

Tsinghua University School of Economics and Management

Carbon Footprint Accounting Report 2025

Reporting Period January 1, 2025 — December 31, 2025

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Preface

Climate change is one of the most serious challenges facing humanity in the 21st century. Against this backdrop, the Paris Agreement was signed by a total of 178 parties worldwide in 2016, establishing the long-term goal of limiting the global average temperature rise to well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius.

Addressing climate change is an important lever for promoting high-quality economic development and ecological civilization construction in China, as well as a key area for participating in global governance and upholding multilateralism. On September 22, 2020, President Xi Jinping announced at the general debate of the 75th Session of the United Nations General Assembly: "China will scale up its Nationally Determined Contributions (NDCs) by adopting more vigorous policies and measures, strive to peak CO₂ emissions before 2030, and achieve carbon neutrality before 2060." Achieving carbon peak and carbon neutrality is an inevitable choice for addressing the prominent constraints of resources and the environment, and a solemn commitment to building a community with a shared future for mankind.

To implement the national "dual carbon goals", support economic and social development, and fulfill social responsibilities, Tsinghua University School of Economics and Management (Tsinghua SEM) has voluntarily conducted annual carbon footprint accounting and reporting since 2023, to establish a clear baseline of carbon emissions, make carbon neutrality commitments, and plan carbon neutrality pathways. Through this report, the School aims to comprehensively understand its current greenhouse gas (GHG) emission profile, explore low-carbon and green development approaches, and ultimately achieve its own net-zero emissions target before 2035.

01

Net-Zero Goals and Pathways

■ School Profile

Founded in 1984, Tsinghua SEM has a mission of "advancing knowledge, cultivating leaders, contributing to China, and influencing the world"; aspires to "become a world-class school of economics and management"; and holds "integrity, dedication, and respect" as its core values. For over 40 years, Tsinghua SEM has maintained a leading position in China in talent training, scientific research, social influence, and international exchange, and continuously strives to build a world-class school of economics and management.

Tsinghua SEM currently has seven departments: Accounting, Economics, Finance, Innovation, Entrepreneurship and Strategy, Leadership and Organization Management, Management Science and Engineering, and Marketing, covering four first-level disciplines: theoretical economics, applied economics, business administration, and management science and engineering. The Secretariat of the National MBA Education Supervisory Committee is located at Tsinghua SEM.

■ Background and Goal Setting

Climate change has become a serious global challenge. To address climate change, the international community, through multilateral agreements such as the Paris Agreement, is committed to limiting the global average temperature rise to within 2 degrees Celsius and striving to limit it to 1.5 degrees Celsius. Countries have formulated and implemented carbon emission reduction policies to promote economic and social transformation towards low-carbon sustainable development.

The Chinese Government attaches great importance to climate change, actively participates in global climate governance, and has put forward the "dual carbon" goal, i.e., striving to peak CO₂ emissions before 2030 and achieve carbon neutrality before 2060. This commitment not only reflects China's highly responsible attitude towards global environmental protection, but also points out the direction for China's sustainable economic and social development.

Tsinghua University actively shoulders its responsibility, contributing Chinese wisdom to global carbon neutrality and energy system transformation. In September 2025, the Global Carbon Neutrality Annual Progress Report 2025 was released; in November 2025, the thematic side event "Carbon Neutrality and Energy Intelligence" was successfully held at the China Corner during COP30 in Belém, Brazil, gathering representatives from global government, industry, academia, and research sectors to jointly explore key scientific and practical issues in global carbon neutrality and energy system transformation.

Tsinghua SEM has long focused on climate change and sustainable development, incorporating green economy, low-carbon transition, energy policy, and carbon markets into its disciplinary development and academic research priorities. Leveraging think tank research, talent development, and campus practices, the School actively responds to the national dual carbon strategy and contributes the wisdom of economics and management to the green and low-carbon transition of the economy and society.

In response to the national overall goal of achieving carbon peak before 2030 and carbon neutrality before 2060, in conjunction with the relevant requirements of Tsinghua University's campus carbon neutrality plan, and taking into full consideration the current status of the School's energy consumption and carbon emissions, the School's future development plan, and the analysis of techno-economic feasibility, Tsinghua SEM has set 2035 as the target year for net-zero emissions, i.e., Tsinghua SEM will strive to achieve its own net-zero emissions before 2035.

