Annual Report

on SDG12 Responsible Consumption and production

12.2 Operational measures

12.2.5 Plastic Use Minimization Policy

Thaksin University has continued its transition toward becoming a **Green University**, with strong recognition of **the critical global issue of plastic waste pollution**. The university therefore focuses on **mitigating plastic waste** through campaigns to reduce single-use plastics, separating plastic waste from other types of waste, promoting reuse, selling recyclable plastics, and sending non-recyclable plastics for conversion into refuse-derived fuel (RDF). In addition, the university supports research on **the use of natural materials as plastic substitutes**.

The university also implements various campaigns to reduce single-use plastics, such as

1) **Bring Your Own Cup campaign**, which has led to an increasing number of students and staff using personal reusable beverage containers on campus.

Public evidence: https://event.tsu.ac.th/detail.php?id=554&gid=16

For university events and seminars, reusable food and beverage containers are mandated to reduce single-use plastic cups, plates, and cutlery. Since 2023, plastic bottle sorting stations have been installed on every floor of academic buildings, laboratories, student dormitories, staff residences, cafeterias, the Rim Chon Market, and other areas across campus.

In addition, the university promotes plastic reduction and reuse through research initiatives.

Plastic Waste Conversion into Reusable and Functional Materials

Thaksin University is strongly committed to reducing waste problems and protecting the environment, while prioritizing the advancement of sustainable development goals. The University has clearly expressed this commitment through the **TSU-SDGs for Sustainability** initiative and has integrated cooperation across all units at both Songkhla and Phatthalung campuses to promote awareness and encourage students and staff to **separate plastic waste** properly. In addition, the Rubber Technology Transfer Center, Faculty of Engineering, Phatthalung Campus, has implemented projects that **convert plastic waste into useful products**, such as drink coasters and plant pots. These efforts demonstrate the University's dedication to environmental responsibility and practical waste reduction.

The university has also promoted plastic upcycling. Dr. Veerawut Naepetch, from the Rubber Technology Transfer Center, Faculty of Engineering, Thaksin University (Phatthalung Campus), has repurposed plastic bottle caps into coasters and plant pots using existing rubber processing machinery, with a production capacity of approximately 60 pieces per day.

Public evidence:

https://www.tsu.ac.th/home/details.php?aNum=20240701093609&id=3769&gid=2

https://mgronline.com/south/detail/9670000056343

https://shorturl.at/oQo5G

In addition, the university supports research on biodegradable alternatives to plastics. Dr. Pornsiri Toae, Deputy Manager of the Rubber Technology Transfer Center, has conducted research on **packaging products made from rice husk**— a prototype of environmentally friendly, biodegradable materials derived from agricultural waste. This innovation helps **reduce plastic waste**, decreases the amount of waste requiring disposal, increases the value of agricultural by-products, and provides an alternative source of income for farmers.

This innovation offers consumers **an alternative to reduce plastic waste**. Currently, Thailand generates more than 2 million tons of plastic waste each year, but only about 0.5 million tons are recycled and reused. The remaining waste is disposed of in landfills, while some leaks into the environment, causing serious impacts on humans, animals, and ecosystems. Research has shown that petroleum-based plastics require more than 400 years to fully decompose.

To address this issue, the Thai government has adopted the Plastic Waste Management Roadmap (2018–2030), proposed by the Ministry of Natural Resources and Environment, as a national policy framework for plastic waste reduction. As a result, environmentally friendly businesses have grown significantly, especially those focused on finding alternatives to petroleum-based plastics, such as polymers made from sugarcane, corn, and cassava. However, bioplastics tend to be hard and brittle, and their cost remains relatively high.

Public evidence:
https://tsu.ac.th/home/details.php?aNum=20240720025605&id=3834&gid=2