RUTS | SDG 2025

SDG 7

AFFORDABLE AND CLEAN ENERGY

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Ensure access to affordable, reliable, sustainable and modern energy for all



https://sdgs.rmutsv.ac.th/evidence-2025/sdgs-7

Environmental and Energy Management Policy

Rajamangala University of Technology Srivijaya (RUTS) promotes energy efficiency, renewable energy, and environmentally responsible campus development through its Environmental and Energy Management Policy. The university's long-term strategies aim to develop RUTS as a Green University, a clean-energy Smart City, and a centre for environmental innovation.

The policy sets targets to increase renewable energy use to at least 25% and reduce greenhouse gas emissions by 45%. It also promotes green building standards, sustainable investment, energy-related research, environmental education, waste reduction through the 3Rs, and sustainable campus transportation. These measures support the university's long-term transition towards carbon neutrality.

Energy Efficiency and Electricity Consumption

RUTS implements energy-efficiency measures across university buildings through lighting improvements, equipment maintenance, electricity monitoring, and building-level energy assessments. Documented improvements include replacing conventional 40 W fluorescent tubes with 18 W LED tubes, reducing rated lighting power by 55% per lamp. These measures contribute to efforts to improve the efficiency of campus lighting systems.





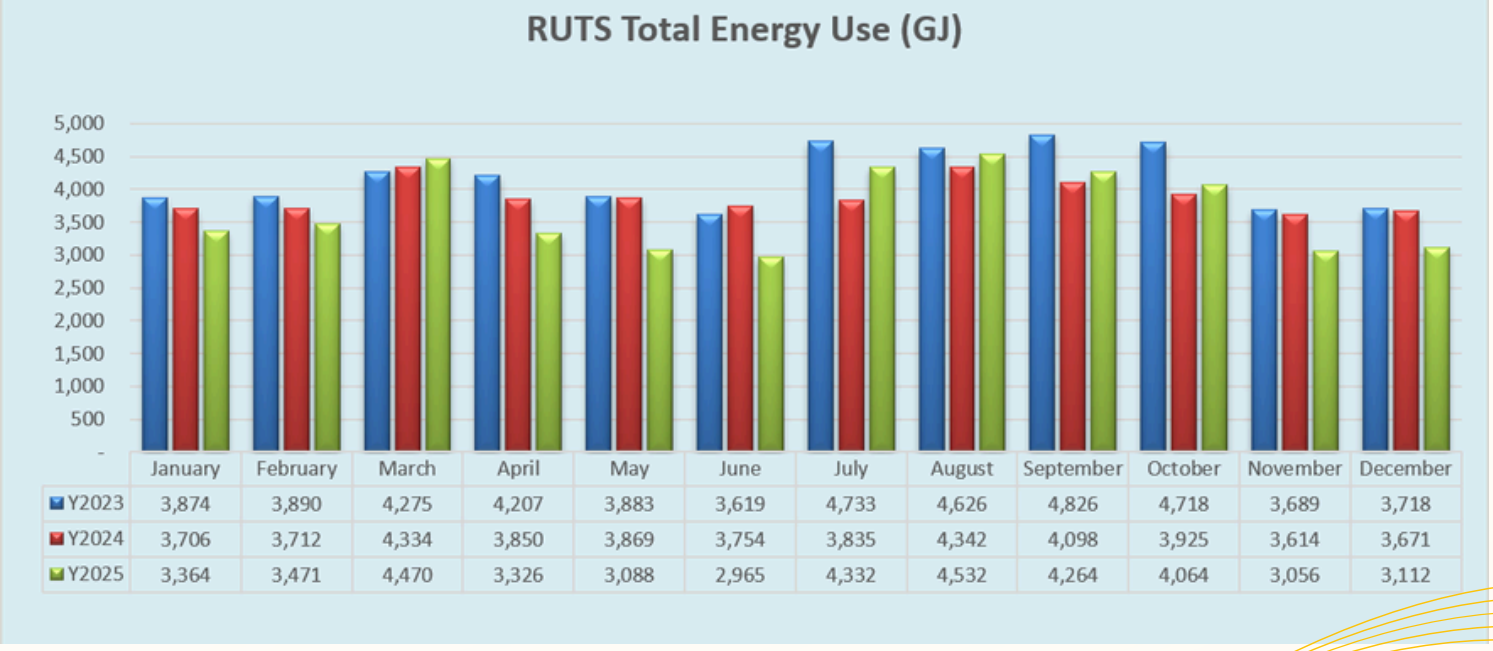






The university also conducts annual inspections and preventive maintenance of electrical transformers and main distribution boards (MDBs), alongside reviews of electricity consumption in university buildings. An institutional energy assessment identified the Faculty of Engineering building complex as the highest electricity-consuming location within the reviewed Songkhla campus area, providing a basis for prioritising further energy-management measures. The Faculty of Engineering's electricity-reduction plan includes air-conditioner maintenance, replacement of older units with high-efficiency models, LED lighting, and automatic lighting controls.

In 2025, RUTS reduced its annual electricity consumption by 740,487 kWh (approximately 2,666 GJ) compared with 2024, representing a 5.71% reduction. Based on an emission factor of 0.4750 kgCO_2e/kWh, this decrease corresponds to an estimated 351.73 tonnes of avoided CO_2-equivalent emissions. Monthly electricity-consumption records from 2023 to 2025 provide additional evidence of the university's energy-monitoring practices and changes in electricity use over time.



	January	February	March	April	May	June	July	August	September	October	November	December
