CEIBS

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CHINA DEPTH GLOBAL BREADTH

2023 Annual | China Europe International Business School Carbon Information Disclosure Report

中欧国际工商学院
CHINA EUROPE INTERNATIONAL BUSINESS SCHOOL

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About this Report

This report is the second *Carbon Disclosure Report* released by China Europe International Business School (thereafter referred to as "CEIBS", "the school" or "we"), which comprehensively expounds the philosophy and practice of CEIBS in response to the national "carbon peaking & carbon neutrality" goal, strategy, clarifies decarbonization goals and action plans, and continuously reports greenhouse gas emission data and progress of carbon reduction measures.

Scope of Reporting

The report discloses information on the responsibilities of CEIBS (including the Shanghai, Beijing, Shenzhen, Zurich, and Accra campuses) in organizing greenhouse gas accounting and addressing climate change.

Reporting Period

Unless otherwise noted, this report covers the period from January 1, 2023 to December 31, 2023. Certain content may refer back to historical data or extend into 2024 to ensure comparability and completeness.

Report Access & Feedback

The languages of the report are Chinese Simplified and English. If there is a discrepancy in the content, the Chinese version shall prevail. The report is published as an electronic file. The electronic document is available on the CEIBS website. If you have any suggestions for the report, please contact us as follows:

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Principal’ s Message

In 2024, CEIBS not only celebrates a momentous anniversary but also embarks on a significant new chapter toward ambitious goals. Founded 30 years ago with a vision of integrating Eastern and Western knowledge, the school has since grown into Asia’ s leading, globally renowned business school, empowering entrepreneurs and leaders to step onto the world stage and embrace the future. Through three decades of progress, CEIBS has consistently upheld its social responsibility, embracing its educational mission in sustainability and addressing the challenges of the times with responsibility and innovation.

Today, the climate crisis is a pressing issue confronting all of humanity. Accelerating the comprehensive green transformation of economic and social development, and achieving carbon peaking and carbon neutrality, represents a strategic directive set by China’ s central government. This not only reflects a national commitment to addressing climate change but also embodies a historical responsibility for CEIBS. Staying true to its mission, CEIBS is committed to sustainable development, embedding green practices into campus operations and expanding the green impact of educational institutions.

This past year marked a significant start for CEIBS' carbon neutrality strategy. We released our first Carbon Information Disclosure Report, outlining CEIBS’ carbon neutrality commitments and vision, positioning our green campus as a pillar of long-term development, and advancing effective green strategies to foster harmony between people and nature. These principles are fully realized in our new Shenzhen Qianhai campus, which was designed from the outset with sustainable architecture, water- and energy-saving management, and eco-smart facilities, laying a strong foundation for our decarbonization goals. Our aim is to incorporate sustainability in every detail, creating a more responsible, future-oriented campus.

On the occasion of our 30th anniversary, we are elevating our green goals, moving the target year for achieving Scope 1 and Scope 2 carbon neutrality from 2035 to 2034, with a commitment to more ambitious climate solutions. To achieve this, CEIBS plans to implement multiple key projects, including

optimizing the smart campus energy monitoring system, strengthening greenhouse gas data accounting, increasing the use of renewable energy, and launching continuous carbon reduction initiatives, all to build a robust foundation for a greener future.

Three decades of resilience and innovation inspire us as we look forward. Standing at this new starting point, we recognize that the essence of education lies not only in imparting knowledge but in guiding the future. As a cradle for future business leaders, CEIBS will further deepen its carbon neutrality efforts, contributing to the fight against climate change. We extend our gratitude to everyone who has supported CEIBS—let us walk forward together to create a brighter, greener, and more sustainable future!

1. Pledged the glorious ambitions, we press ahead bravely

In the journey toward carbon neutrality, opportunities and challenges coexist. CEIBS adheres to the core principle of integrating environment, education, and community, embedding its vision for carbon neutrality into campus development and daily operations with a pragmatic, diligent, and responsible approach. To achieve carbon neutrality, we have established clear commitments, developed a systematic carbon reduction framework, and mapped out scientifically planned implementation paths to drive the effective execution of each initiative. Through practical strategic deployment and impactful actions, CEIBS is dedicated to transforming its campus into a model platform for low-carbon transition. We also hope to inspire students, alumni, and the wider community to join forces in driving a broader and more profound green transformation.

