

SDG.6.5.6

Since 2010, in response to the government's "Four Conservation Project for Government Agencies and Schools," the University has continued implementing the following water-saving measures even after the program ended in 2015. The principle is to reduce annual water consumption by 2% compared with the previous year, with annual targets reviewed and adjusted based on implementation effectiveness.

1. **Reclaimed Water System:** All water treated by the University's wastewater treatment plant meets effluent standards. Except during heavy rainfall, 100% of the treated water is stored in the plant's reclaimed water tank and reused for the campus ecological water system and landscape irrigation.
2. **Rainwater Harvesting System:** The College of Humanities and Social Sciences has installed a rainwater storage and reuse system, which supplements the nearby landscape pond as part of the ecological water system.
3. **Water-Saving Facilities:** The University allocates an annual budget to gradually replace urinals, toilets, and faucets in restrooms across campus with water-efficient equipment.
4. **Restroom Water-Saving Improvements:** Specific measures include the widespread installation of dual-flush or water-saving toilets.
5. **Student Water Conservation Education:** During the 2025 Freshmen Week, students were educated on water conservation measures. In addition, monthly emails were distributed to provide updates on wastewater recycling and reuse. Through campus environmental education, these benefits can be extended when students engage in community life.
6. **Flood Resilience Community Exchange:** On October 9, 2025, the Disaster Prevention and Technology Research Center of National University of Kaohsiung, in collaboration with the Kaohsiung City Government Water Resources Bureau, hosted the "2025 Kaohsiung Flood Resilient Community Exchange." Centered on the theme "Community-led Disaster Preparedness and Resilient Coexistence," the event brought together flood-resilient communities, district offices, and industry representatives to share disaster preparedness experiences and strengthen community-based flood resilience. The initiative highlights collaboration among government, academia,

communities, and businesses to advance disaster preparedness, climate resilience, and the development of a safer and more resilient city..

7. For related outcomes, please refer to the Sustainability Report website:

https://ces.nuk.edu.tw/var/file/11/1011/img/2025_SustainabilityReportEN.pdf. The summary is as attached.

Attachment 1



A. provisions of the contracted project, they must abide by the government's occupational safety and health, environmental protection, and fire protection laws and other relevant laws and regulations.

B. The school also requires the contractor to designate the person in charge of the contracted project in the design phase and before the construction of each project phase for the public construction project in the school, and to act as command, supervision and coordination work. According to its design planning, construction method or operation type, reports on hazard identification, risk assessment, and control measures taken based on the assessment results are submitted, and the formal construction can be carried out after the school's contracting unit has reviewed and confirmed it. In 2024, there was no occupational accident in the contracting of on-campus projects.

5.1.2 Green Smart Campus and Buildings

Every new school building has been awarded the Green Building Label since 2012, and the Student Activity Center in 2022 has been awarded the Smart Building Label in addition to the Green Building Label.

▼ List of green buildings

Building	Date	Award
College of Humanities and Social Sciences Building	Oct. 2012	9 indicators of Gold Label Green Building
	2013	Participated in the Kaohsiung Green Building Award and won Public Building Award and Rainwater Storage Facilities and Reuse Award
Administration Building	Sept. 2014	9 indicators of Bronze Label Green Building
Second Student Dormitory	April 2016	Qualified Green Building Label for Dormitory
Student Activity Center	July 2022	Basic Type of Qualified Green Building Label
	Dec. 2022	Smart Building Label

5.1.3 Water Resource Management

Water Resource Management Policy

The University's water resource management policy is based on the core principle of circular reuse. Through equipment improvements, reclaimed water utilization, and the establishment of smart monitoring systems, the University aims to reduce its operational dependence on natural water resources.

The University's water is mainly supplied by Taiwan Water Corporation's Seventh

Branch Office, with the primary water source originating from the Gaoping River Basin. The campus does not directly extract groundwater or natural surface water; therefore, its operations do not impose significant water withdrawal pressure on local water resources.

Since 2010, in alignment with the government's "Four-Savings Project for Government Agencies and Schools," the University has gradually established a water conservation management system. Although the project ended in 2015, the University has continued to implement campus water-saving measures. It manages and reviews water use based on the principle of reducing annual water consumption by 2% compared with the previous year, while improving water management efficiency through equipment upgrades and smart monitoring.

Water resource management is coordinated by the Office of General Affairs. Through regular water-use monitoring, equipment inspections, and campus-wide water conservation awareness campaigns, the University continues to promote sustainable campus water resource management.

Water Use and Water Supply Sources

The University's daily operational water use mainly includes teaching and research activities, domestic water use in student dormitories, campus cleaning and irrigation, and maintenance of landscape water bodies. The main water source is the public tap water system, and the campus does not directly extract groundwater or surface water.

Through reclaimed water and rainwater harvesting systems, the University is gradually increasing the proportion of alternative water sources to reduce tap water consumption.

