

SDG12.2.1

題目: Ethical sourcing policy

Have a policy on ethical sourcing of food and supplies

1. Green procurement requirements

NCUE has been committed to promote the procurement of green-designated items by government agencies. In 2021, NCUE procured a total of NT\$22,126,969 in green and eco-labelled products (NT\$9,500 and NT\$22,136,469, respectively), meeting the targets for the year and each of the quarters. NCUE's compliance performance with relevant regulations is 100% for the procurement of green-designated items.

Please refer to appendices 12.2.1A-2021 Scoring Method for Performance Evaluation of Annual Green Procurement and 12.2.1B-2021 Annual Statistical Form for Amounts of Green Procurement.

For more details, please refer to the following sites.

Greenliving Information Platform: <https://greenliving.epa.gov.tw/newPublic/greenpurchase/government>

The Green Procurement Portal of the Centre of Protection and Occupational Safety and Health:

http://webadmin.ncue.edu.tw/el/web_edit/edit_show.asp?ClassID=628

NCUE 2021 performance in the procurement of green-designated items by government agencies	
First Quarter	100%
Second Quarter	100%
Third Quarter	100%
Fourth Quarter	100%

2. Food procurement requirements for two canteens in the Jin-De Campus and Bao-Shan Campus:

(1) NCUE adheres to two basic principles for food procurement:

Preference is given to seasonal foods and local foods to reduce the carbon footprint, shorten food miles, and reduce energy consumption.

(2) According to the three-tiered management system for campus food safety and hygiene practices, (1) NCUE cooperates with the Ministry of Education during the Ministry's on-site guidance once every academic year; (2) NCUE's catering management committee is responsible for coordination across different departments; and (3) a dedicated nurse inspects hygiene practices in catering spaces once every week. To ensure food safety, NCUE encourages the canteens to do the following:

a. give preference to labelled or traceable foods, such as 'Traceable Agricultural Products', products meeting 'Certified Agricultural Standards', and produce,

livestock, and aquaculture products with tracing QR codes;



Picture caption: Labelled and traceable foods are preferred.

b. to ensure food safety within NCUE's canteens by examining fresh vegetables and fruits according to the 'Criteria for Monitoring Pesticide Residue in Agricultural Products' issued by the Taiwan Food and Drug Administration, Ministry of Health and Welfare (as below):

<https://www.fda.gov.tw/TC/site.aspx?sid=2428&r=1485767145>

c. to make sure vendors login to the Ministry of Education's 'Filing Platform for School Foods' every day to fully disclose relevant food information.

<https://fatraceschool.k12ea.gov.tw/frontend/>

3. Preference is given to products and services from disability welfare institutions, organisations, or sheltered workshops.

In compliance with the 'Persons with Disabilities Rights Protection Act' and the 'Regulation for Obligated Purchasing Units / Institutions to Purchase the Products and Services Provided by Disabled Welfare Institutions, Organizations, or Sheltered Workshops', particularly promoting the employment of people with disabilities and the protection of vulnerable groups, NCUE has developed an 'Implementation Plan for Preferential Procurement of Products and Services from Disability Welfare Institutions, Organisations, or Sheltered Workshops'. The target is that for designated product and service items, those contracted or subcontracted by such institutions, organisations or sheltered workshops should account for more than 5% of total annual procurements made by NCUE for the product and service items.

Considering regional characteristics, the products and services (excluding plan development) currently covered are bento, meal boxes (single purchase of 20 or more boxes), and printing services (business cards, posters, books, and magazines) with fees of NT\$10,000 or more in a single transaction. They should be listed on the preferential procurement platform. Only when no disability welfare institutions, organisations or sheltered workshops are willing to contract, or their products or services are disqualified could NCUE contact general vendors.

Please refer to appendix 12.2.1C-Regulations on the Preferential Procurement of Environmental Protection Products by Government Agencies

Year of implementation	Ratio of preferential procurement (%)
2019	7.98
2020	8.76
2021	10.63

Appendices (including supporting documents):

No.: 12.2.1A-2021 Scoring Method for Performance Evaluation of Annual Green Procurement;

12.2.1B-2021 Annual Statistical Form for Amounts of Green Procurement

12.2.1C-Regulations on the Preferential Procurement of Environmental Protection Products by Government Agencies

SDG12.2.2

題目: Policy waste disposal - hazardous materials

Have a policy, process or practice on waste disposal - Covering hazardous materials

NCUE has developed 'Guidelines for Disposal of Laboratory Waste in the NCUE'. Waste effluent, chemicals, and empty containers from NCUE laboratories are removed twice a year. Biomedical wastes produced by infirmaries and laboratories are removed once a week.

