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Green Solutions, Circular Economy

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

Key Response Stakeholders：

Employees

Clients

Shareholders / Investors

Non-government Organizations

Green Solutions, Circular Economy

Management approach for issues

Climate change responses, energy and greenhouse gas management, water resource management, waste management

Meaning to the Group

Following the UN's adoption of the Paris Agreement, climate change has become an issue of focus for all governments and enterprises. As a world-class company, the Group has a duty to lead the industry towards a low-carbon economy and society.

Grievance Mechanism

Please see section Stakeholder Identification, Communication, and Responsibilities for details.

Evaluation of the Management Approach

- Our energy and carbon reduction division conducted quarterly and annual energy reduction evaluations to achieve our energy and carbon reduction goals.
- We conducted external audits for management systems such as ISO 14001, ISO 50001, and ISO 14064-1.
- We held management review meetings each year to discuss and track our energy and carbon reduction targets.

Policies and Commitments

The Group proposed the 1.5ºC carbon reduction initiative, put forward three climate targets, and continues to advance energy and carbon reduction measures and other environmental impacts to mitigate the impacts of climate change, thereby achieving our responsibilities of protecting the environment and caring for the planet as we exert our influence on global industrial chains.

Specific Actions

- The Group's energy-saving target for 2021 was 5%. The actual energy-saving rate was 5.56%, successfully achieving our annual energy-saving goal.
- Invested 1.75 billion NTD in 1,587 energy-saving projects encompassing transformation of energy-saving production processes, improvement of air-conditioning systems/air compressors/lighting equipment, and other improvements. Total carbon reductions were 320,925 tCO_2e and energy-saving benefits were equivalent to 1.3 billion NTD.
- The Group's usage of clean energies reached 483,879.1 MWh, and clean energy usage ratios were 5.17%.

Goals and Targets

Short-term goals

- Reduce carbon emissions by 21% in 2025 compared with 2020
- Complete 100% of industrial wastewater discharge and water quality monitoring system installations by 2025
- Establish at least 3 pilot campuses with air quality monitoring systems by 2025
- Raise proportion of internally recycled plastics in campuses to 60% by 2025
- Reduce water use intensity by 6% before 2025

- Obtain at least 5 UL 2799 Zero Waste to Landfill Operations Gold-Level Certifications by 2025
- Propose commercially ambitious 1.5ºC carbon reduction scenario, which we expect to be validated and approved under the Science Based Targets initiative (SBTi) by 2023.
- Adhere to NDCs and carbon emissions policies of local governments and comply with international and local environmental protection laws to incur zero violations.
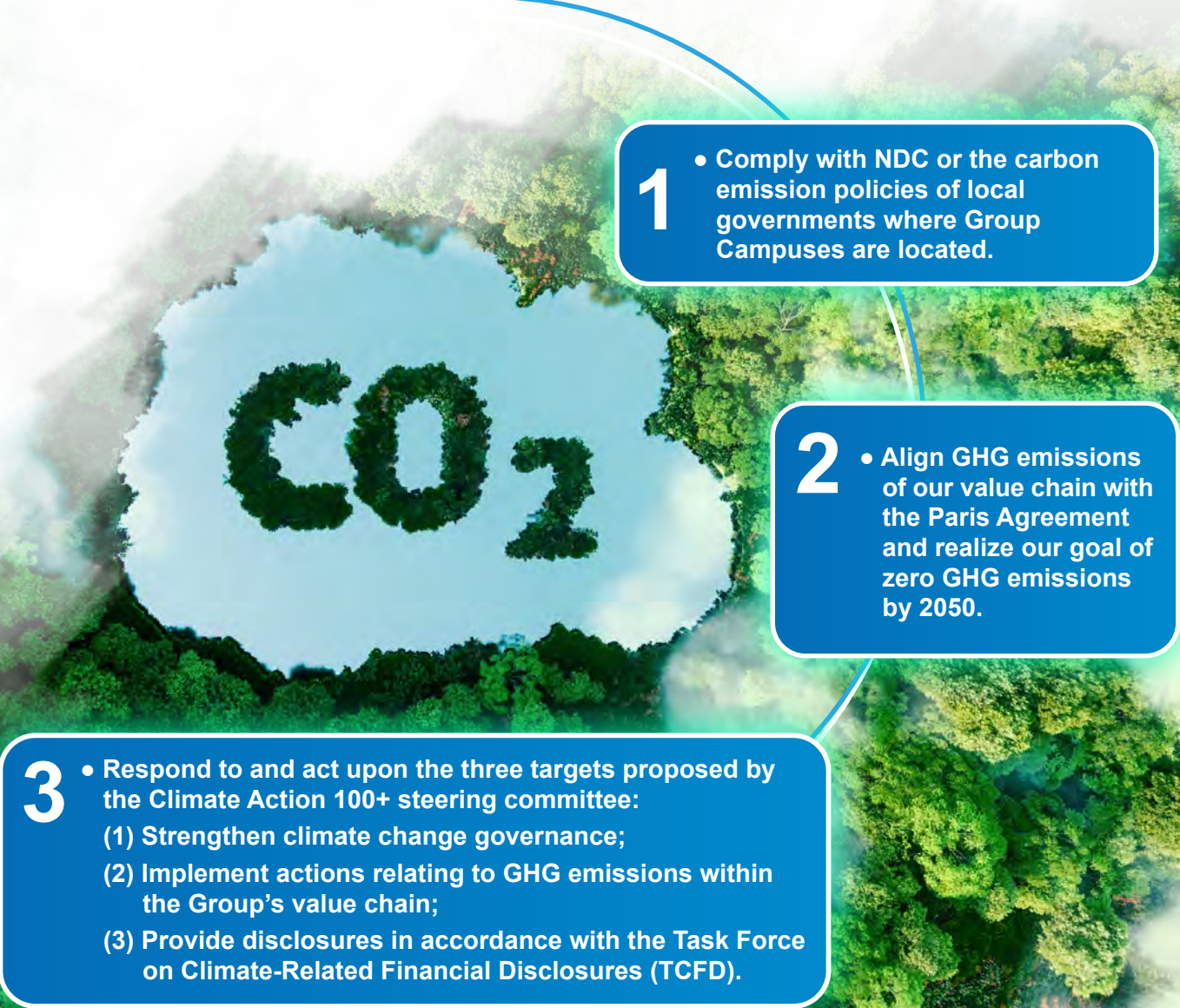
Mid- to long-term goals

- Raise proportion of green energy usage to more than 50% by 2030
- Reduce carbon emissions by 42% in 2030 and 63% in 2035 compared with 2020
- Align GHG emissions of our value chain with the Paris Agreement and realize our goal of zero GHG emissions by 2050.
- Strive to build "Zero Waste Campuses"

The UN climate change report for 2021 stated that the climate actions adopted by various countries are insufficient for curbing global warming. For this reason, Secretary-General Guterres urged all countries to adopt more aggressive measures to achieve the 1.5ºC carbon reduction target proposed by the Paris Agreement. For this reason, the UNFCCC COP26 will be focused on the 1.5ºC target.