To effectively monitor overall campus water use, the University regularly compiles annual total water consumption and water use by major buildings. It also continues to reduce water-use intensity through water-saving measures and equipment upgrades.

In recent years, due to the impacts of climate change, longer periods of high temperatures in summer have slightly increased the demand for campus irrigation and domestic water use. In the future, the University will continue to reduce pressure on water resources through smart water management and expanded reclaimed water utilization.

Water Recycling and Reuse Measures

1. Reclaimed Water System: The effluent from the University's wastewater treatment plant complies with environmental discharge standards. Except during

periods of heavy rainfall, the treated reclaimed water is collected and stored in the reclaimed water tank of the wastewater treatment plant. It is then reused for replenishing the campus ecological water system and irrigating campus vegetation, achieving the goal of circular water reuse.

- 2. Rainwater Harvesting System:** The rainwater collection and reuse system installed at the College of Humanities and Social Sciences is mainly used to replenish the nearby landscape lake, supporting the campus ecological water system.
- 3. Water-Saving Facilities:** The University allocates budgets annually to replace urinals, toilets, and faucets in restrooms with water-saving equipment.
- 4. Specific Water Conservation Measures in Restrooms:** The University has widely installed dual-flush toilets and water-saving toilets to reduce restroom water consumption.
- 5. Smart Water Meters and Water Monitoring System:** To improve campus water resource management efficiency, the University applied for and obtained support from the Water Resources Agency, Ministry of Economic Affairs, in 2025 for a smart water resource management subsidy program. The University is establishing smart water meters and a water-use monitoring system to address the limitations of manual meter reading. Through real-time monitoring, leakage alerts, and water-use data analysis, the system will reduce water waste and enhance overall campus water resource management performance.



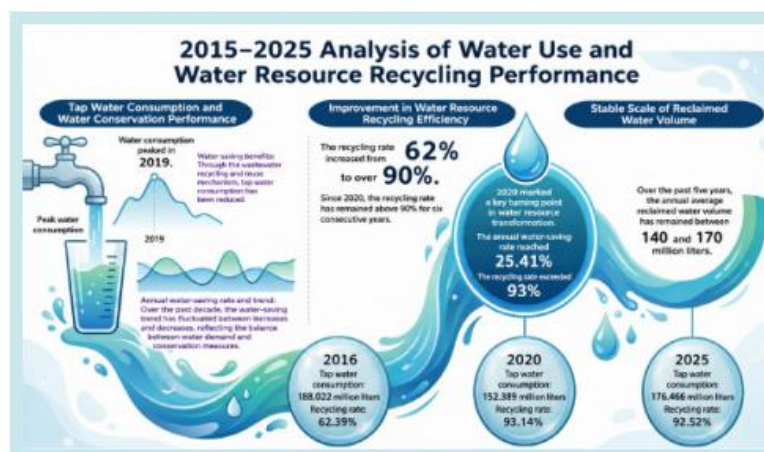
▲ Campus Internal Water Cycle

▼ Statistics of water consumption

Year	Billing interval	Meter unit	Water saving rate calculated	Water recovery volume	Water recovery PCT
2015	2014/11/19-2015/11/23	163.032	—	—	—
2016	2015/11/24-2016/11/22	188.022	-15.33%	117.309	62.39%
2017	2016/11/23-2017/11/21	176.309	6.23%	111.621	63.31%
2018	2017/11/22-2018/11/21	203.49	-15.42%	171.938	84.49%
2019	2018/11/22-2019/11/21	204.291	0.00%	179.294	87.76%
2020	2019/11/22-2020/11/21	152.389	25.41%	141.934	93.14%
2021	2020/11/22-2021/11/21	139.024	8.77%	128.551	92.47%
2022	2021/11/22-2022/11/21	182.021	-30.93%	172.489	94.76%
2023	2022/11/22-2023/11/21	161.823	11.10%	149.416	92.33%
2024	2023/11/22-2024/11/21	160.073	1.08%	147.735	92.29%
2025	2024/11/22-2025/11/21	176.466	-10.24%	163.259	92.52%

*Water conservation rate = (last year's tap water use - current year's water use) / last year's water use

