

WALAILAK UNIVERSITY

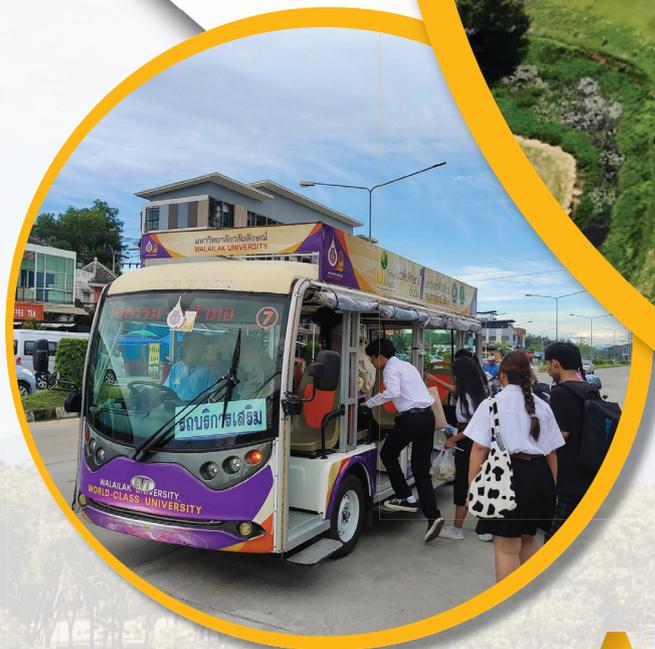


SDG

REPORT 2023-2024



SUSTAINABLE DEVELOPMENT GOALS



AFFORDABLE AND CLEAN ENERGY

7

-  A Smart & Green Campus: Sustainable Initiatives at Walailak University
-  Reducing Energy Consumption Plan
-  Application of Clean Energy for Local Community





A Smart & Green Campus: Sustainable Initiatives at Walailak University



Global warming refers to the increase in the Earth's average temperature due to the greenhouse effect. This phenomenon is primarily caused by human activities that increase the amount of carbon dioxide in the atmosphere through the burning of various fuels, transportation, and industrial production.

Consequently, Walailak University (WU) has a carbon management and reduction process to promote energy conservation and efficiency, focusing on the use of renewable energy, alternative energy, and clean energy, aiming towards becoming a Smart & Green University and reducing carbon dioxide emissions through diverse operational initiatives, such as:

Waste Management

Efficient waste management processes contribute to reducing greenhouse gas emission. This can be achieved through various technologies such as: Methane capture from anaerobic digestion of food waste for beneficial use; using organic food waste as animal feed. and producing biogas from organic waste, including food scraps, animal waste and agricultural residues.

Transportation

the university utilizes electric shuttle buses for on-campus transportation, serving students and staff while reducing the need for personal vehicles and cutting carbon dioxide emissions. Additionally, bus/carpooling systems are employed to transport employees to and from work, further lowering personal vehicle use and emissions.



Agriculture/Forestry

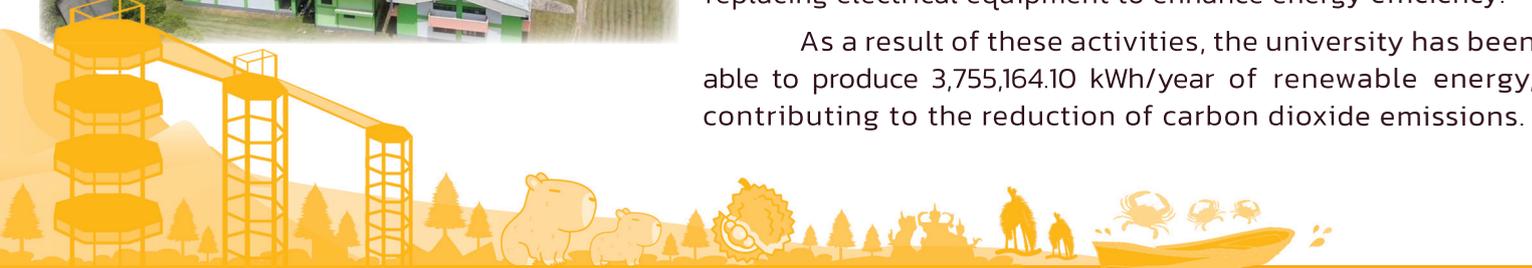
the university enhances carbon dioxide absorption by increasing the number of trees around the campus and buildings, as trees absorb more CO₂ through photosynthesis than they emit. Additionally, agricultural waste is repurposed as mulch to reduce burning and further decrease carbon emissions.



