

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 2024 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. **Sustainability Week Activities:** In 2024, the University opened registration for community schools, residents, and organizations to participate in campus wetland maintenance and ecological tours. The campus wetland water source is replenished by the reclaimed and reused water from the water circulation system.
7. **Flood Resilience Community Exchange:** On October 8, 2024, the Kaohsiung City Government Water Resources Bureau, the Disaster Prevention and Technology Research Center of National University of Kaohsiung, and the Taiwan Resilient City Development Association co-hosted a community exchange forum on autonomous

flood disaster prevention, sharing experiences related to local geographic and hydrological characteristics to reduce disaster risks.

8. For related outcomes, please refer to the Sustainability Report website: <https://ces.nuk.edu.tw/p/412-1011-5978.php?Lang=en>. The summary is as attached.

Attachment 1

▼ 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 treatment system

The main source of water for NUK comes from the tap water provided by District 7 of Taiwan Water Supply Company. The main source of water comes from the Gao-ping River, which is not significantly affected by the water intake.

Starting from 2010, the school cooperated with government agencies and implemented the Four-Saving Plan. Although the Plan ended in 2015, it has continued to implement water-saving measures and intended to reduce the annual water consumption by 2% compared with the previous year. It aims to review the annual water conservation goals, but in recent years, the weather has been hot, and water consumption increases year after year. Due to the pandemic in 2020-2021, online teaching was adopted. Since the faculty and students were not on campus, the consumption of water decreased significantly.



Reclaimed water system :

The water treated by the school sewage treatment plant meets the discharge water standard. Except for heavy rain, 100% is recycled and stored in the middle tank of the sewage treatment plant and used as the campus ecological water system, irrigation, and plants to use.



Rainwater recovery system :

The rainwater storage and reuse system set at the College of Humanities and Social Sciences is mainly to replenish the artificial lake nearby as an ecological water system.



Water-saving facilities :

Budgets are made year by year to replace the urinals and toilets of male and female toilets and the taps on each floor to water-saving equipment.



Specific improvement measures for water saving in toilets include the widespread installment of two-stage flushing toilets or water-saving toilets

▼ 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	90.00%
2021	2020/11/22~2021/11/21	139,024	8.77%	128,551	92.47%
2022	2021/11/22~2022/11/21	182,021	-34.70%	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	90.78%

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

國立中央大學
National Central University

Internal Cycle System of Water On Campus of National University of Kaifung

重力供水設備位置圖

校園水循環主要水源為中水，從經配建污水分流設施、四廠收集器，而重力供水系統，係運用重力驅動風車轉動，由風車轉動帶動齒輪帶動下方連桿上下搖盪汲水，將水從庫池抽至渠池之一種簡單機械設施。