▼ Analysis of Water Use and Water Resource Recycling Performance, 2015–2025



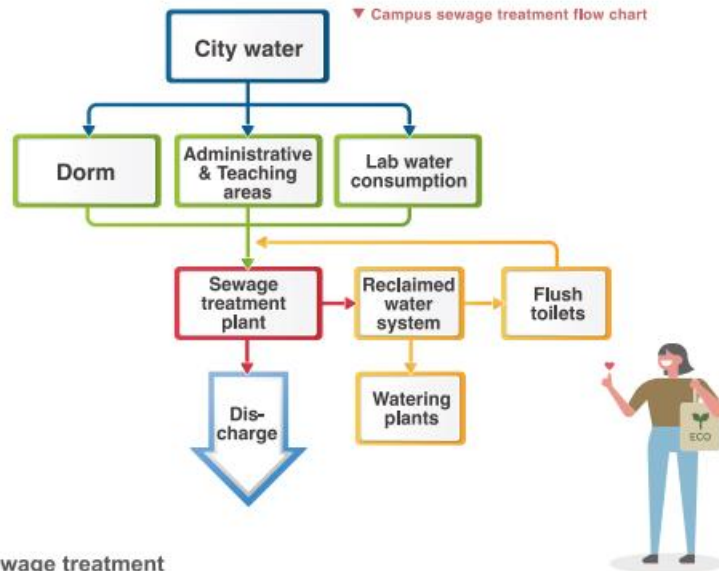
Discharge divided by end point

▼ Chart of Water Consumption

Water withdrawal (Divided by source)		Discharge (Divided by end point)	
Surface water + ground water + sea water	0	Surface water + ground water + sea water	0
Produced water (total)	0	Third-party water used by other organization	0
Third-party water (total)	176,466	Third-party water (total)	13,207
Total water withdrawal	176,466 ⁽¹⁾	Total discharge	13,207
Total water consumption ⁽²⁾		163,259	

*1: All fresh water (≤1,000mg/Total dissolved solids)

*2: Total water consumption=total water withdrawal- total discharge



Sewage treatment

NUK sewage sources include laboratory washing waste, dormitory and office sewage, which are collected through pipelines and sent to the sewage treatment plant for treatment. The reclaimed water is mainly used as supplementary water for grass sprinkler and ecological waterways. When there is excessive displaced water, it will be discharged to the drain on the north side of the campus and

eventually into the Dian-bao River. The low removal rate in 2024 was due to the low influent concentration at the time of sampling, and the effluent concentration met the effluent standard.



▼ List of removal rates of sewage treatment plant 2025

Water quality standard	Removal rate
BOD	80%
COD	41%
SS	69%
Escherichia coli	99%

▼ Discharge water quality test data and discharge water volume

Test Item	2023	2024	2025	Discharge standard
BOD(mg/l)	12.4	7.5	7.2	30
COD(mg/l)	48.7	29.5	32.1	100
SS(mg/l)	6.7	8.5	8	30
Escherichia coli(CFU/100mL)	58,250	164,000	39,425	-
Grease(mg/l)	0.85	0.5	1.1	10
Water temperature(°C)	26.6	27.2	27.5	35
PH	7.7	7.6	7.7	6-9
Discharge volume(CMD)	22,100	14,959	14,097	-

Drinking water

NKU has a total of 135 drinking fountains, and outsources regular monthly maintenance and regular replacement of filter materials, tank cleaning and disinfection. In accordance with the current drinking water laws and regulations, at least 1/8 of drinking fountains are inspected quarterly, i.e., 17 units, but the actual number inspected is 18 units. Water quality testing is based on the principle of sampling at least two drinking fountains in each building and once a quarter.

▼ Drinking Fountain Test Results

Test Item	2023	2024	2025	Standard
Escherichia coliCFU/100mL	<1	<1	<1	6

Attachment 2



water circulation system



Interpretation signs

Attachment 3

Monthly emails on the current status of wastewater recycling and reuse

返回 | 回信 | 全回 | 轉寄 | 標籤 | 移至 | 廣告信 | 更多

14/53 篇

來源: 總務處 環境安全衛生組 <cesho@nuk.edu.tw>

標題: 114年5月校園水資源使用概況及宣導資訊

日期: Thu, 26 Jun 2025 08:19:31

純文字HTML

各位師長同仁同學好：

一，校園水循環再利用

5月自來水使用量15748度(公噸)，與去年同期比較增加度數1502度，其省水比例-10.5%。各處建築物產生之污水經環校污水系統管線傳送到污水處理廠約15741公噸，處理後符合放流水標準之回收水14772公噸(回收率94%)，用於樹木澆灌及補注生態河道生態池及東湖。

	113年					114年				
	自來水 用量度 (A)	與去年 同期比	廢汙 水量	回收 水量	回收 率	自來水 用量度 (B)	與去年 同期比 (B-A)/A	廢汙 水量 (C)	回收 水量 (D)	回收 率 (D/C)
1月	12608	-37.7%	12605	12141	96%	13847	9.8%	13841	12058	87%
2月	10035	-24.6%	10031	9662	96%	13291	32.5%	13284	11392	86%
3月	12837	-9.5%	12835	12380	96%	15309	19.3%	15298	13811	90%
4月	13062	9.4%	13060	12579	96%	16288	24.7%	16281	15204	93%
5月	14246	7.3%	14242	13295	93%	15748	10.5%	15741	14772	94%
6月	15261	10.7%	15257	14793	97%					
7月	9621	16.3%	9613	8652	90%					
8月	10284	25.2%	10272	9569	93%					
9月	13730	26.9%	13723	12807	93%					
10月	18080	25.6%	18073	15108	84%					

Attachment 4

Community Achievement Exchange Meeting

<https://www.nuk.edu.tw/p/406-1000-91767,r83.php?Lang=zh-tw>

