SDG 7
Affordable and Clean Energy

1. Renovation and Construction of Energy-Efficient Buildings
2. Carbon Reduction
3. Energy and the Community
4. Promotion of Public Commitment

SDG 7
AFFORDABLE AND CLEAN ENERGY

Renovation and Construction of Energy-Efficient Buildings

The renovation and construction of energy-efficient buildings are key approaches to reducing energy consumption and greenhouse gas emissions from the built environment- a priority increasingly recognized by universities and other organizations. The university has established main guidelines and measures focusing on the retrofitting and improvement of existing buildings as follows:

University Projects:

1. Building 26 Improvement Project: Upgraded to LED lighting systems and energy-efficient electrical appliances to promote responsible and efficient energy use.
2. Construction of the Office of Academic Promotion and Registration: Designed to create an open and transparent environment that provides comfort, energy efficiency, and convenient service accessibility.
3. Genius Center Construction Project: Designed to maximize the utility of available space, emphasizing economical energy consumption while incorporating advanced technology.
4. Solar Power Installation Project for Building 15 (Library): Installed rooftop solar power systems to provide renewable energy and reduce dependency on conventional electricity sources.

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Carbon Reduction

Carbon Reduction and the Carbon Emission Reduction Process

Carbon reduction refers to the process of decreasing carbon dioxide (CO_2) and other greenhouse gas emissions that contribute to global warming — particularly in the energy, transportation, manufacturing, and building sectors. This can be achieved through a combination of technological measures and behavioral changes aimed at increasing efficiency and sustainability.

GOGO Electric Scooter

Energy and the Community

Aligned with the policy of Nakhon Si Thammarat Rajabhat University as a "University for Local Development", the Bachelor of Industrial Engineering Program (Mechanical Engineering major) integrates academic knowledge with community engagement through the courses Mechanical Engineering Project 1 and 2.

Within these courses, students apply the knowledge and skills accumulated over their first three years of study to develop innovations and inventions that directly benefit local communities. The resulting innovations focus on addressing community-specific needs, solving local problems, and enhancing income generation from existing community products.

An example includes the design and application of solar-powered drying ovens, which utilize clean energy technology to support agricultural product preservation, reduce production costs, and promote sustainable energy use within the community.

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Promotion of Public Commitment

Promotion of Public Commitment to 100% Use of Renewable Energy

Beyond its internal operations, the university demonstrates its commitment to sustainability by supporting the Solar Energy Project and the **Intellectual Empowerment for Sustainable Local Development Project**

Activity: Community Waste Management for Public Health

This initiative addresses waste management issues in accordance with the Thai government's 4R concept — Reduce, Reuse, Recycle, and Recovery — and aligns with the National Solid Waste Management Roadmap 2016–2021, which serves as a national framework for tackling waste management challenges. The program emphasizes collaboration among the public sector, private sector, and civil society, structured around four key measures:

1. Address accumulated and existing solid waste
2. Develop new solid waste management models
3. Establish regulations and enforcement measures for effective waste management
4. Foster a culture of discipline and responsibility in waste management practices (School of Change Makers, 2018)

This project aligns with the waste management policy by developing frameworks, regulations, and measures for sustainable waste management in local communities, integrated with the use of appropriate environmental technologies. It begins with building positive attitudes toward community-based waste management, raising awareness of waste volume and its environmental and health impacts, and promoting the application of government-recommended management approaches.

The project also emphasizes the use of technology in improving efficiency and establishing best practices for separating, recycling, and managing different types of waste, thereby supporting a transition toward cleaner, renewable energy and sustainable community development.