■ Pathway and Implementation Plan

To achieve its own net-zero emissions target by 2035, Tsinghua SEM will take practical and effective measures in multiple areas. In terms of energy use, the School will vigorously promote the use of clean energy and gradually replace traditional fossil energy. At the same time, the School will strengthen energy management, improve energy use efficiency, and reduce energy waste through intelligent and refined energy management systems.

In addition to energy use, the School will adopt low-carbon measures in areas such as office work and travel. The School will advocate green office practices, promote electronic office work and meetings, and reduce the use of paper documents. Furthermore, the School will encourage faculty and students to adopt low-carbon travel methods, such as cycling, walking, or using public transportation, and reduce the use of private cars, thereby lowering carbon emissions.

At the same time, the School will actively participate in the research, formulation, and implementation of international and domestic carbon emission policies, contributing Chinese wisdom to global climate governance and providing scientific basis and intellectual support for government decision-making. The School will strengthen cooperation and exchanges with domestic and international universities, research institutions, and enterprises to jointly promote the development and application of low-carbon technologies. Through think tank research, academic exchanges, and talent development, the School will provide intellectual support for the formulation and implementation of dual carbon policies, and facilitate the green and low-carbon transition of the economy and society.

In conclusion, based on in-depth research on climate change and active response to international and domestic carbon emission policies, Tsinghua SEM is taking active actions to strive for its own net-zero emissions target. The School will continuously accumulate experience and deepen research in this process, contributing greater efforts to building a community with a shared future for mankind and achieving green and sustainable development.

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Carbon Footprint Accounting Methodology

■ Measurement Scope

Carbon footprint refers to the total emissions of carbon dioxide (CO₂) and other greenhouse gases (GHG) directly or indirectly generated by individuals, organizations, events, or products within a specific time period, usually measured in carbon dioxide equivalent (CO₂e). It is an important indicator for assessing the impact of climate change, reflecting the direct or indirect impact of human activities on the environment.

Organizational carbon footprint refers to the total amount of greenhouse gas emissions generated by an organization (such as a school, enterprise, etc.) during its operations. These emissions may come from the organization's direct energy consumption (such as electricity, heat) or from indirect activities such as employee commuting, supply chain management, etc.

■ Measurement Methodology

The methodology for measuring carbon footprint is based on activity data and emission factors. First, organizational activity data is collected, such as energy consumption, vehicle mileage, material usage, waste generation, etc. Subsequently, these activity data are multiplied by the corresponding emission factors (GHG emissions per unit of activity data) to calculate the total GHG emissions.

Accounting Formula: Carbon Emissions = Activity Data × Emission Factor. Emission factors are primarily sourced from government documents, public standards, authoritative publications by professional institutions, and publicly available research literature.

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2025 Carbon Footprint

6,993.37	4,381.27	2,562.17
Total Annual Emissions	Scope 2 Emissions	Scope 3 Emissions
Unit: tCO _{2e}	Share: 62.65%	Share: 36.64%

■ Organizational Boundary and Measurement Baseline

The organizational boundary of this carbon footprint accounting is set in accordance with the relevant ISO 14064 standards and with reference to the GHG Protocol Corporate Accounting and Reporting Standard, using the "operational control" approach. The carbon footprint of Tsinghua SEM in 2025 accounted for in this report includes carbon emissions involved in the operations of the School's Beijing-based teaching and research office facilities and off-campus office facilities (Tsinghua SEM Shenzhen Campus), as well as activities of relevant personnel.

■ Reporting Period and Responsibilities

This report covers carbon footprint data for the year 2025, with a specific time range from January 1, 2025 to December 31, 2025, providing a quantitative reference for the School's future sustainable development work. The School has clear responsibilities in carbon footprint accounting, with a dedicated accounting team responsible for data collection, calculation, and reporting. This report is valid until the report is revised or revoked.

■ Emission Factor Selection

For specific emission source categories, carbon emissions are usually calculated based on carbon emission factors, such as electricity, heat, etc. Emission factors are primarily sourced from government documents, public standards, authoritative publications by professional institutions, and publicly available research literature. To ensure the authority of the carbon footprint measurement results, all emission factors used in this report are sourced from data published in government documents, standards, and literature.

■ Greenhouse Gas Quantification

According to the GHG Protocol Corporate Accounting and Reporting Standard, GHG emissions are categorized into Scope 1 (direct emissions), Scope 2 (indirect emissions), and Scope 3 (other indirect emissions). Scope 1 includes emissions from fuel combustion and fugitive sources of the School. Scope 2 consists of emissions from electricity and purchased heat consumed by the School. Scope 3 includes emissions from other non-direct sources such as employee business travel, municipal tap water, solid waste, wastewater treatment, paper, bottled water, etc.