1.1 Carbon Neutrality Commitment

CEIBS is actively committed to achieving carbon neutrality and fully supports the *Paris Agreement*' s goal of "limiting global temperature rise to 1.5°C above pre-industrial levels." Over the past year, based on our carbon neutrality roadmap released in 2023 and changes in both internal and external

environments, we conducted a rigorous analysis to identify current challenges, assess carbon reduction potential, and project investment costs. Building upon the original roadmap, we explored flexible combinations of energy-saving, carbon reduction, clean energy usage, and carbon offset measures. This led to an optimized roadmap update, advancing our carbon neutrality targets one year forward, and achieve Scope 1 and Scope 2 neutrality by 2034 and full-scope carbon neutrality by 2050.

CEIBS understands the complexity and rapid changes in today' s internal and external environments. To this end, CEIBS will closely monitor evolving policy trends, technological advancements, and stakeholder concerns, staying aligned with global progress toward carbon neutrality and sustainability. We will continuously integrate the latest research and technological developments to enhance implementation efficiency and effectiveness. This includes reducing campus energy consumption, introducing renewable energy sources, and increasing resource recycling rates, all aimed at minimizing our carbon footprint. By setting phased targets and implementing scientific monitoring mechanisms, we tried our best to ensure our path to carbon neutrality is sustainable, executable, and trackable.

1.2 Four Pillars of Decarbonization

To effectively implement carbon neutrality, CEIBS has strategically established four major carbon reduction pillars, enhancing carbon emissions management capabilities comprehensively. These pillars are founded on principles of scientific rigor, systematic planning, and sustainability, laying a solid foundation for long-term green development.

- **Energy Efficiency Retrofit Project**

  Focusing on enhancing campus building energy consumption and equipment efficiency, we are implementing a comprehensive energy efficiency retrofit project. This includes improving building insulation, optimizing electrical equipment, and integrating renewable energy

sources to unlock carbon reduction potential and further reduce emissions.

- **Green Operation Management**

  By enhancing water resource utilization efficiency, strengthening waste management, and promoting paperless office practices, we are advancing low-carbon daily operations on campus. Additionally, we are actively exploring responsible procurement and internal carbon pricing as management strategies to further identify reduction opportunities in Scope 3 greenhouse gas emissions.

- **Digital Intelligence Campus Development**

  Based on the campus smart management system, we integrate energy consumption data and optimize energy efficiency tracking to support dynamic assessment and precise adjustment of energy-saving measures. This approach drives intelligent and data-driven carbon emissions management.

- **Education for a Green Future**

  Through ESG curriculum development, research activities, and alumni collaboration, we promote low-carbon principles, embedding carbon neutrality awareness into CEIBS' s education and research. Extensive exchange and cooperation further amplify CEIBS' s low-carbon impact.

1.3 Key Tasks Review in 2023

In the past year, CEIBS continued to uphold three core principles of "Environmental Sustainability, Empowering Education, and Community Engagement," advancing carbon neutrality efforts in a steady, efficient, and refined manner.

- **Environmental Sustainability:**

We are dedicated to exploring a low-carbon development path for business schools through sustainable operational practices.

Since establishment, CEIBS has prioritized energy efficiency and environmental protection, ensuring that every step in campus development aligns with environmental responsibility. Over the past year, we have:

- Further refined our carbon neutrality goals and implementation strategies, proactively identifying and addressing emissions hotspots.

- Promoted the construction of smart energy-saving systems, enhancing energy management efficiency through real-time monitoring and optimized energy structure.

- Advanced energy-efficient facility upgrades to improve energy use efficiency, effectively reducing carbon intensity.

- Strengthened on-campus waste management systems, gradually increasing recycling rates, minimizing resource waste, and reducing environmental impact.

- Established comprehensive monitoring and evaluation mechanisms, benchmarking against international standards and best practices to continuously improve carbon management levels and capabilities.

- **Education Empowerment:**

We are dedicated to driving action on climate change through educational activities.

As a promoter of business values and a leader in responsible education, CEIBS remains dedicated to cultivating socially responsible business leaders. Over the past year, we have:

- Continuously developed carbon neutrality and ESG-related case studies, building a curriculum for sustainable development to cultivate business

leaders with ESG awareness and skills, supporting the green transition of the economy.

- Actively guided ESG projects focused on green governance and sustainable business, exploring business models that emphasize environmental, social responsibility, and business performance, cultivating leaders for sustainable business.

- Published the *2024 ESG White Paper* and other specialized research, producing high-quality academic output on carbon neutrality, climate change, and sustainable development, offering insights for a more sustainable future.