As a global leader in the electronics technology industry, the Group supports the goal of limiting temperature increases to less than 1.5ºC as proposed by the Paris Agreement. In November 2020, the Group was the first Taiwanese enterprise to propose the goal of a net zero emissions supply chain by 2050. In January 2021, we submitted our statement of carbon reduction commitment for achievement of the 1.5ºC target to the Science Based Targets initiative (SBTi). In June 2021, we joined the Taiwan Alliance for Net Zero Emission, which was composed of industry leaders in Taiwan, thereby exerting our industrial influence and leading global industries in achieving the 1.5ºC target of the Paris Agreement as we work towards a zero carbon and sustainable society.

The Group's three climate targets

1 ● Comply with NDC or the carbon emission policies of local governments where Group Campuses are located.

2 ● Align GHG emissions of our value chain with the Paris Agreement and realize our goal of zero GHG emissions by 2050.

3 ● Respond to and act upon the three targets proposed by the Climate Action 100+ steering committee:
(1) Strengthen climate change governance;
(2) Implement actions relating to GHG emissions within the Group's value chain;
(3) Provide disclosures in accordance with the Task Force on Climate-Related Financial Disclosures (TCFD).

FOXCONN 鴻海科技集團

Foreword | Corporate Governance, Smart Innovation | Diverse Inclusiveness, Employee Satisfaction | Healthy Workplace, Safety Adherence | Business Sustainability, Beneficial Partners | Green Solutions, Circular Economy | Social Contribution, Win-Win Strategy | Appendix

Climate Change

The Group emphasizes the urgency of climate risk management to ensure sustainability. We have implemented Task Force on Climate-Related Financial Disclosures (TCFD) using the four main frameworks of governance, strategies, risk management, indicators and goals for transparent disclosures of key climate risks, opportunities, and current management. During the first phase, we aim to release our first Net Zero Vision Report in 2022 to detail our climate governance, strategies, risk management, and indicators and goals. During the second phase, we aim to conduct analyses and discussions of climate scenarios, as well as quantitative financial impacts. The third phase will integrate results from the first and second phases to generate standardized forms and processes that extend the scope of climate-related financial assessments to the whole world. We also plan to release a Net Zero Strategy Report.

Governance

The Group has formed a TCFD team which is responsible for coordinating and communicating climate issues with internal and external stakeholders, identifying response measures to climate issues, and formulating implementation strategies for climate issues. Our accounting department is responsible for annual review and updating of financial impacts relating to climate issues. All our business groups and functional units related to carbon reduction cooperate with climate response measures and implementation strategies through periodic tracking of the latest climate indicators and items.

Strategies

In 2021, the Group officially became a TCFD supporter and committed to implementation of TCFD guidelines. Starting from the end of 2021, we began assessing links between climate change and business activities using the TCFD framework, and have conducted a series of scenario analyses incorporating risk management and climate impacts to further disclose the resilience of our responses to climate change.

In terms of energy usage, the Group implements energy-saving and green energy measures and has established six main work energy-saving specifications, namely compliance with policies and regulations, skills improvement, promotion of green frameworks, promotion of energy management and certification, energy-saving diagnoses, and implementation of energy-saving tasks. Our energy-saving technologies encompass improvements in process energy usage, improvements in air-conditioning/lighting systems, and other improvements. In terms of green electricity, we increased installation capacity by installing and purchasing rooftop and ground-mounted solar stations, while also directly purchasing other clean energies.

The Group has formulated a three-stage energy and carbon reduction strategy for suppliers encompassing carbon inventory, carbon reduction, and finally carbon neutralization. We conduct carbon inventory, promote ISO 14064-1 verification, and utilize renewable energies in our supply chain alongside our collaborating suppliers, working with our end clients to build a zero-emissions supply chain.

We adhere to the Group's F3.0 transformation to new industries goal and actively invest in prospective technologies to provide low-carbon solutions and services. We are currently working to improve designs at the source to reduce energy usage, reduce carbon emissions, do no harm, and recycle resources. We have developed and designed low-carbon products to minimize environmental impacts. The International Energy Agency (IEA) stated that electric vehicles have significant carbon reduction potential, but we discovered three major challenges facing the traditional automotive industry: high development costs, long lead times, and insufficient resources. In order to promote development of electric vehicles, the Group built an open Electric Vehicle (EV) platform (MIH) with technical specifications to resolve the issue of insufficient EV resources in various countries.

Risk Management

In response to urgent climate risks and weather warnings, we conduct on-site prevention and management actions in accordance with Group regulations. For long-term climate risks, we used our analysis results to compile major climate risks and opportunities for the Group, take stock of information and management strategies related to climate risks and opportunities, implement related measures, and transfer risks through commercial insurance policies. We implement emergency responses to climate risks in accordance with Group regulations.

Indicators and Goals

In response to global climate change impacts, we proposed net zero emissions targets using 2020 as out base year, set scheduled milestones for 2025 and beyond, and simultaneously released related information on our corporate website, including:

The Group's short-, mid-, and long-term targets

Short-term

Reduce carbon emissions by **21%** in 2025 compared with 2020

Mid-term

Achieve net zero emission in the offices of our Taiwanese campuses by 2030
Reduce carbon emissions by **42%** in 2030 compared with 2020
Reduce carbon emissions by **63%** in 2035 compared with 2020

Long-term

Achieve **Net Zero Emission** in our value chain by 2050

Refine and allocate energy and carbon reduction targets to different business groups

Formulate procedures for evaluating energy and carbon reduction management and implementation status in different business groups, and reward business groups with remarkable achievements in energy-saving measures. We conduct quarterly and annual comprehensive evaluations while also implementing regular reviews and revisions each year.

Our verified Scope 1 and 2 greenhouse gas emissions in 2021 were 6,220,782 tCO$_2$e, an increase of 14.8% compared with 2020 (5,417,602 tCO$_2$e), mainly due to revenue growth and economic expansion, which raised electricity usage and carbon emissions. However, the Group continued to be active in implementing carbon reductions and utilizing renewable energies. We will continue to work toward net zero GHG emissions in our value chain by 2050.