Please refer to appendices 12.2.3A-Guidelines for Disposal of Laboratory Wastes in NCUE and 12.2.3B-Wastes Removed in 2021.

Please refer to the waste management website of the Centre of Protection and Occupational Safety and Health:

http://webadmin.ncue.edu.tw/el/web_edit/edit_show.asp?ClassID=627



Picture caption: Removal of laboratory waste.



Picture caption: Removal of biomedical waste produced by infirmaries and laboratories.

Below is the weight of biomedical waste produced by university laboratories and infirmaries in 2021:

Month	Metric tons
1	0.02
2	0.053
3	0.032
4	0.09
5	0.051
6	0.065
7	0.077

8	0.096
9	0.089
10	0.113
11	0.087
12	0.058
Total	0.831

The weight of waste effluent, chemicals, and empty containers from NCUE laboratories removed in 2021:

Item	Metric tons
Waste effluent	3.66
General chemicals	0.07
Toxic chemicals	0.032
Unspecified chemicals	0.031
Empty containers of waste chemicals	0.49
Silicone	0.195
Total	4.478

Appendices (including supporting documents):

No.: 12.2.3A-Guidelines for Disposal of Laboratory Waste in NCUE

12.2.3B-Waste Removed in 2021

SDG12.2.4

題目: Policy waste disposal - landfill policy

Have a policy on waste disposal - to measure the amount of waste sent to landfill and recycled

NCUE requests the Cleaning Squad of Changhua Municipal Office to provide monthly information on the weight of general waste and recycled materials from NCUE. Recycled materials include the following categories: paper, plastic, glass, iron and aluminium cans, paper containers (meal boxes), PET bottles, and dry batteries.

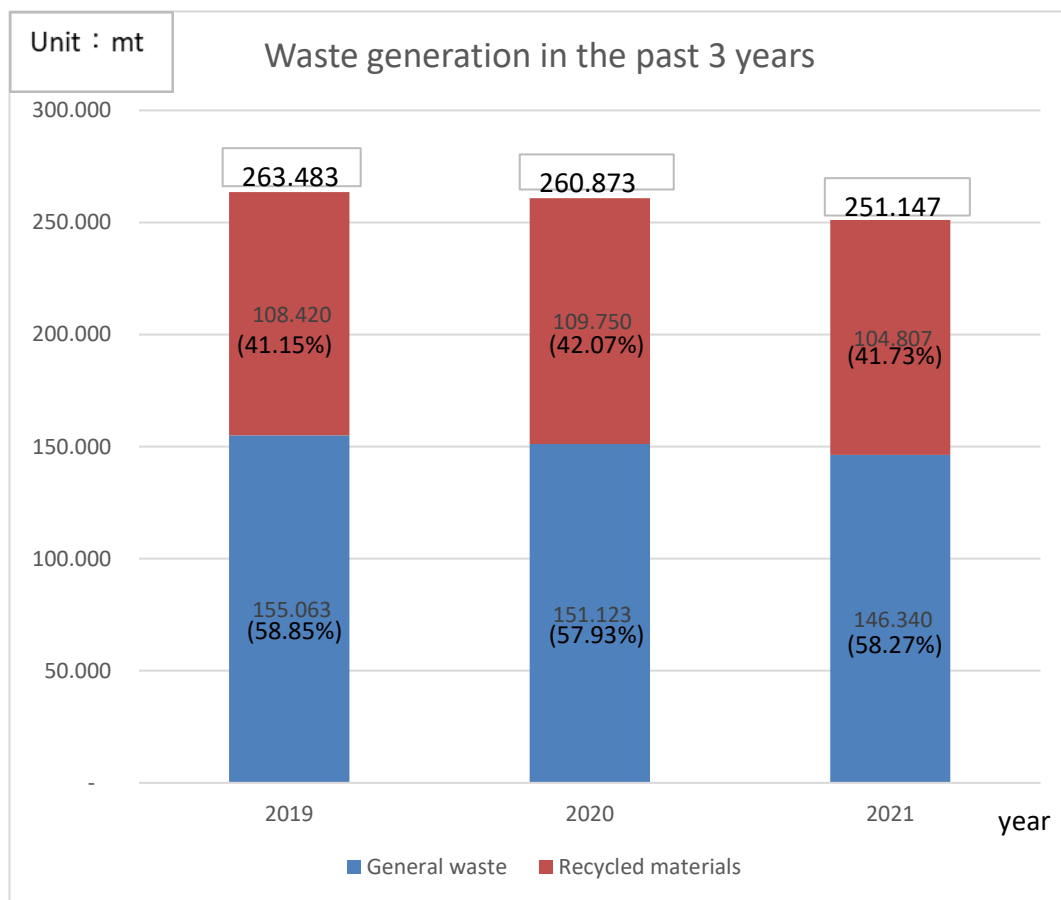
2021	Jin-De Campus		Bao-Shan Campus		Subtotal of the two campuses		Total	Unit
	General wastes	Unit	General wastes	Unit	Recycled materials	Unit		
Jan.	10,740	kg	2,870	kg	9,552	kg	23,162	kg
Feb.	4,480	kg	2,000	kg	6,765	kg	13,245	kg
Mar.	9,520	kg	2,640	kg	10,665	kg	22,825	kg
Apr.	9,670	kg	2,490	kg	9,440	kg	21,600	kg
May	9,410	kg	2,920	kg	8,000	kg	20,330	kg
Jun.	7,020	kg	2,850	kg	5,695	kg	15,565	kg
Jul.	7,670	kg	2,350	kg	7,210	kg	17,230	kg
Aug.	6,170	kg	2,640	kg	5,615	kg	14,425	kg
Sept.	7,330	kg	3,900	kg	7,750	kg	18,980	kg
Oct.	11,610	kg	3,680	kg	11,210	kg	26,500	kg
Nov.	11,230	kg	4,470	kg	10,915	kg	26,615	kg
Dec.	12,800	kg	5,880	kg	11,990	kg	30,670	kg
Total	107,650	kg	38,690	kg	104,807	kg	251,147	kg