- **Community Engagement:**

We are dedicated to positioning the business school a pioneer in urban green transformation and a key driver of integrated academia-industry collaboration, empowering regional green development, and enhancing our social contribution through education.

Recognizing that the community is a vital force in driving sustainable change, CEIBS strives to establish the campus as an open, collaborative platform. Over the past year, we have:

- Built a strong network of partnerships with government, businesses, and NGOs to jointly promote carbon governance and low-carbon transition practices.

- Supported green entrepreneurship, engaged in public welfare activities, and advocated for sustainable lifestyles, partnering with community residents to create a sustainable, harmonious home.

- Actively responded to national and local carbon reduction policies, participated in relevant international organizations and initiatives, leveraging our influence to lead local communities and stakeholders in

addressing climate change and jointly shaping a low-carbon, sustainable future.

2. Inculcated the sustainable philosophy, we spring into action vigorously

Since establishment, CEIBS has consistently embedded environmental awareness into daily operations and long-term development planning, with the carbon neutrality strategy further clarifying our framework and direction. Over the past year, we conducted a series of in-depth carbon reduction efforts targeting Scope 1, 2, and 3.

2.1 Decarbonization Measures Overview

Since its establishment, the school has consistently advanced energy conservation and emission reduction practices across multiple domains, including building energy efficiency, energy optimization, water resource management, and daily operations. It has also maintained effective energy-saving and carbon-reduction measures:

- Building Energy Consumption Management: The campuses adhere to energy-saving and environmentally friendly design principles. Through the installation and application of insulation technologies, building automation systems, and smart meters, they have achieved precise energy management and dynamic optimization of building energy consumption. By collecting and analyzing data, they have successfully identified energy-saving opportunities. For example, at the Beijing campus, the building automation system collects data accurately, enabling timely adjustments to shut down direct-fired absorption chillers. Residual heat from circulating water in the pipelines is then utilized for cooling or heating, effectively reducing gas consumption of the chillers. It is estimated that installing variable frequency devices for the air conditioning system alone has reduced air conditioning energy consumption by 20%-40% annually.

- Water Resource Utilization: The campuses are actively promoting water-saving and energy-saving measures. Since its establishment, the Shanghai campus has implemented an efficient reclaimed water reuse system, achieving nearly complete reuse of domestic wastewater and reducing the environmental impact of wastewater discharge. Additionally, the campus has completed the digital transformation of its water system, further improving resource utilization efficiency. In 2023, the Shanghai campus saved 31,632 tons of water.
- Other Initiatives: CEIBS continues to promote waste classification, green procurement, and routine awareness campaigns, building a carbon reduction system that spans multiple domains. The comprehensive utilization efficiency of energy and resources has steadily improved.

CEIBS's past green practices have laid a comprehensive and systematic foundation for sustainable operations, providing strong support for its carbon neutrality strategy. In 2023, CEIBS focused on improving energy efficiency, enhancing resource recycling, and introducing renewable energy. These efforts aim to extend carbon reduction measures beyond individual areas to all aspects of campus operations, injecting new momentum into the development of a green campus.

Table 1 Status of Energy-saving and Decarbonization Measures

Scope	Carbon Reduction Strategies		Description of Specific Measures
Scope 1	Reduce Fossil Fuel Usage	Electrification of Equipment	✓ At the Shanghai campus, three additional new-energy lawn mowing robots were added to the existing two, reducing the use of fossil-fuel-powered lawn mowing equipment. Subsequent lawn mowing tasks are also transitioning to rechargeable push mowers, gradually replacing traditional lawn mowers.

		Installation of Safety Devices	✓ All gas equipment in the Shanghai campus kitchen is equipped with automatic flameout and gas shutoff devices to prevent gas leaks, ensuring campus safety while conserving natural gas usage.
Scope 2	Enhance Energy Utilization Efficiency	Equipment Upgrades	✓ In 2019, the Beijing and Shanghai campuses launched an LED lighting retrofit project, replacing outdated fixtures with energy-saving LED lights as part of their lifecycle upgrades. By 2023, the Beijing campus had completed 30% of its lighting replacements. In the Shanghai campus, 232 units of 36W fluorescent tubes were replaced with 81 sets of 36W LED panel lights, and 103 sets of double-tube 36W energy-saving lights were replaced with 103 sets of 16W LED downlights. These upgrades resulted in an annual total lighting power savings of 7.496 kW. ✓ In line with energy-saving and carbon-reduction principles, high-efficiency office equipment such as computers, printers, and projectors have been purchased to replace older, energy-intensive devices.
		Equipment Maintenance	✓ Regular maintenance and servicing of air conditioning systems are conducted across campuses, including cleaning filters and pipelines, reinforcing the insulation of air conditioning pipelines, and checking refrigerant pressure. These measures improve the energy efficiency ratio of air conditioners and ensure optimal performance.

