

## 2025 White Paper on Climate Action

Wuxi Lead Intelligent Equipment Co., Ltd.



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## **About This Report**

Overview	Welcome to the 2025 <i>White Paper on Climate Action</i> (hereinafter referred to as the report) of Wuxi Lead Intelligent Equipment Co., Ltd. (hereinafter referred to as LEAD, the company, or we). This report reflects the strategy and measures of LEAD and its subsidiaries in addressing climate change, including the identification of climate-related risks and opportunities, the governance structure of climate issues, and green solutions, to demonstrate our commitment to sustainable development.
Basis of the report	This report references the <i>Self-Regulatory Guidelines No. 17 for Companies Listed on Shenzhen Stock Exchange-Sustainability Report (For Trial Implementation)</i> , and IFRS S2 <i>Climate-related Disclosure</i> issued by the International Sustainability Standards Board (ISSB), combined with the framework developed by the Task Force on Climate-related Financial Disclosure (TCFD), to state LEAD's management and achievements on climate-related risks and opportunities from four aspects: governance, strategy, impact, risk and opportunity management, and metrics and targets.
Scope of the report	This report covers LEAD and its subsidiaries and branches.
Data source and explanation	The data and cases of the report are mainly from the statistics and related publications of the company. We promise that this report contains no false records or misleading statements, and we are responsible for the truthfulness, accuracy, and completeness of its important content.
Forward-looking statement	All the events that may or will occur in the future stated in this report, including but not limited to assumptions, greenhouse gas (GHG) emission targets, climate change risk assessment levels, action plans, etc., belong to the category of forward-looking statements. Forward-looking statements entail inherent risks and uncertainties, as numerous factors may cause actual results to differ from what is described in any forward-looking statement. In this report, the forward-looking statements involved are based solely on the information available during the compilation process for assumptions, estimations, and projections. LEAD is not obligated or responsible for updating and modifying the aforementioned forward-looking statements.
Obtain and respond to this report	This report is published in simplified Chinese and English. In case of any discrepancy, the simplified Chinese version shall prevail. The report is available on the LEAD official website www. leadintelligent.com. You can also contact esg@leadintelligent.com for the electronic version and to provide your opinions and suggestions.

## **Chairman Message**



In an era of escalating global climate challenges and a universal consensus on sustainability, LEAD, as a world's leading new energy intelligent equipment manufacturer, is acutely aware of its responsibility and mission in driving the green transition. We have fully integrated climate action into our corporate sustainability strategy, embedding sustainable principles into every aspect of our operations. Committed to leveraging technological innovation as our engine and lowcarbon practices as our pathway, we strive to contribute "LEAD Wisdom" and "LEAD Power" to global carbon neutrality goals.

Chairman

主意法

Facing the dual tests of climate crisis and the low-carbon industrial revolution, we have proactively adopted the TCFD framework to establish a robust system for addressing climate-related risks and opportunities. With forward-looking planning, we aim to turn challenges into catalysts for transformation, strengthening our foundation through green and clean production while reshaping long-term corporate value with strategic vision.

Action speaks louder than words in low-carbon development, and measurable progress is our yardstick. On behalf of LEAD, I hereby solemnly pledge that our core operations (Scope 1 and 2 emissions) will peak carbon emissions by 2030 and achieve carbon neutrality by 2035, making us the first enterprise in China's new energy intelligent equipment sector to announce a clear carbon neutrality timeline. Behind this pioneering commitment lies our unwavering dedication to technological innovation, management optimization, and industrial collaboration. We have systematically disclosed annual Scope 1, 2, and 3 emissions data along with carbon footprints of multiple core products, while implementing comprehensive emission reduction initiatives and responsible carbon offset actions to steadily advance toward our goals.

Innovation is the core driver of green development. LEAD adheres to a strategic framework of "Green Industry, Green Products, Green Operations", infusing sustainability into every facet of R&D and industrial practice. Through cutting-edge technologies such as dry electrode, formation and grading integrated machine, cell capacity prediction, and Artificial Intelligence (AI)-enabled solutions, we minimize carbon footprints right from the product design stage. We not only provide efficient and intelligent manufacturing solutions for global lithium-ion battery, photovoltaic, hydrogen energy, and energy storage industries but also collaborate with clients to generate substantial carbon reduction benefits, steering the sector toward deeper low-carbon transformation.

In green operations, LEAD stands as both a pioneer and exemplar. After being honored as a "Green Factory of Jiangsu Province" in 2023, we have intensified energy-saving and emission-reduction practices, successfully establishing our first ISO 14068-certified "Carbon Neutral Factory" by 2025. Meanwhile, our plant in Naila, Germany has taken the lead in the company to achieve 100% renewable energy supply, showcasing LEAD's resolute commitment and outstanding progress in international green manufacturing.

Looking ahead, LEAD will continue to deepen low-carbon practices across the entire value chain, partnering with upstream and downstream stakeholders to build a thriving green ecosystem. We firmly believe sustainability is not a constraint but a strategic opportunity for high-quality transformation and value leapfrogging. With an open mind toward change, cutting-edge technologies empowering industries, and pragmatic actions fulfilling commitments, LEAD will dedicate its full strength to realizing dual-carbon goals and co-creating a sustainable future for humanity.

## **Climate Action Highlights**

#### Climate risk identification and response

Established a three-tier climate governance framework led by the Board of Directors, with the Environmental, Social and Governance (ESG) Management Committee at the core and the ESG Office as the executing body. Established a mechanism to link climate with remuneration, incorporating climate changerelated metrics into the employee performance evaluation system. Systematically identified climate risks and opportunities based on climate scenario analysis combined with the actual situation of the company, and carried out climate risk management.



#### **Climate action targets**

Committed to achieving carbon peaking by 2030 and carbon neutrality by 2035 at core operations in Scope 1 and 2.

Continue to promote Scope 3 emissions reduction throughout the value chain, and disclose carbon goal progress regularly.

### **Climate action practices**

Conduct GHG emissions accounting and verification according to international standards such as ISO 14064 and GHG Protocol, and proactively disclose our climate metrics, performance, and climate management situation in the ESG report annually.

Calculate carbon footprints of our representative products according to international standards such as ISO 14067 and PAS 2050.

#### **Green** solutions

Developed green low-carbon technologies, such as dry electrode, new formation & grading solution, and cell capacity AI prediction, to create low-carbon value for customers.