Recycled materials account for 41.73% of total waste

Statistics of resource recovery rewards distributed to schools within the jurisdiction of Changhua City for their cooperation

School name	Recycled in 2021 (kg)	Annual rewards (NT\$)
National Changhua University of Education	104,807	125,768

Please refer to appendix 12.2.4A-Official Document of Changhua Municipal Office.





Picture caption: Garbage sorting and recycling buckets in NCUE (paper containers, plastic, glass, iron and aluminum cans, beverage packs, paper, PET bottles, and compost).

12.2.4A-Official Document of Changhua Municipal Office

According to the ‘Restrictive Use of Shopping Plastic Bags: Scope, Implementation, and Date’ of the Environmental Protection Agency (the Executive Yuan), NCUE will not provide plastic bags for consumers to carry the purchased products when faculty, staff, and students of NCUE go to the canteens to purchase any products.

Please refer to appendix 12.2.5A-Restrictive Use of Shopping Plastic Bags: Scope, Implementation, and Date



Picture caption: Posters informing the public about 14 types of spaces where free shopping plastic bags are not allowed to be provided.

For more details, please refer to the website for the regulation:

<https://oaout.epa.gov.tw/-law/LawContent.aspx?id=GL006482>

No.: 12.2.5A-Restrictive Use of Shopping Plastic Bags: Scope, Implementation, and Date

SDG12.2.6

題目: Policy for minimisation of disposable items

Have policies around use minimisation of disposable items

NCUE take relevant measures according to the “Restrictive Use of Disposable Tableware: Scope and Implementation/Restrictive Use of Disposable Plastic Straws: Scope and Implementation/Guidelines for the Reduced Use of Disposable Tableware and Packaged Drinking Water in Administrative Agencies and Schools” of the Environmental Protection Administration, Executive Yuan, including no water cups or bottled water in meeting rooms and no disposable tableware in canteens.

Please refer to appendices 12.2.6A Restrictive Use of Disposable Tableware: Scope and Implementation, 12.2.6B Restrictive Use of Disposable Plastic Straws: Scope and Implementation, and 12.2.6C Guidelines for the Reduced Use of Disposable Tableware and Packaged Drinking Water in Administrative Agencies and Schools.



Picture caption: Posters to inform the public that no disposable tableware or disposable plastic straws will be provided.



Picture caption: No water cups or bottled water in meeting rooms.