		Equipment Usage	✓ Campuses are gradually implementing a "forced shutdown at 11 PM daily" function in classroom and meeting room audio-visual equipment software systems to prevent 24/7 operation.
	Utilize Renewable Energy	Rooftop Photovoltaics	✓ The Zurich campus has installed distributed solar panels, achieving rooftop photovoltaic self-use electricity generation, with an annual output of 20,208 kWh in 2023.
Scope 3	Strengthen Waste Management	Garbage Sorting and Resource Recycling	✓ Classified garbage bins are installed on campus to guide students and staff in sorting waste: recyclables such as paper, plastic bottles, and metals are recycled; hazardous waste such as batteries and fluorescent lamps is specially treated; and other waste is appropriately disposed of. ✓ The Beijing campus regularly organizes donation drives for second-hand items such as clothing and toys. ✓ The Shenzhen campus launched a coffee grounds recycling program, experimenting with the use of biodegradable technology to combine coffee grounds with natural minerals to create 300 gift sets. This initiative explores the secondary utilization of coffee grounds.
		Reduce Waste Generation	✓ Since 2023, the Beijing campus has promoted the use of rechargeable microphones, replacing single-use battery microphones and significantly reducing waste from used batteries.

		Minimize Single-Use Items	✓ The school cafeteria provides reusable plates and utensils, reducing the use of disposable tableware and lowering waste generation.
	Promote Low-Carbon Commuting	Advocate for Green Travel	✓ Bicycle sheds and sufficient charging stations in ground and underground parking lots are built/planned at each campus. Staff and students are encouraged to adopt green commuting methods such as public transportation, walking, cycling, and electric vehicles to reduce reliance on fuel-powered cars and minimize carbon emissions.
	Raise Awareness		✓ Environmental protection slogans are displayed in public areas, such as "Use one less paper towel, leave one greener tree" near paper towel dispensers. ✓ Promote the concept of "the last person to leave turns off the lights," requiring equipment, lights, and air conditioning to be turned off when not in use, along with strengthened inspections and checks. ✓ Further reduce the use of disposable paper cups and plastic bottled water. Employees are encouraged to bring reusable water bottles, and campus-branded ceramic mugs are used during meetings and receptions. ✓ A low-carbon environmental protection group has been established to share second-hand items, reduce resource waste, and promote the circular use of goods.

2.2 Building a Low-Carbon Campus: The CEIBS Story

In addition to implementing a series of effective daily energy-saving and carbon-reduction measures, each campus actively integrates its development plans and operational realities to carry out diverse forms of green practices globally. The campuses in Switzerland and Accra have taken the lead by installing photovoltaic equipment, actively exploring pathways for clean energy usage. Meanwhile, the campuses in Shanghai, Beijing, and Shenzhen are exploring green procurement, green ecology, and green building in ways tailored to local conditions, collaboratively contributing to a chapter on green development between China and Europe.

Shanghai Campus: Green Procurement

In the procurement of goods and services, CEIBS consistently adheres to the principle of environmental sustainability, prioritizing suppliers with eco-certifications and striving to promote a low-carbon transition across the entire value chain through its actions. We aim to drive low-carbon transformation throughout the value chain, inspiring upstream and downstream partners to embrace sustainability beyond our campus.

As one of the campuses with the largest procurement volume, the Shanghai campus recognizes its crucial role in achieving green transformation. Therefore, we strive to make every procurement decision a green choice. In terms of office supplies, we prioritize products made from eco-friendly materials and produced using sustainable methods, such as recycled paper and bio-based stationery, to minimize environmental impact. For canteen suppliers, we enforce strict standards, favouring those that provide green food and prioritize environmental sustainability in their ingredient sourcing and production processes, thereby ensuring the health and safety of students and faculty while promoting ecological protection. When organizing events on and off campus, we encourage the selection of green, low-carbon suppliers, advocating for green travel and eco-friendly accommodations.

In May 2023, during the TEDxCEIBS 10th Anniversary event, the Shanghai campus chose low-carbon gifts as event souvenirs, including wheat straw wireless charging pen holders, wheat straw ballpoint pens, and corn starch coffee cups. Additionally, we created low-carbon gift sets for EMBA students, with all items made from recycled materials, such as rPET scarves, rPET ties, recycled synthetic leather notebooks, eco-friendly toiletry bags, rPET sunglasses, and frisbees made from recycled PP from lunch boxes, achieving a carbon reduction of approximately 3.19 kg/suit compared to traditional materials.