1. Scope 1 (Direct Emissions)

The School's Scope 1 emission sources mainly include fuel-powered official vehicles, refrigerant fugitive emissions, septic tank fugitive emissions, and fire extinguishers. Carbon emissions from fuel-powered official vehicles, refrigerant fugitive emissions, septic tank fugitive emissions, and fire extinguishers are calculated based on gasoline consumption, refrigerant leakage volume, septic tank treatment volume, and fire extinguisher usage, respectively. The final accounting shows that the School's Scope 1 emissions in 2025 amounted to 49.92 tCO₂e, with breakdown data shown in the table below.

Table 1 Tsinghua SEM's Scope 1 Carbon Footprint in 2025

Scope	Emission Category	Carbon Emissions (tCO ₂ e)	Total (tCO ₂ e)
Scope 1	Gasoline for Owned Vehicles	2.56	49.93
	Refrigerants	23.26	
	Septic Tanks	24.10	
	Fire Extinguishers	0.01	

2. Scope 2 (Indirect Emissions)

The School's Scope 2 emissions mainly include carbon emissions generated by purchased electricity and purchased heat. Carbon emissions from purchased electricity are calculated based on the electricity consumption of the School's Beijing teaching and research office facilities and off-campus office facilities (Shenzhen Campus). Purchased heat only exists in the Beijing teaching and research office facilities and is centrally supplied by the Tsinghua University Heating Station. The final accounting shows that the School's Scope 2 emissions in 2025 amounted to 4,381.27 tCO₂e, with breakdown data shown in the table below.

Table 2 Tsinghua SEM's Scope 2 Carbon Footprint in 2025

Scope	Emission Category	Carbon Emissions (tCO ₂ e)	Total (tCO ₂ e)
Scope 2	Electricity	3,111.60	4,381.27
	Heat	1,269.67	

3. Scope 3 (Other Indirect Emissions)

The School's Scope 3 emissions mainly include carbon emissions generated by faculty and staff work travel, municipal tap water, solid waste, wastewater treatment, paper, and bottled water. Carbon emissions from work travel are calculated based on the work travel records of the School's faculty and staff, using four transportation modes: air, rail, subway, and road. The final accounting shows that the School's Scope 3 emissions in 2025 amounted to 2,562.17 tCO₂e, with breakdown data shown in the table below.

Table 3 Tsinghua SEM's Scope 3 Carbon Footprint in 2025

Scope	Emission Category	Carbon Emissions (tCO ₂ e)	Total (tCO ₂ e)
Scope 3	Municipal Water	3.68	2,562.17
	Solid Waste	73.66	
	Wastewater Treatment	60.22	
	Car Travel	187.38	
	Subway	0.10	
	Train Travel	11.19	
	Air Travel	2,172.15	
	Paper	41.78	
	Bottled Water	12.01	

4. Summary

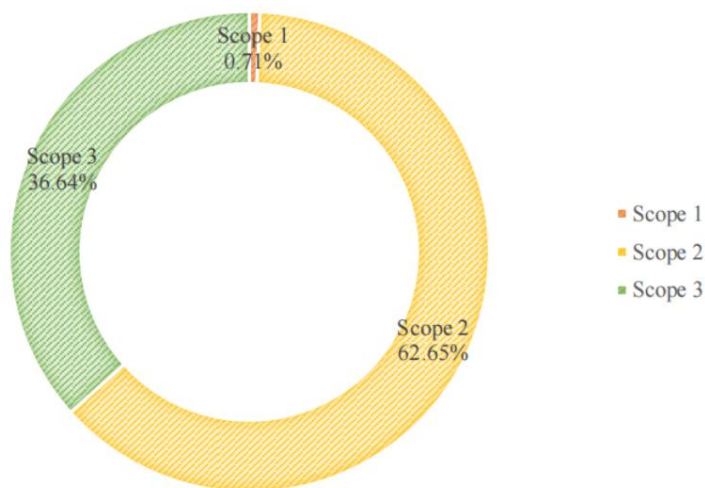
Based on the above calculation results, the total carbon emissions of Tsinghua SEM in 2025 amounted to 6,993.37 tCO₂e, of which Scope 1 emissions were 49.93 tCO₂e, Scope 2 emissions were 4,381.27 tCO₂e, and Scope 3 emissions were 2,562.17 tCO₂e. Detailed breakdown data is as follows:

Table 4 Tsinghua SEM's Carbon Footprint in 2025

Scope	Emission Category	Carbon Emissions (tCO ₂ e)	Total (tCO ₂ e)
Scope 1	Owned Vehicles	2.56	49.93
	Refrigerant Fugitives	23.26	
	Septic Tank Fugitives	24.10	
	Fire Extinguishers	0.01	
Scope 2	Electricity	3,111.60	4,381.27
	Purchased Heat	1,269.67	
Scope 3	Municipal Tap Water	3.68	2,562.17
	Solid Waste	73.66	

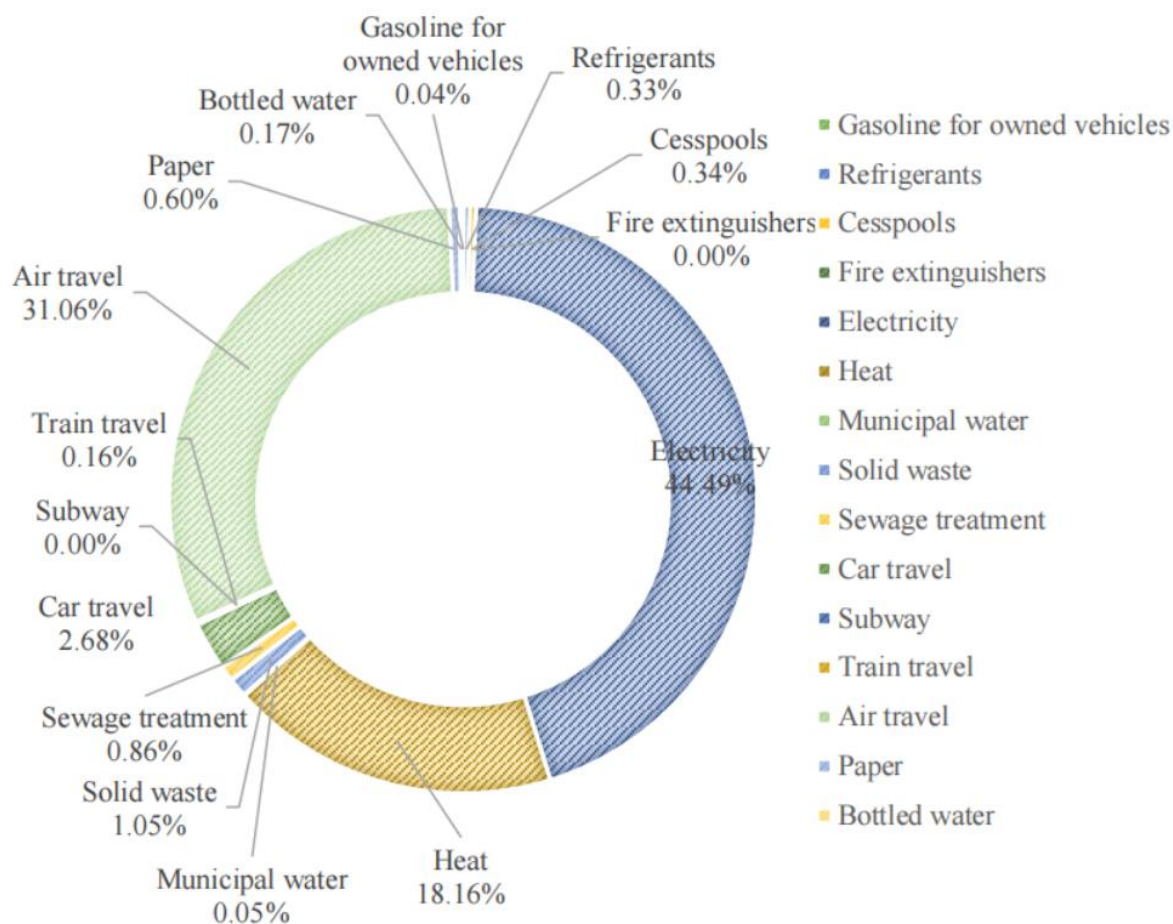
Wastewater Treatment	60.22
Automobile	187.38
Subway	0.10
Railway	11.19
Aviation	2,172.15
Paper	41.78
Bottled Mineral Water	12.01
Total	6,993.37

From the perspective of GHG accounting scope, the School's carbon footprint in 2025 is mainly composed of Scope 2 (indirect emissions) and Scope 3 (other indirect emissions) carbon emissions, of which Scope 2 carbon emissions account for the highest share at 62.65%, followed by Scope 3 carbon emissions at 36.64%. Scope 1 carbon emissions account for the lowest share, at only 0.71%. See the pie chart below for details.