Picture caption: No disposable tableware in canteens

For more details, please refer to the website for the regulation:

<https://oaout.epa.gov.tw/law/LawContent.aspx?id=GL007530&KeyWord=%e4%b8%80%e6%ac%a1%e7%94%a8%e5%a1%91%e8%86%a0%e5%90%b8%e7%ae%a1%e9%99%90%e5%88%b6%e4%bd%bf%e7%94%a8%e5%b0%8d%e8%b1%a1%e5%8f%8a%e5%af%a6%e6%96%bd%e6%96%b9%e5%bc%8f>

<https://oaout.epa.gov.tw/law/LawContent.aspx?id=GL006481&KeyWord=%e5%85%8d%e6%b4%97%e9%a4%90%e5%85%b7%e9%99%90%e5%88%b6%e4%bd%bf%e7%94%a8%e5%b0%8d%e8%b1%a1%e5%8f%8a%e5%af%a6%e6%96%bd%e6%96%b9%e5%bc%8f>

Annex No.: 12.2.6A-Restrictive Use of Disposable Tableware: Scope and Implementation

12.2.6B-Restrictive Use of Disposable Plastic Straws: Scope and Implementation

12.2.6C – Guidelines for the Reduced Use of Disposable Tableware and Packaged Drinking Water in Administrative Agencies and Schools

SDG12.2.7

題目: Disposable policy: extensions to services

Ensuring these policies extend to outsourced services and the supply chain

Currently, NCUE outsources cleaning, canteen, and security services to relevant suppliers. Contract specifications for all suppliers are in compliance with the regulations of the Environmental Protection Administration, Executive Yuan. For example, no disposable tableware or plastic shopping bags are provided in canteens, and the cleaning staff should be responsible for implementing garbage sorting and resource recycling policies.



Picture caption: No disposable tableware in canteens.



Picture caption: The faculty, staff, and students of NCUE all use reusable tableware when dining in.



Picture caption: The canteen staff in NCUE all wear masks, net caps, and aprons when working.



Picture caption: NCUE's cleaning staff fully implementing garbage sorting and resource recycling policies.

SDG12.2.8

題目: Minimisation policies extended to suppliers

Ensuring these policies extend to outsourced suppliers and the supply chain - (suppliers of equipment, stationary, building contracts)?

In contracts awarded by NCUE to vendors and contractors for outsourced works, the relevant specifications are included to comply with the regulations of the Environmental Protection Administration, Executive Yuan, and NCUE's relevant minimisation policies. Vendors and contractors are required to comply with the 'Waste Disposal Act and Enforcement Rules' of the Environmental Protection Administration. They must adopt measures of minimisation, reuse, and recycling to reduce waste products and packages.

Please refer to appendix 12.2.8A- Waste Removal Act and 12.2.8B- Waste Removal Act Enforcement Rules.

For more details, please refer to the website for the regulation:

<https://law.moj.gov.tw/Law-Class/LawAll.aspx?pcode=O0050001>

<https://law.moj.gov.tw/-LawClass/LawAll.aspx?pcode=-O0050036>

No.: 12.2.8A-Waste Removal Act

12.2.8B-Waste Removal Act Enforcement Rules

SDG12.3.1

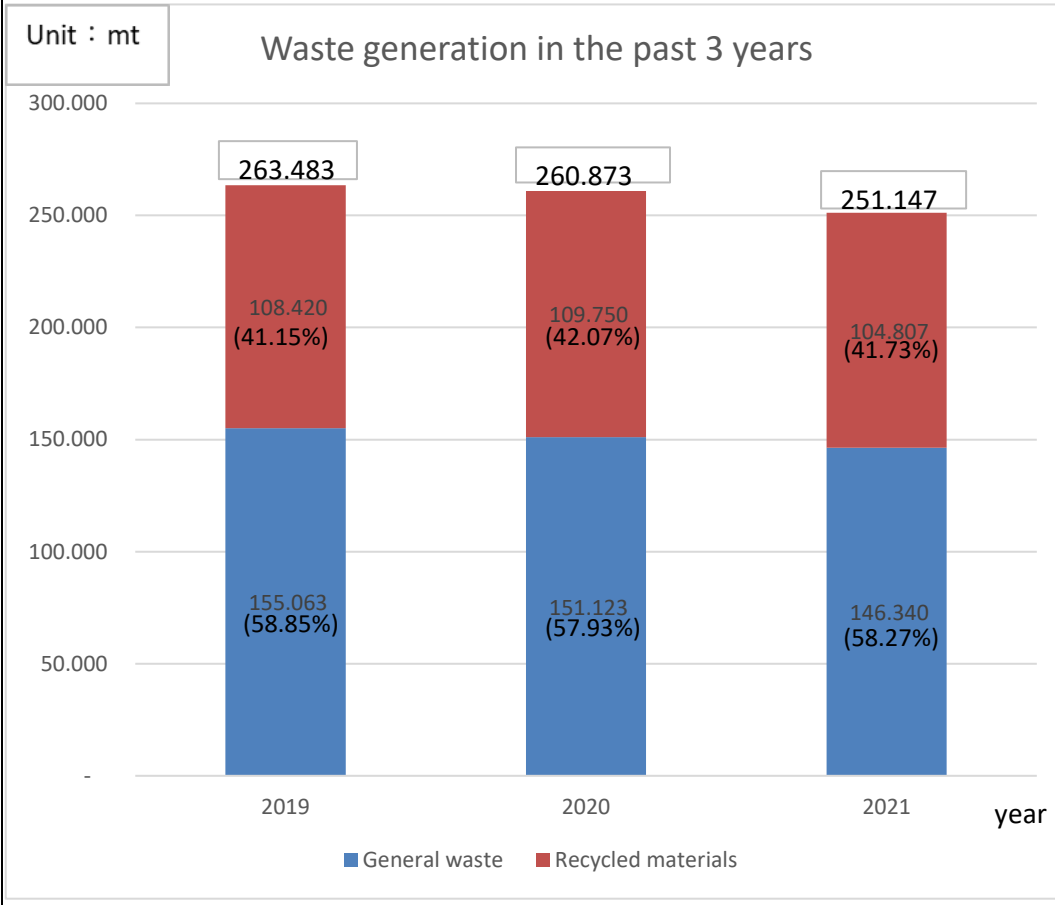
題目: Waste tracking

Measure the amount of waste generated and recycled across the university

The NCUE requests the Cleaning Squad of Changhua Municipal Office to provide monthly information on the weight of general waste and recycled materials from NCUE. Recycled materials include the following categories: paper, plastic, glass, iron and aluminium cans, paper containers (meal boxes), PET bottles and dry batteries.

2021	Jin-De Campus		Bao-Shan Campus		Subtotal of the two campuses		Total	Unit
	General waste	Unit	General waste	Unit	Recycled materials	Unit		
Jan.	10,740	kg	2,870	kg	9,552	kg	23,162	kg
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May	9,410	kg	2,920	kg	8,000	kg	20,330	kg
Jun.	7,020	kg	2,850	kg	5,695	kg	15,565	kg
Jul.	7,670	kg	2,350	kg	7,210	kg	17,230	kg
Aug.	6,170	kg	2,640	kg	5,615	kg	14,425	kg
Sept.	7,330	kg	3,900	kg	7,750	kg	18,980	kg
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Dec.	12,800	kg	5,880	kg	11,990	kg	30,670	kg
Total	107,650	kg	38,690	kg	104,807	kg	251,147	kg

Recycled materials account for 41.73% of total waste (or 58.27% of waste that is not recycled).



SDG12.3.2

題目: Proportion of waste recycled
Amount of waste generated. Amount of waste recycled
Amount of waste sent to landfill

Please refer to the Tables in Section 12.3.1.

Proportion of waste recycled: 41.73% in 2021

Amount of waste generated: 251.147 metric tons in 2021

Amount of waste recycled: 104.807 metric tons in 2021

Amount of waste sent to landfill: 146.34 metric tons in 2021

SDG12.4.1

題目: Publication of a sustainability report

Annual

Bi-annual

Less Frequent

1. NCUE's declaration of sustainability development

The President of NCUE signed the “Commitment to Sustainability Development of National Changhua University of Education” in September 2022

- 2. On 29 September 2020, in the presence of members of the Occupational Safety and Health Committee, the President of NCUE signed the ‘Protection and Occupational Safety and Health Policy of National Changhua University of Education’. It specifies the following: to build a sustainable and green university, faculty, staff, and students at NCUE should fully comply with the relevant laws and regulations, participate in educational programmes, maintain campus security, prevent accidents, cherish the environmental resources, act on energy conservation and carbon reduction, and commit to pollution prevention and continuous improvement. As a member of the global village, everyone should fulfil their responsibilities to build an ecological campus free of accidents and pollution.**

Please refer to appendix 12.4.1A-Protection and Occupational Safety and Health Policy, as well as the Centre of Protection and Occupational Safety and Health’s website for posting laws, regulations, and rules applying to faculty and staff:

<http://webadmin.ncue.edu.tw/el/ploy/UploadFiles/934/File/%E7%92%B0%E5%AE%89%E8%A1%9B%E6%94%BF%E7%AD%96%28%E6%96%B0%E7%89%88%29%5B1272%5D.pdf>



Picture caption: NCUE President signing the ‘Protection and Occupational Safety and Health Policy of National Changhua University of Education’.