Scope 1 and Scope 2 GHG emissions in 2021						
	Unit	Asia	South America	North America	Europe	Total
Scope 1 GHG emission	tCO$_2$e	229,943	1,222	6,076	705	237,946
Scope 2 GHG emission	tCO$_2$e	5,907,005	801	72,508	2,521	5,982,836
Total	tCO$_2$e	6,136,948	2,023	78,584	3,226	6,220,782

Due to the widespread operational scope of the Group, we are still compiling data on Scope 3 GHG emissions for 2021, and aim to disclose this information at the end of 2022. The Group has completed inventory of Scope 3 GHG emissions for 2020, which amounted to 24,025,738 tCO$_2$e.

Notes:
1. Emissions factors for natural gas and heat were derived from China's "Guidelines for Accounting Methods and Reporting of Greenhouse Gas Emissions of Electronic Equipment Manufacturing Enterprises (Trial)"; emission factors for diesel and gasoline were taken from the UK's "2020 Government Greenhouse Gas Conversion Factors for Company Reporting"; emission factors for electricity used the electricity emission factor for China (0.6167 kgCO$_2$e/kWh) taken from the IEA Emission Factors 2020.
2. The Global Warming Potential (GWP) used in the table was taken from the "IPCC Fourth Assessment Report (2017)."
3. GHGs include CO$_2$, CH4, and N$_2$O.
4. We used the financial control criteria to compile GHG emission.

Energy Management

We systematically manage our energy use through implementation of the ISO 50001 Energy Management System and third-party verifications to identify risks and opportunities for reducing energy use and enhancing energy efficiencies. Additionally, the Group has formulated the "Audit Procedures for Energy-Saving Projects" and "Audit Procedures for Energy-Saving Management" for continued implementation and transformation of energy-saving technologies, and are also actively developing new energy and carbon reduction technologies, products, and business models, exploring our energy-saving potential, and promoting transformation and upgrades to increase benefits. Furthermore, in line with goals relating to global energy transformation and low-carbon economic development, we continue to increase installation capacity by installing and purchasing rooftop and ground-mounted solar stations. We also directly purchase other clean energies to raise our usage volumes and ratios of clean energy while reducing GHG emissions.

At the beginning of each year, the Group formulates energy-saving goals and communicates these to our business subgroups. Incentive measures are also implemented to enhance the development of energy-saving technologies in each subgroup. The Group's energy-saving target for 2021 was 5%. The actual energy-saving rate was 5.56%, successfully achieving our annual energy-saving goal.

Achievement of energy-saving targets for 2017-2021

	2017	2018	2019	2020	2021
Target value	5%	5%	5%	4.50%	5%
Achieved value	7.23%	5.77%	5.33%	5.18%	5.56%

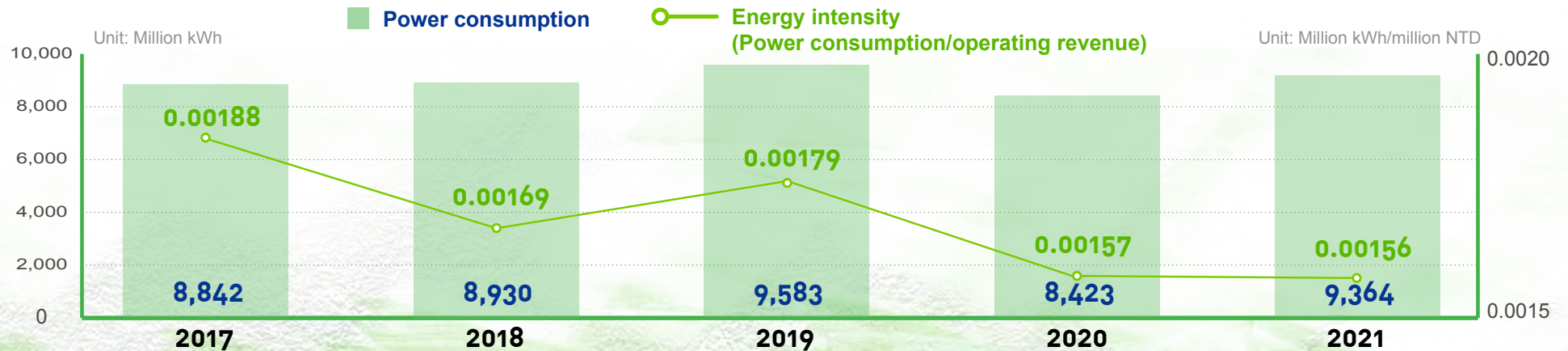### Work plan for energy and carbon reduction measures

Key tasks	Description/requirements	Purpose/meaning
Implement energy-saving policies and regulations	We use governmental policies and regulations as a basis for mandatory tasks such as promoting energy and carbon reduction measures; coordinating management; implementing energy management plans; reporting energy usage; obtaining certification for energy management systems; establishing energy management centers; auditing energy usage; formulate energy-saving plans; compiling energy-saving self-assessments, and evaluating new, converted, and expanded energy-saving projects.	We respond to governmental laws and policies through supervisory and evaluation measures which help to improve our credit ratings.
Promotion of green manufacturing systems	We continue to implement our "Action Plan for Evaluations of Green Campus Construction Projects," promote establishment of key Campuses, and apply for national certifications relating to green Campuses, green supply chains, green Campuses, and green products.	We have established green manufacturing management systems and applied for certifications to enhance our corporate brand image and obtain government funding and incentives.
Diagnosis of industrial energy-saving measures	We diagnose main processes, key energy usage systems, key technologies and equipment, and promote technical consultations and technological transformations and upgrading.	Explore energy-saving potential and promote implementation of energy-saving measures to reduce costs and enhance efficiency.
Action plan for enhancing professional skills	We host training for professional skills, job skills, and new apprenticeships, and organize training for entry-level workers, mid-level workers, senior-level workers, technicians, and senior technicians.	Enhance climate change awareness in employees and cultivate professional energy and carbon reduction talent.
Full certification of energy management systems	We encourage Group entities to obtain and maintain ISO 50001:2018 systems as well as commence implementation of systematic energy and carbon reduction tasks.	Improve energy management systems to ensure long-term implementation of energy management mechanisms.
Execute key energy-saving projects	We focused on optimizing processes, upgrading and replacing equipment, and installing power generators which use renewable energies.	Reduce energy waste, improve energy efficiency, achieve annual energy and carbon reduction targets, and complete government and Group evaluations of energy and carbon reduction targets.

