

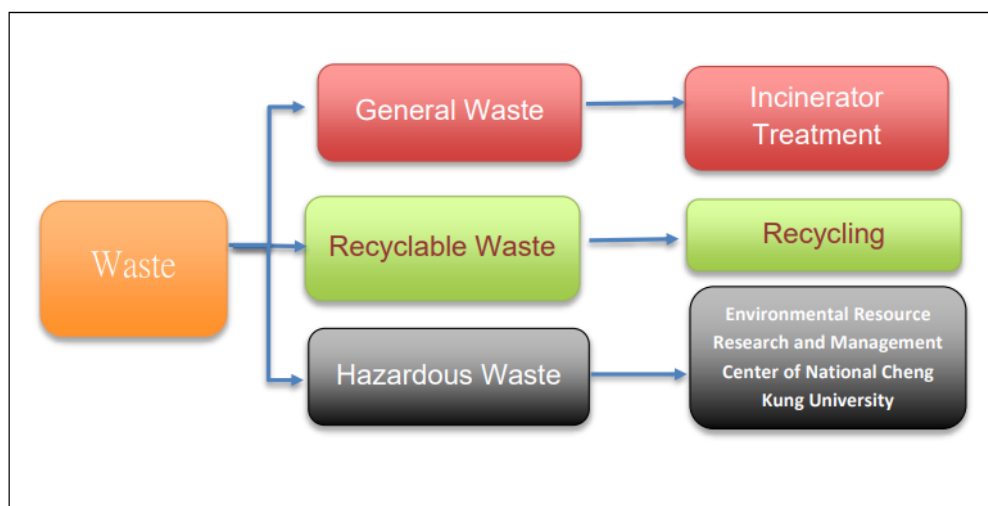
SDG 12.3.1

1. The NUK's waste output can be roughly divided into general waste and recyclable items produced by dormitories and offices, and hazardous waste generated in laboratories, etc. The amount of waste generated by the school is disclosed in the annual sustainability report, and on webpage for the public. The respective treatments are as follows:

(1) General Waste: An Outsourced cleaning vendor regularly collects general waste and puts it in the temporary waste storage area, which will be later transported by rubbish trucks to incineration facilities nearby.

(2) Recyclable Items: After being sorted and thrown into recycling bins by the faculty and students, recyclable items are collected and put in the temporary waste storage area by an outsourced cleaning vendor that will send the items to recycling companies on a regular basis.

(3) Hazardous Waste: Laboratory waste and liquid waste mainly produced by laboratories are collected by the respective laboratories and sent to the Storage Room for Liquid Waste every week. When the waste reaches a certain quantity, our certified contractor will follow the regulations to fill in the transport and clearance delivery slip and hand it over to the Environmental Resource Research and Management Center of National Cheng Kung University. The 3R plan implemented by the NUK is as follow, and the implementation rate is 100%.



2. See the attached files.

(1) The amount of waste generated by the school is disclosed in the annual sustainability report (summary).

Website: https://ces.nuk.edu.tw/var/file/11/1011/img/2025_SustainabilityReportEN.pdf

Attachment 1



5.1.4 Waste Management

Waste Management Approach

Topic Attribute	GRI 306
SDGs Alignment	
Corresponding Report Section	5.1.4 Waste Management
Topic Materiality Description	The University's daily campus operations, student dormitory life, administrative activities, and laboratory research generate both general waste and hazardous industrial waste. Improper management may result in environmental pollution, regulatory risks, and resource waste.
Major Impacts	Positive Impacts: Improves resource circularity efficiency, reduces environmental pollution risks, and strengthens campus environmental education. Potential Negative Impacts: Increased waste generation, low recycling rates, and improper treatment of hazardous waste may result in pollution risks.
Affected Stakeholders	Students, faculty and staff, laboratory researchers, waste collection and transportation contractors, community residents, government agencies
Policy and Commitment	In accordance with the Waste Disposal Act and relevant environmental regulations, the University manages general waste, recyclable resources, and hazardous industrial waste, while implementing campus resource circularity and pollution prevention.
Management Objectives	Short-term: Maintain zero violations of environmental regulations; achieve a 16% waste recycling ratio; strengthen the waste sorting system; maintain 100% legal collection, transportation, and treatment of hazardous waste; reduce regulatory violation and pollution risks. Medium-term: Improve the campus recycling rate, strengthen source reduction measures, and optimize laboratory waste classification efficiency. Long-term: Reduce waste generation, improve resource circularity efficiency, and minimize the negative environmental impacts of campus operations.
Responsible Units	1. Office of General Affairs 2. Laboratories 3. Academic Units 4. Administrative Units
Management Measures	1. Campus waste sorting and resource recycling 2. Laboratory waste liquid classification and management 3. Waste liquid temporary storage room management 4. Legal waste collection, transportation, and reporting procedures