Beyond procurement, CEIBS actively influences suppliers to adopt more eco-friendly practices, collectively enhancing the sustainability of the value chain. We work closely with suppliers to reduce the use of non-degradable or environmentally harmful packaging materials and encourage them to explore more sustainable, economical packaging alternatives. We also advocate for suppliers to improve energy efficiency by adopting energy-saving equipment and optimizing production processes, reducing energy consumption and carbon emissions to contribute jointly to the sustainable development of our planet.

Beijing Campus: Green Ecology

The landscape design of CEIBS' Beijing campus has, from its inception, deeply integrated advanced concepts of aesthetic harmony and ecological coexistence. The gardens feature a cleverly implemented "concave pool design," allowing the area to naturally absorb, store, and infiltrate water during the rainy season, effectively acting as the campus "lungs" by alleviating stormwater runoff issues. When needed, the stored water can be released and used for various purposes such as irrigation and cleaning, realizing resourceful rainwater management.

Over time, this initially functional concave pool area has been thoughtfully planned and transformed into a vibrant "water system" interaction zone. Clear waters flow around diverse vegetation and landscape elements, creating a naturally beautiful and ecologically rich environment that offers an ideal place for students and faculty to connect with nature and unwind. This area also serves as a habitat for various plant and animal species. The campus'

landscape management further embraces sustainable eco-friendly practices by composting fallen leaves and dry grass into nutrient-rich organic fertilizer. These fertilizers are extensively used on campus lawns, reducing chemical fertilizer usage, minimizing environmental impact, and achieving both resource recycling and ecological balance.

These efforts not only reflect a vision of harmonious coexistence between humans and nature but also provide a living example of ecological education for the campus community.

Shenzhen Campus: Green Building

Low-carbon and energy-saving practices in the construction sector serve as a critical pillar for CEIBS on its path toward achieving carbon neutrality. In December 2023, CEIBS officially inaugurated its new Shenzhen campus. Throughout the planning and construction process, the Shenzhen campus adhered to the core principles of green, environmentally friendly, low-carbon, and energy-efficient design, once again demonstrating CEIBS's pursuit of harmonious coexistence with nature, its profound insight into sustainable development, and its unwavering commitment to the future.

Planning and Design: The Shenzhen campus takes full advantage of the region’ s abundant sunlight throughout the year, ingeniously incorporating the lighting wisdom of ancient Chinese architecture—the "courtyard" design—into its layout. This results in a space that is both modern and stylish while rich in cultural heritage. The second and third floors extensively feature glass curtain walls, allowing natural light to penetrate from all angles and seamlessly bringing outdoor greenery indoors. This creates a comfortable atmosphere of harmony with nature, significantly enhancing spatial brightness and openness while reducing the need for artificial lighting. Meanwhile, all glass curtain walls have been fitted with high-performance insulation films. Test results show that the films significantly reduce temperature increases caused by sunlight. During testing, the surface temperature of interior reference objects decreased by 3.8°C. The insulation films effectively block infrared and ultraviolet radiation, with infrared radiation intensity dropping sharply from 255 W/m² to 2.8 W/m², and ultraviolet radiation intensity decreasing from 657 W/m² to 0.4 W/m². By

applying green technology, the building’ s energy consumption is effectively reduced.

Material Selection: The Shenzhen campus reflects its high priority on environmental protection and energy efficiency through its choice of materials. All materials meet E1 and E0 environmental standards and are primarily composed of natural stone waste mixed with polymer materials. These materials offer multiple benefits, including recyclability, thermal insulation, and soundproofing. Their use not only reduces the consumption of natural resources and minimizes environmental damage but also lowers construction costs, achieving a win-win outcome for economic and ecological benefits.

Construction Methods: The Shenzhen campus adopted advanced prefabricated construction techniques. This technology involves using prefabricated building components and accessories—such as floor slabs, wall panels, stairs, and balconies—that are manufactured off-site and quickly assembled at the construction site. This approach not only simplifies and accelerates the construction process but also greatly improves material recyclability and reduces construction waste.