Assisted our clients to build the world's first automated hydrogen electrolyzer factory, enabling over 2 gigawatts (GW) of proton exchange membrane (PEM) electrolyzers production per year to accelerate global clean energy adoption. xpanded into the green innovation ontier of solid-state batteries nd achieved breakthroughs in ore technologies such as dry lectrode and ultrathin electrolyte nembrane production to accelerate ne industrialization of solid-state atteries



## **About LEAD**

### Overview

Established in 2002, Wuxi Lead Intelligent Equipment Co., Ltd. was listed on the ChiNext market of the Shenzhen Stock Exchange in 2015 with stock code 300450. The Company has grown into the world's leading new energy intelligent equipment manufacturer, covering intelligent Li-ion battery equipment, intelligent photovoltaic equipment, intelligent 3C equipment, intelligent logistics, automobile production line, intelligent hydrogen equipment, laser precision machining and other fields.

LEAD is committed to providing customers with one-stop overall solutions from consultation, design, manufacturing, installation, commissioning, training and subsequent upgrades, and continuously improving the customer experience.



### Sustainable development strategy

LEAD takes "Promoting Global Green Energy Transition Through Intelligent Manufacturing" as the core of its sustainable development strategy, establishes five ESG value creation and risk management modules, namely, "creating value for customers", "seeking wellbeing for employees", "achieving mutual benefits for partners", "driving transformation for society", and "paving the way for a long-lasting future".



As a member of the United Nations Global Compact (UNGC), LEAD supports the UNGC's ten principles in the areas of human rights, labor, environment and anti-corruption, and contributes to the global sustainable development process.

## Sustainability awards and recognition



Title	Issuing authority	
Green Factory of Jiangsu Province	Industry and Information Technology Department of Jiangsu	
Leading Green Development Enterprise	Department of Ecology and Environment of Jiangsu Province, Jiangsu Federation of Industry and Commerce	
Information Disclosure Evaluation Result A of ChiNext Listed Companies in 2023-2024	Shenzhen Stock Exchange	
Forbes China Top 50 Sustainable Industrial Enterprises	Forbes China	
ESG Innovation Award of Guancha 2024 ESG Exemplary Enterprise	Guancha Net	
Green Supply Chain Management Award of the 2nd China Corporate Carbon Neutrality Performance Ranking	Yicai	
2024 Top 30 Best Employers in China	Zhilian Recruitment	
2025 Wuxi Listed Companies ESG Philanthropy Innovation Cases	Wuxi Charity Federation, Wuxi Listed Companies Association	

## **Responses to Climate Change**

With increasingly severe climate change, global warming and frequent extreme weather have become a growing global concern. LEAD has been taking action to lead the industry towards a more environmentally friendly and sustainable direction. We have increased R&D investment to promote the innovation and application of green and low-carbon technologies and optimize energy efficiency, with the aim of contributing our wisdom and strength to global carbon neutrality.

## Governance

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LEAD has continuously deepened the implementation of climate governance, proactively addressing climate change and responding to the dual-carbon goal. We have established a climate management framework led by the Board of Directors, with the ESG Management Committee at the core and the ESG Office as the executing body, to put into practice climate management in a scientific and systematic top-down manner. The Board of Directors, as the highest authority for climate change initiatives, is responsible for assessing, reviewing, and determining risk response solutions for significant climate change risks. The ESG Management Committee is chaired by the Chairman, with heads of each department serving as committee members who are responsible for guiding, supervising, managing, making decisions on the company's ESG and climate change initiatives, and reporting the progress and achievements of ESG and climate work to the Board on a quarterly basis. The ESG Office, following the guidance of the ESG Management Committee, leads functional departments in advancing climate initiatives.

LEAD has regularly invited third-party experts to conduct ESG strategy and practice training for executives, and continuously sought external professional support through expert think tanks and partners. At the same time, we organize annual sustainability-themed learning months, both online and offline, to disseminate professional knowledge of ESG, carbon neutrality, and energy management to all employees.

LEAD recognizes the significance of professional talents in enhancing our climate governance capabilities. Therefore, careful consideration was given to the qualifications of relevant personnel, with a preference for individuals with expertise in environmental and energy fields, during the establishment of the ESG Management Committee and ESG Office to guide the company's environmental and climate management efforts. Our climate-related departments are staffed with professionals who have backgrounds in environment and energy to continuously keep up with the latest knowledge of dual carbon policies, climate change trends, and other related updates.

Board of Directors	Assess, review, and determine risk response solutions for significant climate change risks.
ESG Management Committee	Monitor climate risks and opportunities, coordinate climate risk management-related work, report the progress and achievements of climate work to the Board on a quarterly basis, and conduct climate assessment, ensuring the orderly progress of climate work.
ESG Office	Identify key climate work, develop work plans, and lead functional departments in promoting climate work. Report work progress to the ESG Management Committee on a quarterly basis to support climate decision- making.
Functional departments	Implement climate-related work guided by the ESG Office and report to the ESG Office on a regular basis.

The company has established a mechanism to link climate with remuneration, incorporating climate change-related metrics into the performance evaluation system of employees at different levels, so as to build an atmosphere in which all employees participate in energy saving and efficiency improving.

Incentive object	Incentive type	Indicator	Incentive description
Senior management	Compensation reward	Energy conservation and emission reduction	The company incorporates energy conservation and emission reduction, and cost reduction and efficiency improvement into the
		Cost reduction and efficiency improvement	performance appraisal system of senior management and links them with their salaries.
All employees	Compensation reward Non-compensation reward	Energy conservation and emission reduction Cost reduction and efficiency improvement	The company encourages all employees to offer advices and suggestions on sustainable development. After the suggestion put forward through the company's internal process is adopted and rated, the employee will receive corresponding cash rewards and honorary rewards.

## Strategy

LEAD actively identifies, analyzes and manages risks and opportunities related to climate change, formulates climate-related work plans and targets, and reports information to the Board of Directors through regular and ad hoc meetings.