[Figure 1 Tsinghua SEM's Carbon Footprint Scale Structure in 2025]

From the perspective of emission sources, the School's carbon footprint in 2025 is mainly composed of purchased electricity, air travel, and purchased heat, of which purchased electricity accounts for the highest share of carbon emissions at 44.49%, air travel ranks second at 31.06%, and purchased heat follows at 18.16%. The above three items account for 93.71% of the School's total carbon emissions. The remaining consumption categories account for a relatively low share, totaling approximately 6.29%. See the pie chart below for details.



[Figure 2 Carbon Footprint Scale Structure in 2025 (Emission Category)]

■ Data Quality Management

The data quality management of this carbon footprint accounting aims to comply with the ISO 14064 principles of relevance, completeness, consistency, accuracy, transparency, and conservativeness. For this year's report, cross-verification of activity data, traceability checks of emission factors, and internal data cross-validation have been completed to ensure the quality of accounting results. The content is described as follows:

Quality Management Personnel: Members of the accounting team are responsible for coordinating good interactions among relevant departments and external relevant institutions, organizations, or projects.

Quality Management Activities: Operational procedures are formulated. To ensure precision requirements, data management focuses on quality verification activities for general and specific emissions.

General Quality Verification: Rigorous and proportionate quality verification is conducted for common errors that are easily overlooked and may lead to inaccuracies during data collection and processing, data modeling, and emission quantification.

04

Carbon Neutrality Actions

■ Advancing Academic Frontiers, Fulfilling Think Tank Role

Tsinghua SEM attaches great importance to the healthy and sustainable development of China's economy, prioritizing green economy, business ethics, corporate social responsibility, and sustainable development as key areas of academic research. The School actively organizes and plans academic activities around the "dual carbon" goals, providing problem-solving ideas and policy recommendations for the realization of China's dual carbon strategy.

From July 16 to 17, 2025, the Asia-Pacific Economic Cooperation (APEC) Workshop on "Capacity Building for Sustainable Entrepreneurs to Promote Green Jobs and Resilient Development," co-hosted by the China Center for Entrepreneurship Research at Tsinghua SEM and Tus-Holdings Co., Ltd., was held at Tsinghua Science Park. Government officials, experts, scholars, and industry representatives from 14 APEC economies attended and exchanged views on topics such as "Policies and Scaling Strategies for Green-Tech Startups" and "Entrepreneurial and Employment Skill Upgrades under the UN Sustainable Development Goals," sharing best practices and research outcomes.

On October 31, 2025, the 2025 Tsinghua University "Carbon Neutrality Economy" Forum was held. With the theme "New Starting Point · Carbon Future," guests from the energy, power, manufacturing, and technology sectors engaged in in-depth discussions on hydrogen energy and energy storage, AI-enabled carbon management, and CCUS industrial demonstration. In the keynote speech session, Prof. Bai Chong-En, Senior Professor of Liberal Arts at Tsinghua University and Dean of Tsinghua SEM, analyzed the critical role of green innovation in promoting industrial upgrading and improving market mechanisms from the perspectives of macro policy and economic structure.

On November 15, 2025, the 2025 Annual Academic Conference on Global Trade and Industrial Competitiveness Research was held. Associate Dean Xu Xin attended the opening ceremony and delivered a speech. Prof. Li Donghong, Professor at the School and Deputy Director of the Tsinghua University Research Center for Global Trade and Industrial Competitiveness, and Wang Jian, Director of the Media Center at the Chinese Academy of International Trade and Economic Cooperation (MOFCOM) and President of Intertrade Magazine, respectively chaired the opening ceremony and keynote speech sessions.

The above academic research and exchanges also provide theoretical and practical references for the School's own low-carbon pathway planning.

■ Enhancing Talent Development, Empowering Industrial Upgrading

The School coordinates a multi-level teaching system encompassing degree education, academic exchanges, and executive empowerment training, building a low-carbon education matrix, linking case research with transnational academic seminars, and empowering industrial low-carbon transition through the supply of interdisciplinary professional talents.

From April 9 to 11, 2025, MBA students of the School traveled to the Yangtze River Delta region for a practical course themed "Digital-Intelligent Innovation Driving Green Operations." Led by course professor Li Jinliang, over 30 students conducted in-depth research on how sports industry giants build intelligent, agile, efficient, and sustainable supply chain systems, and how to link intelligent manufacturing, green logistics, digital finance, and digital energy systems to build future sustainable business ecosystems.