校園水內部循環系統

校園水內部循環系統圖

北 ↑

● 取水位置 ■ 取水口

←--- 重力供水驅動之管流 ←--- 重力供水驅動之管流

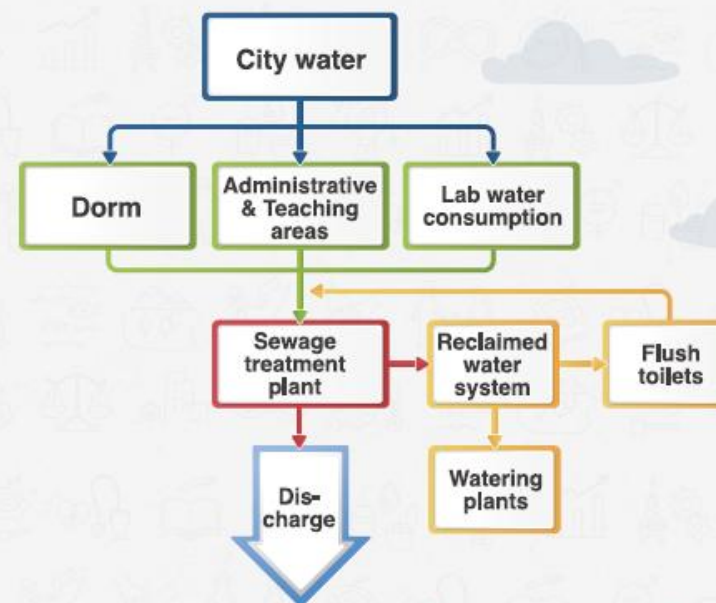
←--- 重力供水 ←--- 重力供水

←--- 重力供水 ←--- 重力供水

註：上述重力供水設備係由「財研局85、86年度生物多樣性調查計畫」補助設備。

▼ Chart of Water Consumption

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



▲ Campus sewage treatment flow chart

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.

Water quality standard	Removal rate
BOD	48%

Water quality standard	Removal rate
BOD	48%
COD	41%
SS	40%
<i>Escherichia coli</i>	99%

► List of removal rates of sewage treatment plant 2024

▼ Discharge water quality test data and discharge water volume

Test Item	2021	2022	2023	2024	Discharge standard
BOD(mg/l)	10.5	15.5	12.4	7.5	30
COD(mg/l)	39.9	58.1	48.7	29.5	100
SS(mg/l)	7.55	8.2	6.7	8.5	30
Escherichia coli(CFU/100mL)	23,988	33,900	58,250	164,000	▪
Grease(mg/l)	0.7	1	0.85	0.5	10
Water temperature(°C)	28.7	27.9	26.6	27.2	35
PH	7.6	7.7	7.7	7.6	6-9
Discharge volume(CMD)	9,813	14,818	22,100	14,959	▪

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

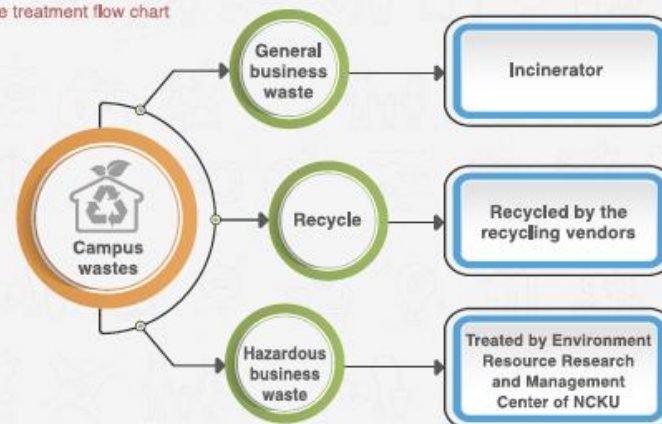
Test Item	2022	2023	2024	Standard
Escherichia coli(CFU/100mL)	<1	<1	<1	6

5.1.4 Waste Management

The University waste output can be roughly divided into general business waste and recyclables generated in the dormitories and offices, and hazardous business waste generated in the laboratories. General business waste is entrusted to the manufacturer to be transported to the incineration plant for incineration; the harmful industrial wastes are cleaned and transported by qualified cleaning and transportation companies to Resource Recovery Plant of Environmental Resources Research and Management Center, National Cheng Kung University for disposal. In 2024, the amount of recycled resources was 13.19 tons, and the total amount of general garbage was 302.21 tons, with a

total recycling ratio of 4.36%, which fell short of the target of 10%. The reason for this may be due to the increase in the amount of foreign garbage and the way in which the garbage is handled during certain periods of time, resulting in a decrease in the recycling ratio. The University will continue to strengthen its efforts to reduce the amount of foreign garbage, enhance the separation of garbage, and handle garbage during certain periods of time.

▼ Waste treatment flow chart



▼ List of general industrial waste disposal 2024

Hazardous waste			Non-hazardous waste		
Treatment	On-site	Off-site	Treatment	On-site	Off-site
Incineration (incl. recycling)	-	7.17	Incineration (incl. recycling)	-	289.02
Landfill	-	-	Landfill	-	-
Others	-	-	Others	-	13.19
Subtotal	-	7.17	Subtotal	-	302.21
total		7.17	total		302.21
Total waste			309.38		

Note: 1. Waste weights are in metric tons.