The company has identified physical risks and transition risks based on climate scenario analysis, helping us to manage climate risks more effectively. For our assessment, we have selected the Shared Socioeconomic Pathways (SSPs) framework developed by the Intergovernmental Panel on Climate Change (IPCC)–specifically SSP 1-2.6<sup>1</sup>, SSP 2-4.5<sup>2</sup>, and SSP 5-8.5<sup>3</sup> as the physical risks analysis scenarios, assessing the possibilities of climate risks across short-term (0-5 years), medium-term (5-10 years), and long-term (over 10 years) timeframes. For each climate risk, we have developed corresponding measures to comprehensively enhance our ability to respond to risks. At the same time, we take into account the industry opportunities brought by climate change, and lay a solid foundation for sustainable development of the company through technological optimization and green transition.

- <sup>1</sup> SSP1-2.6: Global GHG emissions peak before 2025 and then rapidly decline, reaching net zero after 2050. Under this scenario, the global average temperature rises by less than 2°C above pre-industrial levels.
- <sup>2</sup> SSP2-4.5: Global GHG emissions peak by mid-century and then slowly decline. Under this scenario, global temperatures rise by 2°C to 3°C above preindustrial levels.
- <sup>3</sup> SSP5-8.5: Global GHG emissions continue to increase at the end of the century. Under this scenario, the global average temperature rises by more than 4°C above pre-industrial levels.



#### Physical risk

Physical risk				
Risks	Risk description	Financial impact	Timeframe	Countermeasures
Typhoon	Typhoons can cause significant damage to infrastructure, potentially affecting power and water facilities,	Increased management expenses	Medium term	<ul> <li>Stay vigilant about typhoon and meteorological information, categorize risk levels and damage warnings, and implement prompt emergency response mechanisms.</li> </ul>
	posing threats to human life and safety, disrupting traffic, and			• Inspect and reinforce factories, warehouses, and other buildings, as well as production equipment regularly.
	disrupting supply chains or other business activities in severe cases.			• Consider the potential impact of typhoons when constructing factory buildings. Use steel structures and wind-resistant metal panels for house construction, and use strong wind-resistant materials for the construction of warehouse roofs and walls, such as glass doors and windows with wind load resistance performance.
				• Transfer materials needed in workshops or use backup warehouses before extreme weather, to ensure the proper storage of materials.
Flood	Floods can cause the occurrence of farmland destruction, traffic disruption, factory damage, and	Increased management expenses	Medium term	• Equip warehouses with flood barriers, and check if electrical facilities (e.g. power distribution room) are located at a high level to prevent flood damage to equipment and materials.
	personnel safety threats.			<ul> <li>Equipped with flood prevention materials, e.g. sandbags, flood barriers, waterproof canvas (to cover materials), water pumps, emergency lighting equipment.</li> </ul>
				• Check the effectiveness of flood prevention materials regularly (e.g. whether water pumps can work properly, and whether sandbags are intact), as well as the water tightness of doors and windows (e.g. whether the drainage system leaks, and whether the window sealant ages).
				<ul> <li>Adopt a siphonic rainwater drainage system on the factory roofs, enhancing drainage capacity to rapidly remove rainwater from roofs and reduce the impact of flooding.</li> </ul>
				<ul> <li>Plan the transportation route in advance. Avoid waterlogged road sections as much as possible and allocate high ground clearance vehicles.</li> </ul>
Drought	Drought can impact corporate essential water needs. An increase in the severity of drought can lead to water and power interruptions, result in elevated water and energy prices, and disrupt company operations. In this case, the company needs to invest additional capital expenditures to maintain normal operations.	Increased operating costs	Medium to long term	<ul> <li>Drought has a fairly low impact on the company's operations as water for production purposes is not involved currently.</li> </ul>
				<ul> <li>Proactively carry out rainwater reuse projects, such as recycling rainwater for irrigation.</li> </ul>
				• Equip each factory area with emergency water tanks to provide backup water sources.
Extreme heat	Extreme heat can affect corporate power and water utilization, undermining operation efficiency. It	Increased operating costs	Medium to long term	<ul> <li>Check infrastructure air tightness to ensure that qualified building air tightness offers adequate air conditioning and heat insulation indoors.</li> </ul>
	can also increase the probability of equipment failures, leading to higher operating costs.			<ul> <li>Use high-performance and high-heat-resistant materials when constructing new buildings, and optimize the thermal performance of building envelopes, reducing the impact of climate on building lifespan.</li> </ul>
				<ul> <li>Take scientific and effective measures to prevent heatstroke and relieve heat, such as by scheduling outdoor work to cooler daytime periods to avoid extreme heat, to ensure worker health and safety.</li> </ul>
Average temperature	Temperature rises can pose challenges to the performance of manufacturing equipment, HVAC systems, and other equipment, as well as cooling energy and water consumption. Additionally, buildings will face increased climate loads, resulting in adverse impacts on the occupational health and safety of outdoor workers.	Increased management expenses	Medium term	• Stay updated on the temperature trends at the operational sites and respond promptly.
rise				Adjust the working hours of employees reasonably to avoid working during extremely hot hours.
				<ul> <li>Provide employees with ample heatstroke prevention and cooling supplies.</li> </ul>
Sea level rise	Rising sea levels can submerge land and affect the production and	Increased operating costs	Medium to long term	• Evaluate historical climate data and prioritize areas at higher altitudes before plant construction.
	operations of businesses. At the same time, seawater intrusion will lead to freshwater scarcity in some regions, increasing the cost of water supply.			• Consider the risk of rising sea levels as one important factor in new factory site selection.
				<ul> <li>Keep up with regional sea level rise situations to make decisions in advance.</li> </ul>