Global energy consumption in 2021											
	Purchased power		Fuel								Energy consumption
	Power consumption		Natural gas		Gasoline		Diesel		Liquefied petroleum gas		
	Million kWh	GJ	m³	GJ	m³	GJ	m³	GJ	Tons	GJ	GJ
Asia	9,191	33,088,438	90,858,115	3,540,892	4,042	126,349	2,627	95,351	9,931	498,854	37,349,884
South America	8	28,921	0	0	0	0	478	17,348	3	151	46,420
North America	153	552,141	1,874,489	73,052	0	0	897	32,568	0	0	657,761
Europe	11	41,256	347,310	13,535	0	0	1	42	0	0	54,833
Total	**9,364**	**33,710,756**	**93,079,914**	**3,627,479**	**4,042**	**126,349**	**4,004**	**145,308**	**9,934**	**499,005**	**38,108,897**

1. Electricity heating value is calculated as 860 kcal/kWh
2. Natural gas heating value is calculated as 9,310 kcal/cubic meters
3. Gasoline heating value is calculated as 10,300 kcal/kg
4. Diesel heating value is calculated as 10,200 kcal/kg
5. Liquefied petroleum gas heating value is calculated as 12,000 kcal/kg
6. Steam heating value is calculated as 900Mcal/t
7. The above heating values are taken from the Chinese national standards ("General Principles for Calculation of Comprehensive Energy Consumption"; GB/T2589-2008)

Electricity usage in 2017-2021

Unit: Million kWh
Power consumption
Energy intensity (Power consumption/operating revenue)
Unit: Million kWh/million NTD

Year	2017	2018	2019	2020	2021
Power consumption	8,842	8,930	9,583	8,423	9,364
Energy intensity	0.00188	0.00169	0.00179	0.00157	0.00156

Energy-Saving Technological Transformations

In 2021, we invested 1.75 billion NTD in 1,587 energy-saving projects encompassing transformation of energy-saving production processes, improvement of air-conditioning systems/air compressors/lighting equipment, and other improvements. Total energy savings were 520,982 MWh, equal to total carbon reductions of 320,925 tCO₂e, and energy-saving benefits were equivalent to 1.3 billion NTD.

Inputs

We calculated our total investments and commenced our energy-saving projects

Total investments: **1.75** billion NTD
Total number of projects: **1,587**

Transformation of energy-saving production processes
- Invested amount **880** million NTD
- Number of projects **659**

Air-conditioning systems/air compressors/lighting equipment
- Invested amount **516** million NTD
- Number of projects **544**

Other improvements
- Invested amount **354** million NTD
- Number of projects **384**

Outputs

Total energy savings: **520,982 MWh**
Total carbon reductions: **320,925 tCO₂e**
Total energy-saving benefits: **1.3** billion NTD

Energy savings	Carbon reductions	Energy-saving benefits
199,041 MWh	122,610 tCO₂e	508 million NTD
220,075 MWh	135,566 tCO₂e	546 million NTD
101,865 MWh	62,749 tCO₂e	247 million NTD

Energy Reduction Audits

For effective implementation of energy and carbon reduction projects, the Group reviews actual performance and benefits, and our Energy Resource Management Committees conducts annual audits and reviews all projects associated with achievement of energy and carbon reduction goals. In 2021, we discovered 21,500 violations in our Chinese Campuses, reduced power wastage by 7,800 MWh, and decreased expenditures by 21 million NTD.

Energy-Saving Incentive Mechanisms

To enhance employee emphasis on climate change and internalize relevant concepts into the core cultures of each department, we formulated annual "Appraisal Items and Scoring Guidelines for Energy Management" for use in our Chinese Campuses. Appraisal items include energy management, energy reduction systems, implementation of energy-saving measures, supervision of energy reduction measures, and energy-saving KPIs. Detailed quantitative scores are presented for each item, and those ranking within the top three for the quarter/year or remaining units that obtained high scores are awarded bonuses and incentives. We provide team and individual cash rewards for outstanding energy-saving technological transformation projects that enhance energy efficiency. In 2021, we awarded 1.57 million NTD to 5 teams and 5 individuals with outstanding energy-saving contributions.

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Development and Usage of Clean Energy

Clean energy has become one of the most important international issues, and governments from all countries have formulated clean energy usage targets to reduce usage of high-pollution fuels while making strides toward low-carbon energy structures. As a leader in the electronics industry, the Group has a duty to promote low-carbon developments. Therefore, the Group is actively increasing installation capacity by installing and purchasing rooftop and ground-mounted solar stations, while also directly purchasing other clean energies. In 2021, our Chinese Campuses achieved a total installed capacity of 260.20 MW and generated 296.6083 million kWh per year. Our usage of clean energies reached 483.8791 million kWh, equivalent to 1,741,113 GJ, achieving a clean energy usage ratio of 5.17%.

Clean energy usage for 2019-2021				
	Unit	2019	2020	2021
Total installed capacity of clean energies	MW	224	257	260
Generated power	10,000 kWh	25,202	28,497	29,661
Direct purchases of clean energies at Chinese Campuses	10,000 kWh	-	553	3,627
Direct purchases of clean energies at overseas Campuses	10,000 kWh	-	507	15,100
Purchased clean energy environmental attributes	10,000 kWh	70,000	75,300	-
Total clean energy usage	10,000 kWh	95,202	104,856	48,388
Proportion of clean energy usage	%	9.93%	12.45%	5.17%

Environmental Management System

We have given priority to environmental protection principles since our establishment. The Group has implemented and completed verification of ISO 14001 Environmental Management Systems at all Campuses starting from the construction phases, and we also use the "Plan, Do, Check, and Action (P-D-C-A) model" to promote continuous improvements. We confirmed environmental considerations arising from our production processes, activities, and services; assessed all environmental considerations and their impacts on the environment; and compared their severity and other factors through comprehensive evaluations to ensure prior identification of major potential factors, then formulated improved measures and operating processes that reduced and prevented the impacts from these factors. Additionally, we simultaneously operate environmental treatment facilities and campus production processes to ensure that our wastewater, exhaust emissions, and waste materials comply with local regulatory requirements. We incurred no major environmental protection violations in 2021.

