Annual Report
on SDG6 Clean Water and Sanitation

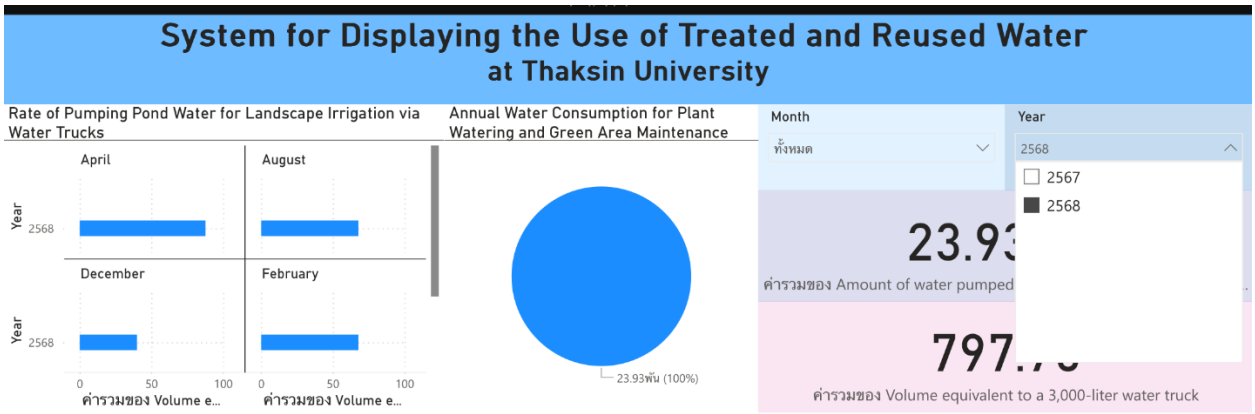
6.4.2 - Does your university as a body measure the reuse of water across the university?

Thaksin University systematically measures and monitors the reuse of treated wastewater through an integrated digital monitoring system managed by the Division of Building and Environment, in collaboration with the Water Quality Testing Laboratory of the Faculty of Science and Digital Innovation. The university operates a central wastewater treatment system combining stabilization ponds and biological processes, and all treated effluent is routinely tested to ensure compliance with national standards before being reused for non-potable purposes.



The Power BI dashboard developed by the university displays real-time data on both total water consumption and treated-water reuse across the Phatthalung Campus. In 2025 (2568), the total annual water consumption reached 473,212 m^3, while approximately 23,931 m^3 of treated

water was reused for landscape irrigation, plant watering, and general cleaning. This reused volume is equivalent to about 797 truckloads of 3,000 liters each, representing roughly 5 percent of the university's total annual water consumption. Monthly data collection enables accurate assessment of seasonal variations, with higher reuse observed in the dry season (March–May). All data are collected through automated water meters installed at key distribution points and are uploaded monthly to the university's environmental monitoring database. The system allows administrators to track water reuse efficiency, identify potential losses, and plan for future expansion of reuse capacity. The results are reviewed annually as part of the university's Sustainable Water Management Policy and reported to the TSU Environmental Performance Dashboard under the SDG 6 (Clean Water and Sanitation) framework.



Year	Month	ค่ารวมของ Amount of water pumped for irrigation (m^3 (cubic meter))(Treated water)	ค่ารวมของ Volume equivalent to a 3,000-liter water truck
2568	April	2,632.42	87.75
2568	March	2,632.42	87.75
2568	August	2,034.14	67.80
2568	February	2,034.14	67.80
2568	January	2,034.14	67.80
2568	July	2,034.14	67.80
2568	June	2,034.14	67.80
2568	May	2,034.14	67.80
2568	October	2,034.14	67.80
ผลรวม		23,931.08	797.70



In parallel, Thaksin University promotes sustainable water and wastewater management through institutional water monitoring, environmental education, and practical learning activities. These initiatives support the university's broader commitment to responsible water use, resource efficiency, and sustainable environmental management.

Thaksin University also supports sustainable water and wastewater management through research, environmental education, and practical learning activities. Relevant research includes Kongthong et al. (2025), "Integrated treatment and energy recovery from palm oil mill effluent using laccase-producing microalgae in a microbial fuel cell system." The study investigated the use of microalgae in combination with a microbial fuel cell system to treat palm oil mill effluent and recover energy. Its findings demonstrate the potential of biotechnology to reduce wastewater pollutants while supporting resource recovery. Although this research focuses on industrial wastewater treatment rather than the university's campus water reuse system, it contributes to the university's research capacity in environmental biotechnology and sustainable wastewater management.

Through institutional water monitoring, treated wastewater reuse, water quality testing, and digital reporting, Thaksin University supports the objectives of SDG 6, particularly the efficient use of water resources and the reduction of environmental impacts associated with wastewater.

The measurement of annual water consumption and treated wastewater reuse provides a quantitative basis for institutional review, performance assessment, and future planning. Continued monitoring and evaluation can help the university identify opportunities to increase water reuse, reduce reliance on freshwater for suitable non-potable applications, and strengthen its long-term sustainable water management practices.

Supporting evidence:

Research paper

https://doi.org/10.1016/j.ces.2024.119783

https://jdmlm.ub.ac.id/index.php/jdmlm/article/view/17356

Green University Policy

https://sdg.tsu.ac.th/detail.php?id_list=163&aNum=20231108221217

Water-supply and monitoring records (January–December 2025) — Division of Building and Environment, TSU.

https://app.powerbi.com/view?r=eyJrIjoiMWFhNDI2N2QtZTUwMS00ZDNhLThmNDktNzE0ZWI0Y2FkN2M2IiwidCI6IjNkYTdmOTQ3LTY3NTAtNDYzMC04MDk2LWJiYTlmNzZlMjZhOCIsImMiOjEwfQ%3D%3D