Risks	Risk description	Financial impact	Timeframe	Countermeasures
Policy - Global green low-carbon transition	As the global green transition is accelerating, companies are in urgent need to integrate low- carbon strategies into their core development frameworks, increase R&D investment, drive technological innovation, optimize product efficiency, and adopt green operation modes so as to lead a new paradigm of sustainable development.	Increased operating costs Increased R&D expenses	Short to medium term	<ul> <li>Establish carbon neutrality strategic goals, develop efficient carbon neutrality action plans, and increase investment in green technologies to promote corporate green and low-carbon transition. This includes the development of a digital energy and carbon management platform, the upgrading of efficient equipment, the construction of buildings that meet local Green Building Design Standards and Green Building Evaluation Standards, electrification and clean energy application, as well as supply chain low-carbon transition.</li> <li>Keep up with the new energy policies and develop solar, hydrogen energy, and other clean energy equipment.</li> </ul>
Policy - Carbon pricing mechanisms	Global policies such as carbon taxes, carbon trading, and European Union's Carbon Border Adjustment Mechanism (CBAM) lead to increased costs, decreased competitiveness, and rising risks of carbon tariffs, requiring companies to accelerate low- carbon transformation to address challenges.	Increased operating costs Increased management expenses	Short to medium term	<ul> <li>Purchase green electricity and green electricity certificates to fulfill the low-carbon commitment, plan to further expand the scale of green electricity procurement in the future, and explore diverse measures such as carbon offsetting to reduce carbon tax costs.</li> <li>Conduct in-depth research on the CBAM, including its rules framework, accounting methods, and implementation impact, and develop carbon management strategies in advance to ensure compliance and enhance international competitiveness, facilitate the low-carbon transition, and reduce carbon tax costs for the company.</li> <li>Calculate the carbon footprint of three products according to ISO 14067, with two of them qualified for product carbon footprint verification, and perform precise tracing and transparent disclosure of lifecycle carbon emissions through automated monitoring and third-party verification to support low-carbon product certification and enhance international market competitiveness.</li> <li>Upgrade process equipment and implement an automated energy management system to enhance energy efficiency and reduce costs. Establish a low-carbon product system to address carbon tariffs.</li> </ul>
Policy - Disclosure of environmental and climate change information	Due to the increasingly stringent regulatory requirements for carbon emissions and energy consumption data disclosure, companies face compliance pressure and reputation risks, and need to timely monitor policy changes and improve data accounting and disclosure mechanisms.	Increased operating costs Increased management expenses	Short to medium term	<ul> <li>Enhance investment in carbon inventory, and establish internal data accounting, monitoring, and reporting capabilities. Conduct GHG emission inventory and verification according to international standards such as ISO 14064 and GHG Protocol.</li> <li>Enhance investment in product carbon footprint calculation, and establish internal data accounting, monitoring, and reporting capabilities. Strengthen product carbon footprint management ir accordance with international standards, such as ISO 14067 and PAS 2050, and expand the coverage of product carbon footprint to enhance the low-carbon competitiveness of products.</li> <li>Enhance internal environmental disclosure management processes, publish ESG reports annually, and disclose environmental performance and carbon neutrality goals to strengthen investor and public confidence.</li> </ul>

Transition risk				
Risks	Risk description	Financial impact	Timeframe	Countermeasures
Technology - Rapid transition to low-carbon technology	Rising costs and declining competitiveness may result from failure to timely invest in and apply low-carbon technologies and replace traditional high-emission technologies, or failure to complete technological transformation in collaboration with value-chain partners.	Increased operating costs Increased R&D expenses	Medium to long term	<ul> <li>Improve processes and equipment to reduce energy consumption, cut production costs, and enhance competitiveness.</li> <li>Incorporate an energy and carbon digital management platform to enhance the accuracy and transparency of collecting, monitoring, and reporting carbon emissions and energy consumption data, enabling digital low-carbon technology to empower operations and products.</li> <li>Utilize automation and intelligent technology to optimize the energy consumption management of production equipment and provide data support for energy-saving projects.</li> <li>Prioritize vendors with low carbon emissions to drive the supply chain towards green and low-carbon technological transformation.</li> </ul>
Market - Customer behavior changes	As customers have more demand for green products and low-carbon performance, enterprises may face decreasing competitiveness, customer loss, and reduced market share if they fail to adjust their products and services promptly.	Reduced operating revenue Increased operating costs Affected market expansion	Medium term	<ul> <li>Procure low-carbon and recyclable green materials for finished product packaging, and optimize the packaging design of key products to reduce packaging material consumption while ensuring secure delivery, so as to reduce product carbon footprints and minimize carbon emissions from packaging disposal for customers.</li> <li>Consider energy conservation and emission reduction in the product development and design phase to meet customer needs and reduce energy consumption and costs throughout the entire lifecycle.</li> <li>Provide battery manufacturing and recycling solutions for Li-ion battery customers to help improve resource recycling efficiency.</li> <li>Provide cradle-to-gate carbon footprint tracing services to help clients understand the carbon footprints of products and meet their needs for low-carbon performance.</li> </ul>
Market - Raw material costs rise	In the context of global low-carbon transition, companies are facing risks of increased production costs and intensified operational pressures due to rising clean energy costs, low-carbon raw materials shortage, and supply chain disruptions caused by their dependence on electricity and high- carbon raw materials such as steel and aluminum.	Increased operating costs Diminished market competitiveness	Medium to long term	<ul> <li>Prioritize large vendors with lower ESG risks to ensure the quality of raw materials and supply stability, reducing the risk of supply chain disruptions.</li> <li>Collaborate with suppliers to promote the use of low-carbon materials and green production, and incorporate environmental performance into the supplier assessment system to drive value-chain emission reduction.</li> <li>Replace metal materials with non-metal materials to depend less on high-carbon raw materials and cut production costs.</li> </ul>
Reputation - Challenge of industry and company reputation	Failure to effectively reduce environmental impact or lack of climate risk mitigation actions may result in decreased investor confidence, reduced valuation, and damaged reputation, which may further damage market competitiveness and long-term development.	Decreased market share Increased management expenses	Long term	<ul> <li>Develop and disclose the commitment and action plan for carbon neutrality to enhance transparency and credibility.</li> <li>Disclose the climate metrics, performance, and climate management progress annually.</li> </ul>