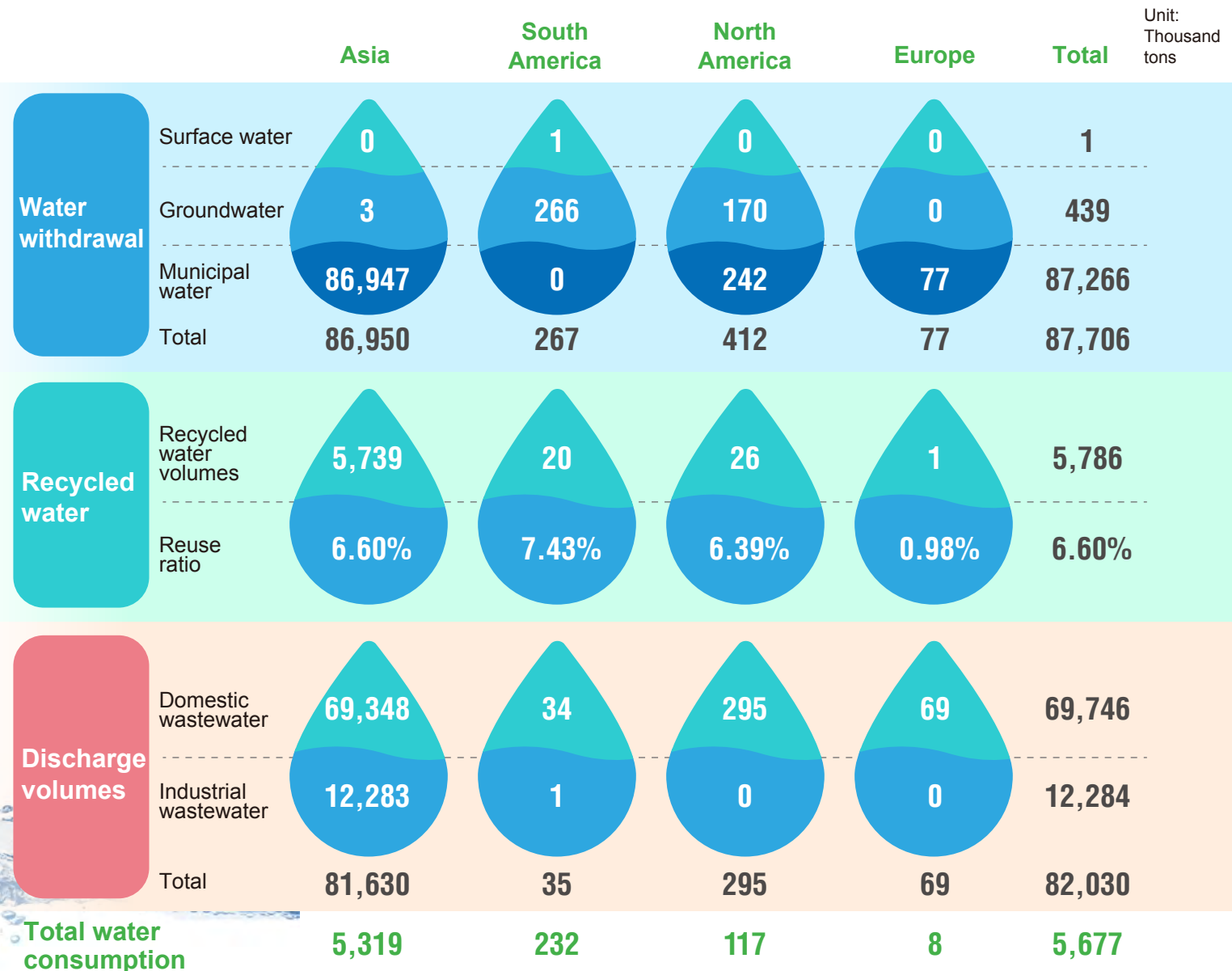### Incorporation of VOC work condition monitoring system in Tianjin Campus

The VOC work condition monitoring system collects real-time electricity usage data from pollution-generation and pollution-prevention equipment, then assesses whether our environmental protection facilities are operating normally according to voltage and current information. Remote monitoring is enabled through mobile apps, and the system provides automatic warnings/notifications when abnormalities occur. Timely discovery and handling of problems help to prevent risks of environmental penalties from abnormal equipment operations and ensure stable and standardized discharge of pollutants.

To realize our low-carbon and green manufacturing targets, we gradually implemented green campus and green supply chain management measures into our operational locations in accordance with green manufacturing standards in China. We conducted self-evaluations to facilitate continued optimization and improvement. Following on-site evaluations by third-party institutes and government evaluations, 24 of our legal entities have obtained the honorary title of "National Green Campus" and 2 legal entities obtained the honorary title of "National Green Supply Chain Management Corporation."

Water Resource Management

Municipal water is the main water source used in all our Campuses. We do not impact surrounding water sources. Our Campuses conduct reviews of water-saving plans and water facilities each year to reduce water consumption. Additionally, we actively promote recycling and reuse of water resources, and have incorporated renewable/biodegradable components into our production materials to effectively reduce environmental impacts of production processes.

We carried out comprehensive water management plans at our Campuses in China in 2021. Following identification of water resource risks, we began promoting various water-saving measures and reducing discharge of standard wastewater to achieve our goals relating to effective usage of water resources, reduced wastewater discharge, and decreased environmental impacts.

Unit: Thousand tons

|		Asia	South America	North America	Europe	Total
Water withdrawal	Surface water	0	1	0	0	1
	Groundwater	3	266	170	0	439
	Municipal water	86,947	0	242	77	87,266
	Total	86,950	267	412	77	87,706
Recycled water	Recycled water volumes	5,739	20	26	1	5,786
	Reuse ratio	6.60%	7.43%	6.39%	0.98%	6.60%
Discharge volumes	Domestic wastewater	69,348	34	295	69	69,746
	Industrial wastewater	12,283	1	0	0	12,284
	Total	81,630	35	295	69	82,030
Total water consumption		5,319	232	117	8	5,677

Notes: 1. We began including our Campuses in Mexico in our figures for South America starting in 2021.
2. Domestic wastewater volumes for some Campuses were estimated to be 0.8 times total water withdrawal volumes

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Wastewater Management

The Group works to optimize production processes to reduce water consumption at the source. We also actively implement wastewater recycling procedures and reuse treated domestic wastewater in production processes and environmental greening, greatly reducing our impact on external environments. Additionally, to ensure that our wastewater does not cause environmental pollution, all Campuses have wastewater treatment facilities that are regularly inspected and maintained by dedicated personnel. Discharged wastewater complies with sewage standards and is periodically inspected by qualified external institutes. No environmental pollution incidents occurred in 2021.