Y2023	3,874	3,890	4,275	4,207	3,883	3,619	4,733	4,626	4,826	4,718	3,689	3,718
Y2024	3,706	3,712	4,334	3,850	3,869	3,754	3,835	4,342	4,098	3,925	3,614	3,671
Y2025	3,364	3,471	4,470	3,326	3,088	2,965	4,332	4,532	4,264	4,064	3,056	3,112

Renewable Energy Development

RUTS promotes the integration of renewable energy into campus infrastructure, including rooftop solar photovoltaic installations that support the university's clean-energy development efforts. Existing solar installations provide visible examples of renewable-energy applications within university facilities.





To further expand renewable-energy capacity, RUTS proposed a 900 kWp grid-connected rooftop solar photovoltaic project in the Songkhla campus area, with an estimated investment of THB 30 million. The proposal projects annual electricity-cost savings of approximately THB 7.02 million, equivalent to about 25% of the university's reported annual electricity expenses of THB 28.32 million, and an estimated payback period of 4.8 years. The project has received University Council support as part of the university's renewable-energy development direction.



The proposed project also incorporates a solar-technology learning room intended to provide practical learning opportunities and demonstrate renewable-energy applications to students, local communities, public agencies, and private-sector organisations. This initiative is designed to connect campus energy development with education, technology dissemination, and regional engagement.

Research and Innovation in Clean Energy

In 2025, researchers from the Faculty of Engineering, led by Mr. Narongrit Senachit and colleagues, undertook the project “Development of an Innovative Intelligent Electric Fence with Clean Energy to Increase Potential and Support Animal Husbandry in the Fields,” funded by Thailand Science Research and Innovation (TSRI).

The project focuses on developing an intelligent electric fencing system powered by clean energy for free-range and open-field livestock farming. By integrating renewable energy with smart farming technology, the research aims to improve livestock safety, increase energy efficiency, reduce farmers' monitoring workloads, and support more sustainable agricultural practices.

Clean Energy Education and Workforce Development

RUTS promotes clean-energy skills development through vocational training and practical education in solar photovoltaic technologies. In 2025, the Faculty of Technical Education and Technology organised non-degree training programmes on solar PV installation and maintenance on 23 July and 11 September. The programmes combined theoretical instruction with hands-on training in system design, wiring, installation, testing, and maintenance, including participation by students from Songkhla Technical College.