Opportunity				
Opportunities	Opportunity description	Financial impact	Timeframe	Countermeasures
Resource utilization - Improvement of resource utilization efficiency	Businesses can optimize resource utilization efficiency, reduce operating costs, and achieve green transition through digital management, and collaborate with value chain partners to enhance	Reduced operating costs Additional financial subsidies	Short, medium, and long term	<ul> <li>Introduce automated and intelligent technologies, such as an online monitoring system for substation equipment, a remote monitoring system for the compressed air stations, and a smart forklift management system, to optimize the energy consumption management of production equipment and improve energy efficiency.</li> </ul>
	resource utilization efficiency and strengthen market competitiveness.			• Optimize the logistics route, promote the reuse of pallets, and reduce the use of external warehouses to cut logistics costs and carbon emissions.
				<ul> <li>Carry out projects of energy-saving renovation, smart energy monitoring and management platforms, water and material conservation, and circular economy to obtain government financial rewards and subsidies base on government support policies for enterprise green transformation.</li> </ul>
Energy source - Energy substitution and new technology	Through digitalization, electrification, and cleanliness of energy use, enterprises can reduce carbon emissions and realize green development,	Reduced operating costs Additional financial subsidies	Short, medium, and long term	• Phase out diesel forklifts and gasoline official vehicles with electric vehicles (EVs) to reduce operational carbon emissions and practice the concept of green operation. We have now achieved 100% electrification of engineering vehicles in the production bases in China.
application	as well as enable supply chain partners to jointly apply new technologies so as to promote green energy and low-carbon production and enhance competitiveness and sustainable development capabilities.			<ul> <li>Utilize clean energy efficiently, and develop photovoltaics on plant roofs to enhance energy self-sufficiency.</li> </ul>
Product & services - Development of low-carbon products and	Enterprises can develop low- carbon products and services through green technology innovation and carbon footprint analysis to meet	Increased operating revenue Reduced operating costs Additional	Short, medium, and long term	• Enhance forward-looking technology R&D and platform building, maintain annually over 10% R&D investment and improve innovative capabilities to maximize revenue and profits and respond to climate-related challenges and opportunities.
tre co ca m ba ba pr	global green consumption trends and enhance competitiveness. Companies can also drive the low-carbon manufacturing in the Li-ion battery, photovoltaics, and hydrogen energy sectors to promote industrial green transformation.	financial subsidies		• Focus on low energy consumption in technological R&D and offer innovative energy-saving and intelligent solutions that meet customers' low-carbon demands across the entire value chain of new energy, enhancing product competitiveness by helping customers reduce energy costs and increase market revenue.
				<ul> <li>Complete the cradle-to-gate carbon footprint accounting of core products to help customers achieve lifecycle carbon traceability and gain the new energy market opportunities.</li> </ul>
				<ul> <li>Develop new energy equipment products and services to obtain government financial rewards and subsidies in line with the government's support policies for technological innovation in the new energy industry.</li> </ul>
Market - Expansion of new market	With new energy intelligent manufacturing solutions and a globalization strategy, enterprises can keep up with the global demand for green transition broaden it to arket	Increased operating revenue Enhanced market share Additional	Short, medium, and long term	• Explore the markets of Li-ion batteries, energy storage, photovoltaics, and hydrogen energy by leveraging technological advantages, so as to promote the low-carbor transition and green development of the global new energy industry.
	transition, broaden its market, explore the potential of energy saving and carbon reduction in its products, and promote the green development of the global new energy industry.	financial subsidies		<ul> <li>Follow closely the global trends of new energy and electrification, engage actively in the Chinese, Asia-Pacific, European, and American markets, and adjust development strategies dynamically to explore new markets and reduce the risks of policy and economic fluctuations in a single market.</li> </ul>

# Impact, risk and opportunity management

LEAD takes climate risks as part of our risk management system. We establish a climate risk and opportunity identification list, upgrade the climate risk and opportunity management process, and take targeted measures to mitigate the impact of climate risks on our operations. We also analyze climate-related opportunities to take proactive measures and identify strategic development directions. We have identified the main physical and transition risks affecting the company and have formulated risk response measures and opportunity transformation plans to ensure the orderly progress of climate work.



Process of climate risks and opportunities identification

## **Metrics and targets**

As a world's leading new energy intelligent equipment manufacturer, we adhere to the concept of clean production and green development. We publicly commit to achieving carbon neutrality, and have established and implemented a scientific roadmap. We are dedicated to collaborating with all stakeholders along the industrial chain to contribute to human progress and sustainable development with intelligent manufacturing. In order to achieve our goals, we have established a comprehensive system for tracking climate change indicators, regularly disclosing the progress of our targets and continuously promoting the green transition of our company. For our carbon reduction action plan and annual GHG emissions, please refer to the section of "Embracing a Zero-carbon Future".



## Embracing a Zero-carbon Future

Guided by the national goal of carbon peaking and neutrality, LEAD firmly commits itself to and steadily advances the cause of carbon neutrality. Focusing on its platform strategy, LEAD has expanded beyond lithium-ion and photovoltaic equipment manufacturing into hydrogen energy, energy storage, and electric vehicles, aiming to drive human progress and sustainable development and build a green and lowcarbon world through innovative intelligent manufacturing technology.

## **Commitment to carbon neutrality**

LEAD pays close attention to the global climate efforts. As a member of the UNGC, we set and publicly disclose carbon neutrality goals, aiming to facilitate the transition towards a lower carbon, more environmentally friendly future. With our precise identification, efficient monitoring, and comprehensive statistical capabilities in GHG emissions, we have formulated carbon reduction goals and emission reduction pathways in a scientific manner, systematically advancing our work of achieving carbon peaking and neutrality.

In 2024, we made commitment to achieving carbon peaking by 2030 and carbon neutrality by 2035 at core operations in Scope 1 and 2. Furthermore, we will continue to cut Scope 3 emissions across the entire value chain and regularly disclose progress on carbon targets.



LEAD is committed to the following initiatives:



## Action pathway for carbon neutrality

LEAD benchmarks against top enterprises, sets scientific and reasonable strategic goals in terms of energy conservation, clean energy, energy and carbon management digitization, and more, and puts into effect carbon reduction measures, such as building a sound organizational structure and an energy and carbon management system, ensuring the realization of the carbon goals.

We take energy and carbon system and digitalization as the basis to build a low-carbon operation and management foundation. We also focus on energy saving and consumption reduction, renewable energy application, and carbon offset as the core to shift from carbon-intensive energy to low-carbon energy while reducing costs and increasing efficiency, so as to promote the development of a low-carbon economy.

At the same time, we effectively enhance the digitalization, high efficiency, electrification, and cleanliness of energy use to drive operation emissions reduction.

	Energy and carbon management digital platform	Accurately monitor and manage of real-time core data on energy consumption and carbon emissions.
(ᡣ) Digitalization of energy use	Intelligent management of equipment energy use	<ul> <li>Utilize automation and intelligent technology to optimize the energy consumption management of production equipment.</li> <li>Substation equipment online monitoring system</li> <li>Remote monitoring system for compressed air stations</li> <li>Intelligent forklift management system</li> </ul>
	Management measures	Reduce energy loss during the usage process through diverse management measures. • Zoned lighting • Energy conservation slogans • Energy conservation management training
High efficiency of energy use	Efficient equipment	Continuously monitor equipment operation, identify energy-saving chance, and reduce unnecessary energy losses during operation. Use more efficient motors Replace low-efficiency equipment Energy use management
	Green building	Design, construct, and operate new offices and factories in strict accordance with green building standards.
Electrification of energy use	Electric engineering and official vehicles	Enhance the levels of electrification in production and operations, and increase the proportion of electric vehicles. Achieved 100% electrification of engineering vehicles in the production bases in China.
Ø	Distributed photovoltaic layout	Expected to achieve 100% photovoltaic coverage by 2027 of all available area on roofs and carports.
Cleanliness of energy use	Carbon offsetting	Offset extra emissions by purchasing green certificates and carbon offset products when no internal carbon emissions reduction is possible.