Water Reuse System
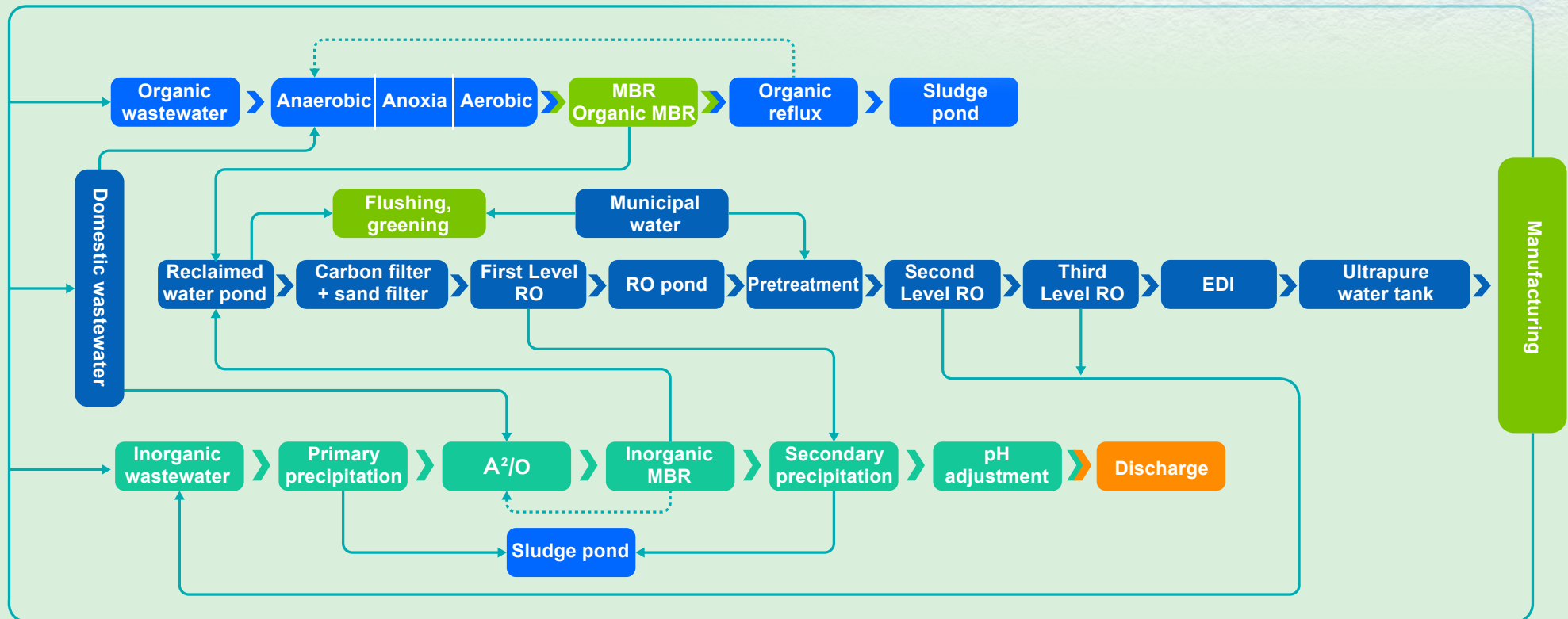
Waste Management

Since the industrial age, large amounts of solid waste have been generated due to the needs of manufacturing processes and private individuals. Waste that is not properly disposed of can enter the soil, water sources, and the air; cause pollution to the environment; and produce large amounts of waste that take a long time to decompose, affecting future generations. Waste has become an environmental issue of increasing importance. Because of this, the Group has implemented "zero waste" policies at all key Campuses in China to gradually reduce amounts of incinerated and landfill waste, ensuring compliance with maximum limits of 100% waste conversion rates and 10% incineration rates. Our "zero waste" policies have become one of our most important strategies. These policies minimize generated waste through source reduction of raw materials; we are also actively engaged in recycling and reuse of inner and outer packaging materials which enhance waste recycling and reuse rates.

To ensure that all waste is legally and effectively disposed of, all Campuses comply with internal waste management procedures to secure bids for waste handling. The legal qualifications of waste disposal companies are reviewed according to open, fair, and impartial principles. We use the above procedures to screen and select waste management vendors with the lowest level of risk to conduct appropriate waste disposal and record-keeping. The Group periodically audits waste disposal vendors to ensure that our waste is handled in compliance with regulatory requirements. All waste managed by external vendors are disposed of using legal processes

Unit: tons

	Asia	South America	North America	Europe	Total
Domestic waste	72,431	202	5,353	266	78,253
General industrial waste	433,463	965	19,271	16,377	470,075
Hazardous industrial waste	444,828	38	8,529	49	453,443
Subtotal	950,722	1,205	33,153	16,692	1,001,771

Zero Waste Campuses

"Circular economy" is a key strategy in the Group's promotion of sustainable development and enhancement of resource usage efficiency. Our core goal is to build zero waste Campuses that implement "zero landfill" policies. We have signed memorandums of cooperation with UL international verification institutes and aim to build "Zero Waste Pilot Campuses" through incorporation of Turbo Waste management systems, digital management of waste using cloud technologies, and quantitative systems that enable waste reduction. Apart from tracking improvements, we have also extended these policies throughout the entire corporation to achieve our goal of building "Zero Waste Campuses," building upon our philosophy of "Sustainable Management=EPS+ESG" and setting an example for the industry.

To ensure that our products and the products of our clients meet the highest environmental specifications, we have included our supplier partners in this memorandum of cooperation. Our central procurement and supply chain management departments have already convened suppliers for systematic training based on the framework laid out in this memorandum of cooperation to enhance their professional skills and technologies.

We have incorporated the Turbo Waste system into our Longhua and Yantai Campuses for accurate tracking of waste processes and volumes. System response rates were 100%. Our Longhua Campus has been recognized as a "Model Eco-Park" by the Shenzhen Zero-Waste City Association and has obtained UL 2799 Gold-Level Certification, becoming the world's first comprehensive eco-park. In 2021, our Hengyang and Kunshan Campuses received the highest Platinum-Level UL 2799 Zero Waste to Landfill Operations Certification.

Model Eco-Park
Longhua campus

UL 2799 Gold-Level Certification
Longhua campus

UL 2799 Platinum-Level Certification
Hengyang and Kunshan campuses

Chemicals Management

The Group stays informed of global chemical safety issues, adheres to or exceeds domestic chemical laws and standards, adopts rigorous chemical control measures, strengthens awareness and responsibilities of chemical safety in our employees and chemical suppliers, and actively works to build a green, safe, healthy workplace environment to prevent occupational injuries and diseases, ensuring employee and supplier safety and health as part of our progress toward a sustainable future and realization of sustainable management.

The Group referenced key international regulations, client needs, and environmental protection trends when establishing specific management regulations for effective management of hazardous substances. We also considered differences in standards/regulations of different countries when listing controlled hazardous substances (including prohibited substances, restricted substances, and controlled substances) for the Group.

Goals

Zero use of prohibited substances, limited use of restricted substances, and minimized use of controlled substances.