3. Employed the scientific methods, we monitor emissions dynamically

To continuously track carbon emission data, we conducted the 2023 carbon emissions accounting for the school based on international carbon inventory standards, including the Greenhouse Gas Protocol (GHG Protocol) and ISO 14064-1. We strive to adopt a rigorous and objective approach to depict the current state of CEIBS' carbon emissions, providing solid and reliable data support for implementing our carbon neutrality strategy. Additionally, we have set 2019 as the baseline year for carbon emissions, enabling us to monitor and evaluate emission trends over time and make timely optimizations to the execution of our carbon neutrality pathway.

3.1 Carbon Emission Overview in 2023

In 2023, the total emissions from Scope 1, Scope 2, and partial Scope 3 across CEIBS' five campuses amounted to 15,561.78 tCO_2e. Within the total emission, Scope 1 emissions were 1,096.87 tCO_2e, Scope 2 emissions were 7,671.47 tCO_2e, and partial Scope 3 emissions were 6,793.44 tCO_2e. The emission volumes and proportions for each scope are illustrated in the chart below.

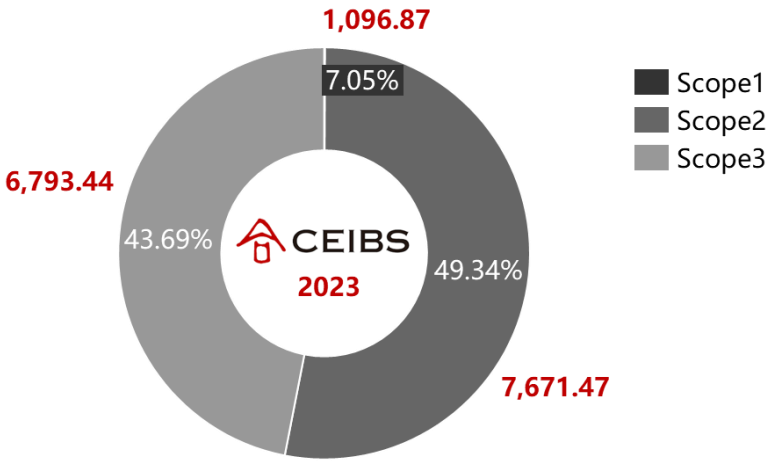

Figure 1: Greenhouse gas emissions in Central Europe in 2023 (in tCO2e)

3.2 Methodology and Scopes

Organization Boundaries

CEIBS, in accordance with ISO 14064-1: 2018 and considering its own operational context, has adopted the "operational control" approach to define its organizational boundaries. Following these principles, the organizational boundary for CEIBS's 2023 inventory includes all five campuses: Shanghai, Beijing, Shenzhen, Zurich, and Accra.

Reporting Period

The scope of this inventory and all collected and analysed data correspond to the period from January 1, 2023, to December 31, 2023.

Scope of Emissions

This inventory covers all Scope 1 direct greenhouse gas emissions, Scope 2 indirect emissions from external energy inputs within the organizational boundaries, and Scope 3 emissions from employee commuting, business travel, purchased goods, and disposal of solid and liquid waste. The specific reporting boundaries are outlined in the table below.

Table 2 Emission scope and definition

Scope	Sources	Definition
Scope 1: Direct greenhouse gas emissions	Stationary Combustion	Greenhouse gas emissions from the combustion of fossil fuels in stationary equipment.
	Mobile Combustion	Greenhouse gas emissions from the combustion of fossil fuels in mobile equipment.
	Fugitive Emissions	Greenhouse gas emissions from facility and equipment leaks and fugitive emissions.
Scope 2: Indirect greenhouse gas emissions generated from imported energy source	Purchased Electricity	Greenhouse gas emissions from purchased electricity within the organizational boundary.
Scope 3: Indirect emissions from the value chain (upstream and downstream)	Employee Commuting	Greenhouse gas emissions from transportation of employees between their home and worksites.
	Business Travel	Greenhouse gas emissions from business-related activities, including emissions from airplanes, trains, taxis, and other modes of transportation.
	Purchased Goods*	Greenhouse gas emissions associated with purchased products
	Solid and Liquid Waste Disposal	Emissions from the disposal and treatment of solid and liquid waste

*Note: The accounting boundary for purchased goods this year includes paper and paper products, as well as goods purchased for the canteen and tea breaks. Compared to previous years, the boundary has been expanded to include canteen and tea break purchases.

According to ISO 14064-1: 2018, six types of greenhouse gases (GHGs) are included: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), nitrogen trifluoride (NF_3), sulfur hexafluoride (SF_6), and other related GHG groups (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), etc.). The results for each type of GHG emissions are expressed in tons of carbon dioxide equivalent (tCO_2e).

