the proposed system, organic matter in wastewater is concentrated by FO (positive osmosis) membrane using seawater as the driving fluid, and the COD in the treated water, which is a prerequisite for anaerobic biological treatment, can be highly concentrated. Currently, a pilot scale FO membrane test unit has been installed at Water Plaza Kitakyushu to collect data on the characteristics of the FO membrane treatment system, SS removal method as pre-treatment, and concentration demonstration. The research report was submitted by the end of the construction period on March 19, 2020.</p>
<p>6. Reference</p> <p>This project was a joint venture among the University of Kitakyushu, Nagasaki University, Swing Engineering Corporation, and Nihon Suiko Sekkei, commissioned by the Ministry of Land, Infrastructure, Transport and Tourism with Water Reuse Promotion Center serving as the representative.</p>