Chemical Management Policies
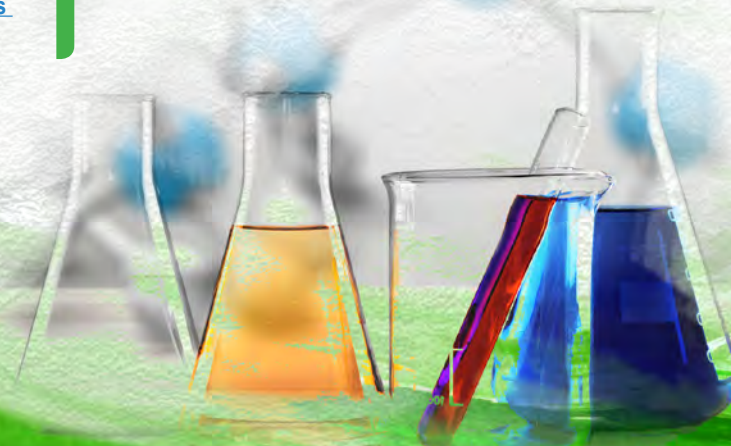
Key regulations

We referenced 19 regulations, including EU Restriction of Hazardous Substances in Electrical and Electronic Equipment Directive (RoHS); EU Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH); POPs Regulation; Toxic Substances Control Act (TSCA); List of Priority Chemicals; and China Blue Sky War VOC standards.

After assessing regulatory policies and determining feasibility of economic technologies, we adopted risk control measures to minimize impacts on human health and the environment from production and use of hazardous substances. The Group encourages all units to implement technological innovations that replace or reduce use of controlled substances. Following statistical analyses, the Group actively replaced 44 tons of controlled substances, including methylene chloride (CAS RN: 75-09-2), naphthalene (CAS RN: 91-20-3), methylpyrrolidone (CAS RN: 111-96-6), diethylene glycol dimethyl ether (CAS RN: 972-50-4).

To prevent employee health hazards and environmental pollution from use of hazardous chemicals/substances, we work to eliminate hazardous chemicals from the Group, and have formulated the "Group Chemicals/Substances Management Regulation" which encompasses use of substances from procurement to production processes and waste disposal through PDCA cycles for continued replacement and reduction of hazardous substances. The Group added five prohibited substances in 2020, namely HBCDD, PCP, carbitol acetate, toluene, and xylene (in ink), and reduced usage of prohibited substances to zero in 2021 through procurement bans and formulation changes.

Apart from replacing hazardous substances in accordance with client needs, we also responded to executive strategic plans by compiling information on Group substances that could cause occupational health hazards and environmental hazards, working to eliminate, replace, reduce, or improve usage to minimize use of hazardous substances, thereby enhancing the Group's chemical management as we work to build a green enterprise.

Foreword

Corporate
Governance,
Smart
Innovation

Diverse
Inclusiveness,
Employee
Satisfaction

Healthy
Workplace,
Safety
Adherence

Business
Sustainability,
Beneficial
Partners

Green
Solutions,
Circular
Economy

Social
Contribution,
Win-Win
Strategy

Appendix

Control at the Source: Selection of Green Chemicals

The Group previously collaborated with clients to disclose safety information of Final Assembly Test & Pack (FATP) process chemicals and replace these with green chemicals. Starting from the end of 2020, we began collecting information on process detergents, degreasing agents, and SDS certifications from our component vendors to conduct evaluations based on GreenScreen® and the US EPA Safer Choice Program for selection of eco-friendly chemicals to use in our production lines.

Collaborate with Clients to Promote Green Chemicals

In April 2021, the Group collaborated with clients to launch a green chemical promotion project which aimed to increase transparency of disclosed chemical safety information, safe chemical usage, and safer alternatives (green detergents) as part of our gradual transformation to a green and sustainable enterprise.

Project implementations

Disclosures of chemical safety information
- SDS (Safety Data Sheet)
- Third-party component testing report
- Chemical information form

Assessment
- GreenScreen method
- US EPA Safer Choice Program

Green chemical alternatives
- Selection of safer detergents
- Process incorporation
- Usage confirmation

Expected results and future goals

Establishment of green detergent list
Collect complete detergent information
Assess and select safe detergents

Source management (intrinsic safety)
Incorporate green detergents in production processes
Reduce environmental and labor hazards

Promotion of machinery and component testing results
Sharing of detergent assessments
Implementation in similar processes across campuses

2022 ESG Report and ESG press releases

GreenScreen® Evaluation Methodology

18 indicators

Human Health Group 1
- Carcinogenicity
- Mutagenicity & Genotoxicity
- Reproductive Toxicity
- Developmental Toxicity
- Endocrine Activity

Human Health Group 2
- Acute Mammalian Toxicity
- Systemic Toxicity & Organ Effects
- Neurotoxicity
- Sensitization
- Respiratory Sensitization
- Skin Irritation
- Eye Irritation

Environmental Health
- Acute Aquatic Toxicity
- Chronic Aquatic Toxicity
- Persistence
- Bioaccumulation

Physical Hazards
- Reactivity
- Flammability

4 Levels

Benchmark 4	Prefer-Safer Chemical	Preferred use
Benchmark 3	Use but Still Opportunity for Improvement	
Benchmark 2	Use but Search for Safer Substitutes	Replace
Benchmark 1	Avoid-Chemical High Concern	

Regulations for Management of Hazardous Chemicals

Procurement Stage

Procure from enterprises which have obtained certifications for production of hazardous chemicals or licenses for hazardous chemical businesses; obtain technical safety manuals and safety labels when procuring hazardous chemicals; and regularly check that procured chemicals adhere to the scope of the aforementioned documents.

Key review items for supplier chemicals:

a. Conduct hazard assessments based on SDS information;

b. Evaluate content of prohibited, restricted, and controlled substances in chemicals according to the "Group Chemicals/Substances Management Regulation";

c. Evaluate VOC content in chemicals based on chemical classifications and national standards;

d. Conduct reviews based on specific requests from important clients.

Transportation Stage

Management of supplier transportation safety:

Drivers and escort personnel are required to obtain qualifications and certifications related to transportation of hazardous cargo issued by transportation authorities; special trucks should be used for cargo transportation and must be accompanied by escort personnel familiar with chemical properties and safety measures. Trucks must also be equipped with necessary safety anti-static and fire-resistant devices.

Management of in-campus transportation safety:

Special transportation vehicles equipped with safety facilities should be used for in-campus transportation, and corresponding firefighting equipment and labor protection items should be provided. Loading and unloading personnel and transportation personnel should receive professional training to help them understand corresponding safety knowledge and emergency responses, and all personnel should obtain qualifications before commencing work.

Storage Stage

Separate, classify, and partition storage based on chemical properties. Specific storage safety measures are as follows: Warehouses with explosion hazards are equipped with pressure reduction facilities; ground surfaces for locations with flammable and explosive substances are made from non-flammable and anti-static materials; warehouses are equipped with anti-leakage troughs; storage locations are equipped with ventilation and temperature control facilities; corresponding firefighting facilities and equipment have been installed; explosion-proof devices have been installed on electrical facilities in warehouses.