	5. Source reduction awareness campaigns 6. Paperless operations and plastic reduction measures
Management Evaluation Mechanism	1. Waste collection and transportation record management 2. Hazardous waste reporting records 3. Regulatory compliance inspections 4. Internal audit mechanism
Grievance Mechanism	Office of General Affairs mailbox
Key Achievements in 2025	1. Completed legal collection, transportation, and treatment of hazardous waste. 2. Strengthened laboratory waste liquid classification, labeling, and temporary storage management. 3. Continued waste sorting and resource recycling operations. 4. Promoted campus source reduction and environmental education awareness campaigns.
Resources	University Endowment Fund
Management Policy Adjustment	Targets Achieved: The University has established management systems for both general and hazardous waste, maintained legal collection and transportation as well as classification management, reduced environmental risks, and recorded zero violations of environmental regulations. Targets Not Achieved: In 2025, the waste recycling ratio was 4.01%, which did not meet the University's internal target of 16%. Future Improvement Directions: The University will continue promoting waste source reduction, improving the recycling rate, and strengthening the digital management mechanism for laboratory waste.

Management Objectives and Policy

The University continues to promote waste reduction to minimize the waste-related environmental impacts arising from campus operations. Through source reduction, waste sorting and recycling, lawful collection and disposal, and circular reuse measures, the University aims to reduce the volume of waste sent for incineration and final disposal. To reduce the environmental impacts of campus operations, the University has established waste storage areas in accordance with the Waste Disposal Act and relevant regulations. Waste is sorted and stored by category, and recycling, reuse, and industrial waste classification are carried out in accordance with official requirements. The University commissions licensed and professional

recycling, collection, and disposal contractors to conduct waste recycling and clearance operations. Waste-related data are managed by the Office of General Affairs. The data are reviewed quarterly and reported under the Medium-Term University Development Plan for tracking and management. To prevent negative impacts on the natural environment caused by improper waste treatment, the Office of General Affairs is responsible for the clearance of various types of waste and conducts regular follow-up inspections to ensure the legality and safety of final treatment.

1. The University's main sources of waste include:

A. General industrial waste and recyclable materials generated from dormitories and administrative offices

B. Hazardous industrial waste generated from teaching and research laboratories

2. To ensure that waste is properly treated in accordance with laws and regulations, the University has established the following management procedures:

A. Classification Management: Waste sorting and recycling facilities are installed across the campus to implement the resource recycling and classification system.

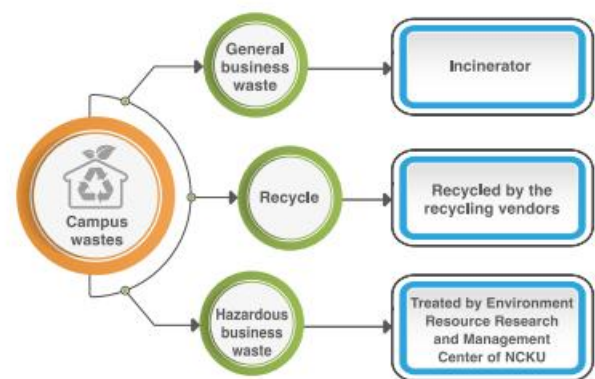
B. Outsourced Collection and Transportation: General industrial waste is regularly collected and transported by licensed waste collection contractors.

C. Incineration Treatment: General waste is sent to incineration facilities for treatment.

D. Hazardous Waste Treatment: Hazardous laboratory waste is collected and transported by licensed contractors to the Resource Recycling Plant of the Environmental Resources Research and Management Center at National Cheng Kung University for professional treatment, ensuring that hazardous substances do not pollute the environment and that all treatment processes comply with environmental regulations.