Accounting Methodology

The greenhouse gas (GHG) accounting methodology for this assessment is based on ISO 14064-1: 2018, *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised)*, and other applicable laws, regulations, and relevant standards. The quantification process follows these steps:

Figure 2 Carbon Accounting Process of CEIBS

3.3 Tracking and Evaluation

Based on the results, CEIBS's total greenhouse gas (GHG) emissions in 2023 amounted to 15,561.78 tCO_2e including: Scope 1 emissions 1,096.87 tCO_2e, Scope 2 emissions 7,671.47 tCO_2e, Partial Scope 3 emissions 7,671.47 tCO_2e. Scope 3 Accounting Boundaries include contributions from employee commuting, business travel, purchased goods (paper and paper products, refreshments, and cafeteria procurement), and waste disposal. The contributions of the three emission scopes to total emissions are 7% (Scope 1), 49% (Scope 2), and 44% (Scope 3).

Scope 1 Emissions

Scope 1 emissions are direct emissions within CEIBS's organizational boundary, including:

- Emissions from natural gas and diesel combustion in stationary equipment.

- Emissions from gasoline and diesel combustion in mobile equipment.

- Fugitive emissions from refrigeration and air conditioning equipment, fire extinguishers, and wastewater treatment facilities.

In 2023, Scope 1 emissions totalled 1,096.87 tCO_2e, marking a decline compared to 2019 and 2021 levels. The specific emissions are detailed in the table below.

Table 3 Scope 1 Direct Greenhouse Gas Emission Sources

Sources	2019 Emissions (tCO_2e)	2021 Emissions (tCO_2e)	2023 Emissions (tCO_2e)
Stationary Combustion	749.94	729.44	846.24
Mobile Combustion	96.07	84.63	121.09
Fugitive Emissions	358.25	399.99	129.54
Total	**1,204.25**	**1,214.06**	**1,096.87**

In 2023, CEIBS' five campuses fully resumed normal operations. As on-campus activities such as in-person classes, forums, and lectures increased, natural gas and diesel usage rose, resulting in higher carbon emissions from stationary combustion sources. Similarly, the number of business vehicles increased due to alumni donations and self-procurement, coupled with more frequent business receptions and event-related transportation. Consequently, emissions from mobile sources also surpassed 2019 and 2021 levels. Emissions from fugitive sources primarily originate from refrigerants. In this calculation, we optimized the quantification method for refrigerant emissions by adopting a material balance-based approach, facilitating continuous tracking and auditing based on documentation in the future. The updated quantification method has resulted in a decrease in calculated fugitive emissions.

Scope 2 Emissions

Scope 2 emissions cover indirect greenhouse gas emissions from purchased electricity. In 2023, Scope 2 emissions totalled 7,671.47 tCO_2e, an increase compared to 2019 and 2021 levels:

Table 4 Scope 2 Indirect Greenhouse Gas Emissions Sources

Source	2019 Emissions (tCO_2e)	2021 Emissions (tCO_2e)	2023 Emissions (tCO_2e)
Purchased Electricity	**6,963.90**	**6,930.93**	**7,671.47**

Similar to the reasons for the increase in Scope 1 fuel usage and emissions, the rise in offline campus activities was one of the primary drivers of increased electricity consumption and corresponding Scope 2 emissions for CEIBS in 2023. Additionally, the CEIBS Shenzhen campus relocated to a new site and became operational in 2023. This new campus has a larger building area, and the increased activities during its opening period led to a rise in total energy consumption.

Scope 3 Emissions

Scope 3 emissions encompass indirect emissions from sources outside the direct operational control of CEIBS. In 2023, the following Scope 3 categories were included, based on data availability and relevance: Employee Commuting, Business Travel, Purchased Goods (paper, paper products, tea break and canteen supplies), Solid and Liquid Waste Disposal. The total Scope 3 emissions in 2023 were 6,793.44 tCO_2e showing an increase compared to 2019 and 2021 levels. The quantified emissions for the four major Scope 3 categories are as follows:

Table5 Scope 3 Partial Indirect Greenhouse Gas Emissions Sources

Sources	2019 Emissions (tCO_2e)	2021 Emissions (tCO_2e)	2023 Emissions (tCO_2e)
Category 1: purchased goods and services	89.30	84.56	3,903.25

Category 5: waste generated in operations	573.75	489.36	170.99
Category 6: business travel	539.78	361.15	2,373.99
Category 7: employee commuting	606.31	435.61	345.20
Total	**1,809.13**	**1,370.68**	**6,793.44**

Due to the expansion of the accounting scope, optimization of emission factors, and increased activity, the total Scope 3 emissions in 2023 were significantly higher than in 2019 and 2021. The specific factors are analysed as follows:

Purchased Goods and Services

- On the path of continuously improving and optimizing the approach of carbon accounting, we have steadily expanded the inclusion of different categories of our carbon inventory, laying a solid foundation for reducing emissions across the entire value chain. This year, we expanded the accounting scope for Scope 3, Category 1 emissions, incorporating carbon emissions from food procurement for canteens and tea breaks into the inventory. This expansion contributed 90% of the increase from 2019 to 2023, making it the main driver of growth.