## **GHG** management and accounting

LEAD is dedicated to a higher quality of carbon emission management and information disclosure. We refer to international accounting standards and requirements such as the GHG Protocol, ISO 14064-1:2018, ISO 14067:2018, and PAS 2050:2011<sup>4</sup> to carry out organizational and product carbon inventory and verification. At the same time, we purchase international and Chinese green electricity certificates and carbon credits to fulfill our carbon neutrality commitment.

## Organizational carbon emissions management

In 2024, we invited a third party to conduct operational boundary carbon accounting in accordance with ISO 14064-1:2018, and count and disclose annual Scope 1, Scope 2, and Scope 3 emissions according to the GHG Protocol classification (see appendix for accounting boundaries and methods, and independent assurance statement). Our main GHG emissions include carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. GHG emissions from core operation activities have been included in our carbon neutrality targets.

#### 2024 GHG Emissions

GHG emissions metrics <sup>5</sup>	Unit	2024
Scope 1 GHG emissions	Tonnes of CO₂e	1,902.61
Scope 2 GHG emissions	Tonnes of CO <sub>2</sub> e	32,317.98
Scope 3 GHG emissions	Tonnes of CO <sub>2</sub> e	4,008,964.95
Total GHG emissions (Scope 1 and 2)	Tonnes of CO₂e	34,220.59
Total GHG emissions (Scope 1, 2 and 3)	Tonnes of CO₂e	4,043,185.54
GHG emissions per unit of business revenue (Scope 1 and 2)	Tonnes of CO <sub>2</sub> e/100 million RMB	288.66
GHG emissions per unit of business revenue (Scope 1, 2 and 3)	Tonnes of CO <sub>2</sub> e/100 million RMB	34,105.04

<sup>4</sup> For GHG management, we also refer to ISO/IEC 17029:2019, ISO 14065:2020, ISO 14064-3:2019, ISO 14066:2011, etc., seeking to draw a clear and complete picture of corporate GHG emissions through inventory and verification.

<sup>5</sup> In 2024, LEAD did not participate in the carbon credit trading of China Certified Emission Reduction (CCER), and was not involved in the clearance of carbon quotas in pilot carbon markets.

#### Proportion of Scope 1/2/3 GHG Emissions in 2024



#### Proportion of GHG Emissions (Scope 1 & 2) from the Company and its Subsidiaries



#### Proportion of GHG Emissions (Scope 1, 2 & 3) from the Company and its Subsidiaries



#### Analysis of Scope 1 & 2 Emissions



#### Proportion of Scope 3 Emissions by Category



<sup>6</sup> Process emissions account for a negligible percentage of less than 0.00015% of the company's Scope 1 emissions, hence not reflected in this figure.

### Product carbon footprint management

According to *ISO 14067:2018 Greenhouse gases-Carbon footprint of products-Requirements and guidelines for quantification* and *PAS 2050:2011 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services*, and using the cradle-to-gate system boundary, LEAD has completed the carbon footprint accounting for three core products, two of which have obtained ISO 14067 product carbon footprint certification.



LEAD will continue to strengthen product carbon footprint management, expand the coverage of product carbon footprint accounting, enhance product low-carbon competitiveness, and provide professional data support for customers in green procurement by means of product carbon footprint certification, enabling customers and other stakeholders to better understand the lifecycle environmental impact and sustainability of products.

 $^7\,$  FU (functional unit): The functional unit here is defined as one machine.

### Carbon neutrality and offsetting

In the process of moving towards carbon neutrality, LEAD solidly reduces carbon emissions in the production process through systematic clean energy substitution, energy efficiency improvement projects, and the establishment of green manufacturing systems. For details on our green manufacturing highlights, please refer to "Low-carbon clean operations" of the "Green Solutions" section.

In 2025, LEAD has purchased 311 tonnes of Verified Carbon Standard (VCS) certified emission reduction and 9,553 Chinese Green Electricity Certificates (GEC) to offset partial direct emissions and indirect emissions from purchased electricity in 2024, gradually fulfilling our carbon neutrality commitment.

#### In 2025, LEAD has purchased

## 311 tonnes

of Verified Carbon Standard (VCS) certified emission reduction

Chinese Green Electricity Certificates (GEC)

9,553





Green Electricity Certificates



VERRA
Verified Carbon Standard
Certificate of Verified Carbon Unit (VCU) Retirement
Verra, in its capacity as administrator of the Verra Registry, does hereby certify that on 07 Apr 2025, 311 Verified Carbon Units (VCUs) were retired on behalf of:
Wuxi Lead Intelligent Equipment Co., Ltd.
Project Name Liaoning Xinwang Swine Farm Manure Management System GHG Mitigation Project
VCU Serial Number 15274-672235078-672235388-VCS-VCU-1310-VER-CN-1-2951-01012022-31032022-0
Additional Certifications
Powered by APX

VCS certificate

## **Green Solutions**

Driven by the global energy transition and carbon neutrality goals, LEAD has always taken low carbon and low energy consumption as the core direction of technological research and development, focusing on developing more environmentally friendly and highly efficient green products. We regard innovation as the driving force to provide cuttingedge solutions for the sustainable development of the global new energy industry, promoting the energy transition towards a more efficient and cleaner future.

## Low-carbon industry empowerment

As a world's leading new energy intelligent equipment manufacturer, we have not only established a full value chain green and low carbon system covering R&D, production, logistics, and supply chain, but also developed a closed-loop sustainable ecosystem featuring "green industry - green products - green operations". Through a systematic low-carbon strategic layout, we have achieved the green transformation of our own production and operation. By providing green products and solutions, we continue to drive the entire new energy equipment industry towards a more efficient and environmentally friendly direction.