Energy

The university produces renewable energy from solar, hydropower, and wind, for internal use. It has installed a 2,000 kWh solar rooftop system on several campus buildings and is replacing electrical equipment to enhance energy efficiency.

As a result of these activities, the university has been able to produce 3,755,164.10 kWh/year of renewable energy, contributing to the reduction of carbon dioxide emissions.





Reducing Energy Consumption Plan

Energy is essential for humans in the modern era. Currently, the world's energy consumption primarily comes from fossil fuels, accounting for as much as 95% of total usage. Since fossil fuel energy is a non-renewable resource, WU has recognized this problem and developed an energy efficiency plan in place to reduce overall energy consumption through the Green University Project. This initiative aligns with the government's Energy Efficiency Development Plan (EEDP), with the goal of reducing the university's total energy consumption by 10% per year.

To ensure the effectiveness of WU's plan and the government's energy policy, efficient energy use, energy saving, and waste reduction have been seriously and continuously implemented. The university has announced energy-saving plan to instill a shared culture among students and staff across all departments, leading to the achievement of 10% energy consumption reduction plan through various implementations, such as:

Air Conditioning Control System: WU employs computerized technology to automatically control the opening and closing of air conditioning units based on room reservation data imported from the network management system that manages room usage schedules.



Automatically Air Control System



Building Design and Renovation: WU has a policy of continuously improving organizational resource efficiency in line with operational needs, technology utilization, and best practices, for example, designing buildings with automatic sensor lighting systems in bathrooms, heat-reducing windows, and translucent roofs.

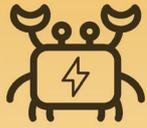
Renewable Energy from Waste: WU produces Refuse Derived Fuel (RDF) from waste through various processes to convert it into solid fuel with suitable properties such as heating value, moisture content, and density, suitable for use as fuel for generating electricity or producing thermal energy. This is utilized to supply electricity to units and the university.



Renewable Energy in the Organization: Support is provided for several units to install solar panels, converting solar energy into electricity as a renewable energy source. Solar energy is clean, low-impact, and supports the university's sustainability and carbon neutrality goals. Moreover, there are wind energy and biomass energy for converting it to energy used in organization

As a result of these efforts, electricity consumption in 2023 decreased by 10.28%, aligning with the university's plan. It was found that electricity usage per person in 2022 was 1110.50 kWh, whereas in 2023, it was 996.3 kWh per person.





Application of Clean Energy for Local Community



WALAILAK UNIVERSITY
SDGs MOVE

Walailak University (WU) directly outreach to help the community adapting to use renewable energy sources and to reduce environmental impacts by providing program for local community to learn about importance of energy efficiency and clean energy under the "Return the Blue Swimming Crab to the Thai Sea" project.

The Map Showing the Location of Blue Swimming Crab Restoration Project



This initiative aims to reduce costs and expenses for the fishing community, particularly electricity bills, while also enhancing the community's ability to sustain operations continuously. By consolidating data on the efficiency of solar and wind energy and conducting cost surveys, it was found that the alternative energy system of the project can generate sufficient power to meet the community's needs, resulting in monthly electricity savings ranging from 400 to 500 baht.



Additionally, this project aimed at transitioning towards an alternative energy blue swimming crab station. This involves training and knowledge transfer sessions on clean energy usage for the local community blue swimming crab bank, coupled with the installation of solar panels to utilize natural energy sources, including wind and solar power. Solar panels have also been installed on boats to facilitate nighttime fishing trips and tours for fishers. This is another interesting way to utilize renewable energy in areas where connecting to the electricity grid is not feasible. It also helps to save costs. Using these solar panels ensures that the boat has sufficient energy to power various equipment such as bright lights.