Use Stage

Substances in use are stored in specific temporary warehouses; small quantities are stored in dedicated storage cabinets and routine inspection systems have been established; our dedicated storage cabinets strictly observe daily inspection records; full safety assessments must be carried out when using or replacing chemicals with uncertain hazard properties.

Regulations for Management of Hazardous Chemicals

Disposal Stage

Development of chemical suppliers should consider supplier recycling and reuse capabilities for waste hazardous chemicals; all units are required to record and archive waste storage, flow, and handling; commission vendors with waste handling capabilities for waste disposal.

Specific case

Dye powders are used in essential surface dyeing and processing procedures in anode manufacturing. The chemicals contained in these powders pose a hazard to humans and the environment, especially during the weighing, mixing, and addition processes when the powders may scatter, increasing risks of personnel inhalation and exposure. Therefore, it is necessary to regulate safety controls for dye powders. The Group formulated the "Safety Regulations for Dye Powders Used in Anode Production" to protect personnel involved in dyeing, cleaning, and maintenance operations.

Specific safety measures are as follows:

Risk assessments must be carried out before units can commence use of dye powders. We collected comprehensive SDS (safety data sheets), TDS (technical data sheets), and substance testing reports on dye powders; implemented measures for dye storage, processing, mixing, disposal, and risk management; provided employee operational manuals and training; and established risk exposure assessment forms in accordance with regulations.

During production processes, operating personnel are required to undergo training that encompasses theory and practice, obtain qualifications before commencing work, and use necessary personal protection equipment when handling dyes. All units have procured ventilated cabinets for weighing and mixing of powders in accordance with corporate requirements. We also invite professional institutes to conduct ventilation assessments and hazardous substances tests for operating environments with higher risks of personnel exposure.

Chemical Usage

To ensure effective control of hazardous substances, the Group has compiled and collected information on chemicals used in all Campuses for production, non-production, and laboratory processes, and compared these with our lists of prohibited, restricted, and controlled substances to identify hazardous substances. In 2021, we used a total of 138,000 tons of hazardous substances, including 102,000 tons of chemicals used in production processes, 36,000 tons used in non-production processes, and 22 tons used in laboratory processes. According to our inventory and analysis results, the main reasons for increased usage compared with the previous year were:

1. Addition of chemical data for non-production processes such as wastewater processing

2. Increased production line capacity, which raised usage of chemicals such as cutting fluids in CNC processes and acidic chemicals in anode electroplating processes

3. Addition of data on non-hazardous chemicals such as those used in powder coating processes

4. Expanded scope of statistical analysis from our Chinese Campuses to all our Campuses around the world

Various regions in China have issued multiple VOC usage standards in response to the Blue Sky War initiative for environmental protection. The Group adhered to the requirements and standards of local governments and inventoried 2,719 tons of chemicals (including inks, industrial coating materials, and detergents). We have improved all 25.4 tons of chemicals exceeding national standard limits in accordance with the ranges set out in the aforementioned regulations. The Group also collaborates with local governments to formulate standards and provided on-site experiences and suggestions associated with limited use of VOCs and specific hazardous substances used in detergents for microelectronics and electronic assembly processes. We also reviewed our own manufacturing processes, assessed usage of water-based or low-VOC solvents, and adopted closed, continuous, and automated production technologies and high-performance equipment to reduce chemical dispersion and discharge during production processes.

Personnel Cultivation and Corporate Culture

To strengthen employee and contractor understanding of chemicals, the Group continues to invest in chemical safety training for our employees and contractors. We also organize at least two annual chemical emergency drills each year as well as training on personal protective equipment for on-site vendors and contractors with chemical exposure risks. In 2021, we organized 398 employee training sessions attended by 58,940 trainees.

Additionally, we encourage all units to actively replace/reduce use of hazardous substances and enhance management of hazardous substances, and we have established incentive and assessment mechanisms based on professional, technical, and promotional indicators.

Optimization and Improvement Cases

1. **The anti-adhesive used during plastic extrusion processes contained octamethylcyclotetrasiloxane (CAS RN: 556-67-20), which is classified as a SVHC (Substance of Very High Concern) by EU REACH. This substance is mainly used for ring-opening polymerization of silicone oils with differing polymerization properties, but causes harmful effects on aquatic environments and can potentially impair reproductive capabilities. Relevant units initiated a replacement plan and actively worked with material suppliers, clients, and equipment units to review, verify, and test manufacturing processes. Our new silicone oils no longer contain hazardous substances; all replacements were completed in May 2021 and the new materials are now being used for production.**

2. **The disinfectant used during water purification processes contained PCP (CAS RN: 87-86-5), a substance which is listed as a persistent organic pollutant under the POPs Regulation. This substance is mainly used for sterilization due to its strong anti-bacterial properties. PCP was listed as a Class I carcinogen in the "Preliminary List of Carcinogens" released by the World Health Organization International Agency for Research on Cancer. Relevant units therefore initiated a plan to replace this disinfectant for reduction of aquatic environment hazards. All replacements were completed in January 2021.**

3. **The ink used during assembly processes contained toluene (CAS RN: 108-88-3) and xylene (CAS RN: 1330-20-7), According to "GB 38507-2020 Limits of volatile organic compounds (VOCs) in printing ink," some organic compounds may cause greater harm and impacts to humans and the environment, and therefore the aforementioned two substances should not be included in ink production processes. Relevant units worked to find alternatives following discussions with our clients, suppliers, and associated units. Our new production process was verified and officially launched in August 2021. The new PY series inks contain no hazardous substances.**

To reduce and prevent waste and pollution at the source and during production processes, the Group has adopted the "12 Principles of Green Chemistry" to decrease or eliminate hazards to human health and the environment caused by chemicals, and to reduce costs associated with chemicals generated during production and waste disposal. We strive to realize "health-friendly, eco-friendly, and economically friendly" concepts. The Group has released policy documentation on the "Requirements for Dissemination and Promotion of the 12 Principles of Green Chemistry" and requires all units and suppliers involved in chemical production, usage, procurement, and exposure to facilitate organizational training related to the "12 Principles of Green Chemistry" and implement widespread dissemination. These principles should also be adopted during process design and development stages. A total of 375,400 people participated in training, and 2,839 posters were displayed.

Chemical management exchange meeting

Community promotion

Lead the Industry in Promoting Chemical Safety

The Group actively collaborates with external organizations, for example assisting the IPC in formulating detergent regulations for the electronics industry (IPC-1402, scheduled for release mid-2022), representing an important step forward for sustainable electronics manufacturing, protection of worker safety, and reduction of environmental impacts. We also assisted international organization ChemFORWARD in formulating electronics industry detergent standards by collecting relevant health and safety data to build a shared platform for disclosures of green detergents, encouraging our upstream and downstream value chain partners to reduce environmental impacts from chemicals.