Picture caption: Protection and Occupational Safety and Health Policy of National Changhua University of Education.

3. In response to relevant national policies, NCUE will complete the addition of solar photovoltaic panels on the roof of each building of NCUE by the end of July 2022, with a total capacity of 2171.625kW for Jin-De Campus and 571.5kW for Bao-Shan Campus. In addition to reducing the net load of the buildings, in some scenarios (such as off-peak months) the building can be fully dependent on solar photovoltaic electricity. Given the reduced electricity current of the distribution lines, line loss can be reduced by about 3% and energy efficiency can be improved. Moreover, solar panels can block direct sunlight from the roof. According to research data, they can reduce the heat energy of direct sunlight on the roof by 38% and reduce the temperature of the roof by 2.8°C. With the building’s improved overall temperature environment, air conditioning use can be reduced to improve energy efficiency. The planning and design drawings (partial) of the building’s rooftop solar photovoltaic panels in Jin-De Campus and Bao-Shan Campus in 2021-2022 is shown in Appendix 12.4.1B-Rooftop Solar Photovoltaic Building Panels Planning and Drawings in Jin-De and Bao-Shan.

Campus	Building	Expected capacity (kWp)	Total	Expected electricity production (kwh/year)	Total
	Qiau-si Building	75.75		196,875	
Jin-De Campus	(Dept. of Mathematics)		2171.625 kWp		2,714,531.25kWh

Baisha
Building
(Main
Administrati
on Building)

191.625

147,656

Zhi-shan
Building
(Dept. of
Special
Education)

48

314,063

Ming-de
Building
(Dept. of
Guidance
and
Counseling)

64.125

60,000

Teaching
Building

92.25

80,156

Eighth
Dormitory

189

120,469

Seventh
Dormitory

186

249,375

Sixth
Dormitory

88.5

226,875

Hu-bin
Building
(Dept. of
Rehabilitatio

123

110,625

n

Counseling)

Library 146.625

153,750

General 115.5

166,875

Building

Restaurant 212.25

144,375

Sheng-yang 99.375

265,313

Building

(Dept. of Geography)

Shiue-si 36

Building (Dept. of Chinese)

Wang Jin-pyng 166.875

Activity Center

Wang Jin-pyng 242.25

124,219

Swimming Pool

Old Activity 94.5

Center

Ninth 99.75

125,625

Bao-Shan Campus

Dormitory

571.25

714,375

Teaching

kWp

kWh

Building No. 69.75

126,563

1

College of
Engineering

139.5

174,375

Jing-shi
Building
(College of
Management)

114.375

142,969

Li-xing
Building
(Dept. of
Industrial
Education
and
Technology)

148.125

185,156

設計規劃 進德校區位置圖&配電銜接點示意圖

■ 銜接電表位置



設計規劃 寶山校區位置圖&配電銜接點示意圖

■ 銜接電表位置：
各校舍建物，個別銜接至一個電表



4. NCUE held second-hand markets and received over 500 donated items with a total sale of over ten thousand dollars.

Please refer to Appendix 12.4.1C - Second-Hand Markets.

5. NCUE organized the adoption of abandoned bicycles. Altogether, 43 bikes were adopted in 2019, 30 bikes in 2020, and 31 bikes in 2021.

Please refer to Appendix 12.4.1D - Adoption of Abandoned Bicycles.

6. NCUE library runs a second-hand book donation platform. A total of 198 second-hand books were donated in 2019, 289 in 2020, and 219 in 2021.

Appendices (including supporting documents):

No.: 12.4.1A-Protection and Occupational Safety and Health Policy (latest version)

12.4.1B-Rooftop Solar Photovoltaic Building Panels Planning and Drawings in Jin-De and Bao-Shan.

Appendix 12.4.1C - Second-Hand Markets

Appendix 12.4.1D - Adoption of Abandoned Bicycles

Appendix 12.4.1E - Claiming Library Second-Hand Books

12.4.1F – NCUE Commitment to Sustainability Development