Significant Impact	Risk Description	Management Measures	Responsible Unit	2025 Results
Excessive general waste generation	Increased incineration volume and carbon emissions	Promote waste sorting and plastic reduction awareness campaigns	Office of General Affairs	Treated 344.60 metric tons of general waste in accordance with regulations
Low recycling rate	Reusable resources are not effectively recovered	Install additional sorting facilities and promote recycling awareness	Office of General Affairs	Recycled 13.81 metric tons
Pollution risk from hazardous laboratory waste	Chemical substances may pollute the environment	Commission licensed contractors for legal collection, transportation, and professional treatment	Office of General Affairs	Treated 7.26 metric tons of hazardous waste in accordance with regulations
Improper temporary storage risk	Leakage, fire, and pollution	Establish designated storage areas and conduct regular inspections	Office of General Affairs	Zero major pollution incidents
Insufficient waste-sorting awareness among faculty, staff, and students	Reduced recycling efficiency	Environmental education and awareness campaigns	Office of Student Affairs; Office of General Affairs	Continued implementation

▲ Significant Waste Impacts and Management Measures



▲ Waste treatment flow chart

Waste Treatment Status

In 2025, the University generated a total of 365.67 metric tons of waste, of which 7.26 metric tons were hazardous industrial waste, accounting for 1.98%, and 358.41 metric tons were non-hazardous industrial waste, accounting for 98.01%. The University mainly treats waste through sorting and recycling, incineration, leaf composting, and waste wood reuse.

The types of waste recycled by the University mainly include paper, plastics, aluminum cans, iron cans, and other recyclable materials. Recyclables are collected by the University's contracted cleaning service provider and transported to qualified recycling companies for recycling. In 2025, a total of 13.81 metric tons of recyclables were collected. General waste is collected and transported by the University's contracted cleaning service provider to incineration plants for treatment, in strict compliance with environmental regulations. In 2025, a total of 358.41 metric tons of general waste was treated.

Hazardous waste is mainly composed of liquid and solid waste generated by University laboratories. Such waste is stored in the University's temporary waste liquid storage room, which is equipped with storage facilities and safety protection measures in accordance with regulations. Hazardous waste is classified, labeled, and recorded by type and quantity when delivered by laboratories.

In accordance with the Waste Disposal Act and relevant regulations, the University commissions the licensed contractor Hao Yu Environmental Technology Co., Ltd. for waste collection and transportation. Hazardous waste is further treated by the Ministry of Education's joint treatment institution, the Resource Recycling Plant of the Environmental Resources Research and Management Center at National Cheng Kung University. Treatment methods include incineration, physicochemical treatment, melting, and reuse. During collection, transportation, and treatment, contractors record the receipt and handling of waste in accordance with regulations. Hazardous waste is collected and transported twice annually.

In addition, the University has established an online chemical management system and conducts annual education, training, and awareness activities. In 2025, a total of 7.26 metric tons of hazardous waste was collected, transported, and treated through commissioned services.

In 2025, the amount of recycled resources was 13.81 metric tons, while the total amount of annual general waste was 358.41 metric tons, resulting in an overall recycling rate of 4.01%.

Summary of Industrial Waste Generation, Waste Diverted from Disposal, and Waste Directed to Disposal over the Past Three Years

Item	Type	2025	2024	2023
Generated Waste	Hazardous Waste	7.26	7.17	7.64
	Non-hazardous Waste	358.41	302.21	292.34
	Total	365.67	309.38	299.98
Waste Diverted from Disposal (Recycling)	Hazardous Waste	0	0	0
	Non-hazardous Waste	13.81	13.19	12.47
	Total	13.81	13.19	12.47
Waste Directed to Disposal	Hazardous Waste	7.15	7.17	7.64
	Non-hazardous Waste	344.60	289.02	279.88
	Total	351.75	296.19	287.52

Waste Diverted from Disposal by Recovery Operation

Unit: Metric Tons

Item	Waste Diversion Method	On-site Treatment	Off-site Treatment	Total
Hazardous Waste	Preparation for Reuse	0	0	0
	Recycling	0	0	0
	Other Recovery Operations	0	0	0
	Total	0	0	0
Non-hazardous Waste	Preparation for Reuse	0	0	0
	Recycling	0	0	0
	Other Recovery Operations	0	13.81	13.81
	Total	0	13.81	13.81

Waste Directed to Disposal by Disposal Operation

Unit: Metric Tons

Item	Waste Diversion Method	On-site Treatment	Off-site Treatment	Total
Hazardous Waste	Incineration (with energy recovery)	0	6.04	6.04
	Incineration (without energy recovery)	0	0	0
	Landfilling	0	0	0
	Other Direct Disposal (Physicochemical Treatment)	0	1.11	1.11
	Total	0	7.15	7.15
Non-hazardous Waste	Incineration (with energy recovery)	0	344.6	344.6
	Incineration (without energy recovery)	0	0	0
	Landfilling	0	0	0
	Other Direct Disposal (Physicochemical Treatment)	0	0	0
	Total	0	344.6	344.6

Unit: Metric Tons