From May 9 to 10, 2025, the inaugural "Tsinghua-PKU-Waseda Ph.D. Joint Forum," hosted by Tsinghua SEM and co-organized by the Institute of New Structural Economics at Peking University and the Graduate School of Asia-Pacific Studies at Waseda University, was held. The forum engaged in in-depth discussions on topics such as macroeconomics, trade and finance, institutional evolution, and green development.

On November 27, 2025, the School's "China Explorer" program was launched in Suzhou, with Prof. Bai Chong-En, Dean of the School, attending and delivering a keynote speech. "China Explorer" is a systematic upgrade and strategic expansion of the "China Carbon Explorer" program by the School's Executive Education Center. Building on the experience of the past three sessions, the program will, with broader topics, a more expansive vision, and a longer-term mission, guide corporate leaders from energy issues to more comprehensive development issues, exploring strategic choices and value creation methods for enterprises in the new era.

In addition, the School's various teaching programs offer multiple required and elective courses related to sustainable development, including "Green Finance: Theory and Practice" and "Sustainable Development Leadership," covering numerous areas such as environment, resources, ethics, morality, thinking, innovative technology and entrepreneurship management, law, corporate responsibility, and cross-cultural management, which are important components of the School's talent development curriculum.

■ Campus Carbon Reduction and Greening, Existing Building Renovation

The School has long been committed to sustainable development and environmental protection in campus construction. New buildings fully implement the low-carbon and green development concept. Taking the new Tsinghua SEM building as an example, the project set low-carbon, green, smart, and health as core goals from the initial design stage, comprehensively adopting low-carbon and energy-saving technologies and measures such as high-efficiency variable-frequency chillers, variable-frequency air conditioning units, rotary wheel heat recovery for fresh air units, full fresh air operation during transitional seasons, and 100% Grade-1 water-saving efficiency sanitary fixtures. With outstanding performance in low-carbon energy saving and sustainable development, it obtained the Three-Star Green

Building Design Label Certification in 2021, the LEED v4 SCHOOL Gold Certification awarded by the U.S. Green Building Council in 2022, and passed the expert review of the Three-Star Green Building Label organized by the Ministry of Housing and Urban-Rural Development in 2025.

For existing buildings, the School is also continuously conducting low-carbon renovation and upgrading. The School's "Weilun Building" renovation project targets Three-Star Green Building and LEED Gold certifications, implementing the low-carbon and green development concept throughout the entire process from design and construction to operation and maintenance. In the future, the School will take measures such as strengthening the utilization of renewable energy such as solar energy, improving building energy efficiency, and promoting the use of energy-saving electrical appliances to further reduce building energy consumption and carbon emissions, and continuously improve green and low-carbon building spaces.

■ Promoting Low-Carbon Living, Embedding Sustainability Mindset

The School actively organizes faculty and student activities with green and low-carbon themes. On March 16, 2025, the School's Graduate Student Union organized Chinese and international students to go to the Linghui Mountain Tree Planting Base in Huairou District, Beijing, to carry out the Arbor Day themed volunteer service activity "Sowing Green Hope, Practicing Ecological Mission." Under the guidance of base staff, students conducted tree planting in groups, understood the status and significance of Huairou District as the capital's ecological conservation zone, and young students tempered their will through labor and deepened their understanding through practice, translating their understanding of ecological civilization into conscious actions. On June 2, 2025, the School's Student Union, together with the Department of Electronic Engineering, the School of Software, Weiyang College, and Xingjian College, held the "Five-Department Joint Graduate Welfare" activity, which set up a second-hand item recycling platform for graduation season and provided services such as graduation photo shooting, free carton distribution, and moving tool information to facilitate green departure for graduates.

The School's carbon reduction actions are also reflected in every aspect of teaching, research work, and daily activities. The School issues green campus initiatives and implements energy conservation and emission reduction measures, such as using energy-saving lamps, optimizing heating and cooling systems, promoting paperless office work, and encouraging the use of public transportation. The School establishes and improves a waste classification and recycling system to increase recycling efficiency and reduce landfilling and incineration. Faculty and students are encouraged to participate in actions such as water and electricity conservation, walking or cycling to school, and using reusable tableware.

Through these strategies and measures, the School can not only guide its faculty and students to practice low-carbon living, but also promote low-carbon concepts and practices in broader social and academic fields, contributing to building a sustainable future.

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