#### Green industry

- We offer intelligent, efficient, and low-energy consumption manufacturing solutions in the fields of Li-ion battery, photovoltaics, hydrogen energy, and energy storage, contributing to the global new energy. For more details, please refer to the following part "Empower the new energy industry chain".
- Leveraging our technological advantages, we develop the Li-ion battery circular economy, executing the post-life cycle management of Li-ion batteries through a digital recycling solution. For more details, please refer to the following part "Post-life cycle low-carbon solutions".
- We are actively expanding into the new field of solid-state batteries, making breakthroughs in core technologies such as dry electrode and ultrathin electrolyte membrane production to accelerate the industrialization of solid-state batteries. For more details, please refer to the following part "Solid-state battery solutions".

#### **Green products**

- We continue to develop green low-carbon technologies, such as dry electrode, new formation & grading solution, and cell capacity AI prediction, to create low-carbon value for customers. For more details, please refer to the following section "Green product innovation".
- In line with the core design concept of high efficiency and energy conservation, we actively promote innovation in low-carbon product design through digital design and simulation platforms, and provide solutions for low-energy consumption production lines. For more details, please refer to the following section "Green product innovation".

#### **Green operations**

We always adhere to the concept of green development, integrating green manufacturing into various operational processes from production, energy use, logistics, packaging, office operations, commuting, and business travel, to supply chain management. For more details, please refer to "Low-carbon clean operations".



### Empower the new energy industry chain

As a world's leading intelligent equipment manufacturer, LEAD is committed to green and low-carbon production, working together with the entire industrial chain to build a green world. Currently, we have developed comprehensive intelligent manufacturing solutions in the fields of Li-ion battery, photovoltaics, hydrogen energy, and energy storage, etc. The company has established mutually beneficial strategic partnerships with global customers and actively participated in customer technological innovation and low-carbon transition, helping customers build efficient and low-energy consuming smart factories and contributing to the global new energy.

#### Li-ion battery: Driving the electric revolution

The widespread application of electric vehicles is key to achieving carbon peaking and carbon neutrality. The 2024 production and sales of new energy vehicles in China exceeded 10 million units, with a market penetration rate of 40.9%, making electrification the mainstream of the global automotive industry. LEAD provides turnkey solutions of Li-ion battery intelligent equipment for global battery and vehicle manufacturers, covering the full value chain and entire lifecycle of vehicle, energy storage, and digital batteries. Through technological innovation and intelligent upgrades to production lines, we help customers improve battery energy density and safety, while reducing unit energy consumption costs, and promote the large-scale production of high-performance and low energy consumption vehicle and energy storage Li-ion batteries, driving forward the global electrification revolution.

#### Photovoltaics: Leading efficient solar energy utilization

Solar energy is crucial for energy transition. In 2024, the global solar installed capacity reached nearly 600GW, with 277GW new capacity from China. LEAD provides a turnkey solution for the intelligent manufacturing of photovoltaic modules and batteries. Our equipment, such as ultra-high-speed stringer and MBB multi-busbar stringer, are all at the forefront of the global market. We offer LDDS15000S cutting stringer, OBB stringer, and turnkey solutions for TOPCon high-efficiency photovoltaic cell smart factory. Meanwhile, we actively develop BC, HJT, and perovskite cell technologies, and have delivered over 25GW BC equipment orders, which support the launch of GW-level perovskite cell production lines, providing a solid foundation for the efficient development of the photovoltaic industry.



## Hydrogen energy: Exploring the ultimate clean energy

Hydrogen energy, as the ultimate clean energy of the 21st century, is highly regarded for its zero carbon emissions. LEAD has actively deployed green hydrogen production, hydrogen fuel cell manufacturing and battery testing, and other fields. In 2024, we supported our client in successfully commissioning the world's first automated hydrogen electrolyzer plant, which upon reaching full production capacity will manufacture over 2 GW of PEM electrolyzers annually, accelerating the global clean energy transition. Our high-end MEA coating machine was selected as the first major equipment (set) of Jiangsu Province. With ±0.5µm single-layer catalyst thickness deviation and a 5m/min linear coating speed, the machine provides the foundation for mass production of high-performance MEA, promoting the large-scale application of hydrogen energy.

## Energy storage: Empowering the widespread application of clean energy

Energy storage is an essential means to address the discontinuity and instability of renewables such as solar and wind power. In 2024, LEAD put emphasis on the R&D of production line efficiency, flexibility, and modularity, and proactively adapted to international standards such as CE/UL/BIS, enhancing our overseas delivery capabilities and customer satisfaction. By 2024, we have cumulatively provided over 300GWh production line equipment orders to energy storage customers both at home and abroad, with overseas orders accounting for over 50% of the total. Furthermore, the company has strategically collaborated with multiple customers in the R&D of 500-1,000Ah large-scale energy storage batteries, energy storage charging and discharging systems, and testing systems, providing technical support for the efficient development of the global energy storage industry.

### Post-life cycle low-carbon solutions

With growing global attention to resource recycling and carbon neutrality goals, Li-ion battery recycling has become a key area driving green manufacturing and sustainable development. LEAD deeply recognizes that the full lifecycle management of Li-ion batteries is not only important for green manufacturing, but also a core pathway to achieving a circular economy.

#### Comprehensive Digital Solution for Li-ion Battery Recycling Throughout the Entire Lifecycle

LEAD has launched a comprehensive lifecycle digital solution of Li-ion battery recycling. Our exclusive fine battery cell disassembly technology automatically separates cathodes and anodes, achieving a short-process and low-cost recycling with a lithium recovery rate of over 90%, and a nickel and cobalt recovery rate of 98.5%. This solution integrates precision disassembly and wet pulverization, ensuring the recycling of battery packs, battery cells, black mass, nickel, cobalt and manganese salts, and other components in a classified manner. It features low pollution and low energy consumption throughout the process, providing customers with a comprehensive disposal solution for end-of-life (EOL) Li-ion batteries.

#### Lithium recovery rate





Nickel and cobalt recovery rate





### Solid-state battery solutions

Amid accelerating global energy transition, solid-state batteries are emerging as the mainstream direction for next-generation EV batteries, driven by their superior safety, high energy density, great power performance, and excellent temperature adaptability. They also deliver enhanced environmental benefits. LEAD is committed to advancing key technologies in solid-state battery manufacturing equipment and providing global battery manufacturers with high-precision, high-efficiency turnkey solutions to propel solid-state batteries from lab-scale innovation to large-scale production.