Waste Generated in Operations

- Based on the accumulation of experience and knowledge of carbon inventory efforts, we have not only expanded the accounting content but also enhanced the quality of the data applied in the process. By improving the data collection system for activity data, we successfully obtained reliable evidence and detailed data for household waste and wastewater activities across our five campuses this year. Based on higher-quality activity data, we applied more suitable databases to improve the quality of emission factors in the accounting process. Notably, we distinguished emission factors for waste disposal based on different end-of-life treatment methods.

Business Travel

- In 2023, CEIBS campuses, particularly the Shanghai, Beijing, and Shenzhen campuses, have actively resumed and compensated for in-person activities that had been restricted by the pandemic. The increased frequency of international and domestic communication, including travel by air, rail, road, and hotel stays, resulted in higher emissions related to business travel compared to 2019 and 2021.

Employee Commuting

- We optimized the emission factors used to calculate carbon emissions from employee commuting by applying more suitable databases, thereby enhancing the reliability and accuracy of the accounting results. This adjustment resulted in a slight decrease in emissions.

4. Sustained the forward-looking perspectives, we focus on the priority precisely

In CEIBS' s first Carbon Disclosure Report, we have established a clear strategic direction and developed short-, medium-, and long-term action plans based on multidimensional analyses of practical needs, carbon reduction potential, and economic benefits. CEIBS has fully integrated the "decarbonization" gene into daily operations. Moving forward, CEIBS will focus on deepening the digitization and visualization of carbon management, leveraging technology to collect and analyse carbon emission data. This will enable dynamic tracking and continuous monitoring of its carbon footprint, driving new breakthroughs on the path to green, low-carbon development.

In September 2021, the Shanghai campus took the lead in launching the "Smart Campus" initiative, aiming to create an integrated environment for work, study, and living by utilizing advanced technologies such as artificial intelligence, cloud computing, and big data. The initiative has been deeply embedded into all aspects of the school' s operations. At the beginning of this year, CEIBS began exploring the integration of a "Carbon Management" module into the Smart Campus system, injecting new green momentum into the institution' s operations through a dual focus on technology and management.

The Carbon Management module will build on clarifying the statistical methods, frequency, scope, and responsible departments for activity data related to various emission sources (such as energy consumption, wastewater and waste disposal, travel, and commuting). It will enable the efficient online integration and aggregation of campus activity data. Combined with medium- and long-term system development, the module will support functions such as carbon emission calculations, carbon reduction tracking, and visualization of carbon neutrality pathways. This will form a comprehensive, dynamic platform for carbon emission monitoring, evaluation, and management. It will serve as a scientific basis for decision-making, helping CEIBS precisely identify potential

areas for energy savings and emission reductions, and develop and implement more effective low-carbon development strategies.

CEIBS is committed to embedding the concept of sustainability into every aspect of its operations—from daily teaching to infrastructure construction, from energy management to student and faculty behaviours guidance. The institution continuously seeks environmentally friendly development models, consistently reducing environmental impact and energy consumption levels, and steadily advancing toward new heights in low-carbon development.

5. Summary

Through this report, we reflect on the achievements of the past year' s green initiatives, examine CEIBS' contributions and areas for improvement in operations, education, and community development, and reaffirm our commitment to the pressing issue of sustainability. Looking ahead, CEIBS will continue to advance the Smart Campus initiative, utilizing digital tools to precisely monitor greenhouse gas emissions and driving the implementation of carbon neutrality strategies.

Building on our green operations, CEIBS will further deepen ESG education, actively integrating cutting-edge global sustainable development concepts into its curriculum to cultivate a new generation of business leaders capable of addressing complex environmental challenges. We firmly believe that only business leaders with global vision and social responsibility can truly drive sustainable development worldwide. CEIBS is determined to lead by example and become a key driving force in global climate action, contributing to a sustainable future for all.