2. "On-site" is within the physical boundaries or administrative control of NUK; "off-site" is outside NUK's physical boundaries or administrative control.

3. All industrial wastes are sent to the entrusted manufacturer for disposal.

4. NUK has no transfer during disposal.

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	廢污 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	廢污 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
Sustainability Week



國立高雄大學永續週——覺得充滿希望。

2024年4月12日 · 

#113年永續週 蟲欣返校環境教育系列活動!從5月18日至5月24日有多場環境教育體驗活動，想知道學校從103年啟動招豐引蝶保育計畫後，高雄大學濕地的蝴蝶有什麼變化?什麼動力讓一群志工守著都市中的小小棲地?邀請您一起來了解，無論是師生、志工、中小學、社區民眾團體，歡迎龍來報名，報名至4月24日止!!
簡章詳如照片，學校網頁公告連結於留言處。

國立高雄大學 113年永續週蟲欣返校環境教育系列活動



主辦單位：國立高雄大學
指導單位：教育部 (113 年高等教育深耕計畫補助)
活動期間：113 年 5 月 18 日起至 5 月 24 日 (詳時間表)
活動地點：國立高雄大學 學生活動中心中庭及藝文廳
參加對象：本校師生及志工、高雄地區中小學師生及民眾 (免費參加)
活動內容：
學校從 103 年發起「高雄大學濕地招豐引蝶保育計畫」，持續進行蝴蝶棲息地環境營造，並由志工共同營造守護迄今已邁入第十年，將於 5 月 22 日生物多样性日當週，邀請大家來一起感受這些年的校園中蝴蝶生態的變化，也一起思考人與環境的關係，讓蝴蝶不再是自然課本上的圖片，而能有機會成為生活中忠的身影?在 103 年的生態調查中，當時就錄到有 38 種蝴蝶出現在濕地，用這些年的努力，是否生物多樣性有所提升?除了蝴蝶以外高雄大學濕地還有些可愛的蟲欣然返校?希望透過展覽、影片、導覽及體驗等環境教育活動，師生及民眾更進一步瞭解這些奇妙的昆蟲及其與環境的關係。

系列活動時間表：

時間	活動名稱	內容及對象	報名網址
18 日 (六) 14:00~15:00	志工巡校日暨環境教育增能活動	限本校生態守護志工	
24 日 (五)	蟲欣返校環境教育體驗活動	以校園綠地營造及蝴蝶生態為主題，包含影片、展覽互動解說、生態導覽等之環境教育體驗活動。 對象：本校師生及民眾 (個人報名，每場上限 35 人) (提供 2 小時環境教育研習時數) 報名網址： https://forms.gle/NXUkSvwwgNshfjPx5	

報名方式：一律採網路報名，報名預約至 4 月 24 日或額滿為止，中小學暨校外團體本校聯繫確認預約成功。

活動說明：
1. 此為環境教育活動，為愛護環境，請參加者自備環保杯，並盡量利用步行、自行車或大眾運輸工具前來，校內有 U-bike 租借站也歡迎多加利用；如需以車代步者，可停放於校內各停車場，但須酌收清潔費。
2. 國中小學生需由教師領隊參加，以維安全與秩序。
3. 各活動將依參與之活動提供環境教育研習時數或公務人員終身學習時數。
聯絡窗口：陳又菁小姐 電話：07-5919073 電子信箱：mona@nuk.edu.tw
如有天候或防疫控管等不可抗力因素，主辦單位保有最終修改變更、活動解辦之權利。

活動地點位置圖 (國立高雄大學校園平面圖)：

Attachment 5

Community Achievement Exchange Meeting

<https://www.nuk.edu.tw/p/404-1000-81617.php?Lang=zh-tw>