#### Pioneering the Solid-State Battery Frontier to Drive Green Transformation in New Energy

LEAD actively invests in the emerging field of solid-state batteries. Leveraging our deep expertise in lithium-ion battery equipment, we have developed a comprehensive turnkey solution covering the entire all-solid-state battery manufacturing process. Addressing core challenges such as efficient electrolyte membrane production, solid electrode making, interface processing, and environmental control, LEAD has innovated critical technologies like dry electrode processing and ultrathin electrolyte membrane transfer. Our equipment enables high-precision production of ultrathin electrolyte membranes and dry electrodes while ensuring safe handling of novel electrolyte materials (e.g., sulfides, oxides).

To date, LEAD has delivered multiple solid-state battery production systems to global industry leaders in Europe, the U.S., Japan, and South Korea, earning high customer acclaim and repeat orders. Recognized for our technological breakthroughs and market leadership, LEAD was awarded the "Solid-State Battery Innovation Pioneer" title at the Golden Globe Awards by GGII for providing robust equipment support for global solid-state battery industrialization.

## **Green product innovation**

Low carbon and low energy consumption are not only the core advantages of our products, but also the key to empowering our customers to enhance their market competitiveness. By developing high-efficiency and low-energy consumption equipment, we help customers significantly reduce operating costs, and meet their urgent need for low-carbon end products, allowing them to gain a first-mover advantage amid increasingly stringent global carbon policies and achieve breakthroughs in both sustainable development and commercial value.



<sup>8</sup> Calculation description: We calculate the lifecycle energy savings of conventional and innovative equipment under the same operating conditions, and estimate the carbon reduction of a piece of equipment and a production line. For a single piece of equipment, we compare the emission reduction based on the expected duration of use and power consumption. For a production line, we calculate the carbon reduction of 50 formation/ grading machines.



LEAD's green products are not only about technological research and development, but also run through the entire product lifecycle. We have deeply integrated the concept of ecological design into product design, emphasizing the green, lightweight, high reliability, non-toxicity, and resource saving of our products through high-carbon raw material replacement, product material use reduction, manufacturing process optimization, and more.

In line with cutting-edge green concepts, we actively promote the innovation of low-carbon product design. In addition to improving product performance, we also focus on the green and low-carbon upgrading of products, and continuously reduce the product carbon footprint by innovating product design and production, so as to find the perfect balance between technological innovation and ecological conservation.

#### Digital Design and Simulation Platform for Intelligent Flexible Li-ion Battery Cell Production Lines, Achieving Low-Carbon and Efficient Product Design

We establish a digital design and simulation platform for intelligent flexible Li-ion battery cell production lines through the application of software PDPS and Delmia to optimize core technologies and functional modules such as data exchange, human-machine interaction, 3D visualization, production process and layout, and production process control. This platform enables us to reduce redundant processes, excessive commissioning, and unnecessary raw material consumption during the design phase, thereby shortening the lead time, reducing raw material use, and fulfilling green design targets while meeting customer requirements and ensuring product performance.

#### LEADACE Intelligent Platform Boosts Efficiency and Green Upgrades for Electrolyte Filling Production Lines

In response to the market's increasing demand for high-quality manufacturing, we have focused on two core directions in recent years: predictive equipment maintenance and product quality improvement. We have actively developed over 50 AI application scenarios, built the LEADACE intelligent platform, and established a closed-loop management system for defect analysis and yield rate improvement, as well as a full-process control system for risk prediction and interception. Taking closed-loop electrolyte filling control as an example, the platform enables real-time monitoring of filling volume deviations and uses AI algorithms to optimize injection compensation amounts in real time. This has achieved a maximum reduction of 47 NG battery cells per machine per day, with production line yield rates improving by up to 2.5%. In terms of predictive equipment maintenance, the platform has established a digital operation and maintenance system that utilizes AI algorithms to achieve predictive maintenance, reducing equipment failure resolution time by 30% and improving Overall Equipment Effectiveness (OEE) by 15%. The application of this intelligent solution has not only significantly reduced production costs and material waste while extending equipment service life, but more importantly, it has enhanced production efficiency and product quality, creating green intelligent production lines for lithium-ion battery manufacturers.



Green Solutions

Furthermore, we are committed to efficient and energy-saving product design and technological innovation. By accurately grasping customers' carbon reduction needs and providing low-carbon solutions, we have not only reduced our own carbon footprint in operations, but also generated significant carbon reduction benefits downstream in the value chain.

#### Low Energy Consumption Design Helps Customers Reduce Whole-line Carbon Emissions

In an EV battery production expansion project of a globally renowned European automotive company, LEAD fully satisfied the core requirement of customers for low energy consumption in the production line, integrating the low energy consumption design concept into the entire delivery process from research and development, supply chain to assembly and commissioning.

Energy consumption reduction of a production line

We fully utilized innovative technologies such as waste heat recovery, dry air circulation, precise control of equipment micro-environment, energy-saving technologies and selection of motors, electrical intelligent control, refined management of compressed air, and intelligent energy-saving fan and lighting. We also applied intelligent manufacturing innovations such as online energy consumption monitoring and formation & grading capacity prediction. In doing so, we have reduced the energy consumption of a production line by up to 19%, providing customers with an efficient and energy-saving turnkey solution.

19%

### Making full use of waste heat

Fully control the utilization of waste heat in each process phase during the plant design stage.

### Electrical intelligent control

Apply electrical intelligent control of machine to reduce power consumption of machine in each process phase.

### Dry air recovery and recycling

Recover exhausted air from the machine, remove impurities in the dry air, then send the dry air to the workshop for reuse.

## Fine control of machine microenvironment

Effectively control humidity and dust microenvironment, and reduce energy consumption and operation cost.

#### LEAD Full Process Energysaving Technology of Whole Production Line

## Motor energy-saving technology and selection

Adopt IE4<sup>9</sup> energy-saving motor to effectively realize energy saving of machine.

## On-line energy consumption monitoring

Make real-time monitoring and analysis of big data for regulation and improvement.

### Fine management of compressed air

Perform intelligent monitoring of specific working conditions of machine and fine control of compressed air pressure and flow, to achieve effective energy saving.

#### Energy-saving fan and lighting

Integrate the energysaving capabilities of multiple fans and lighting to jointly reduce the energy consumption of the whole line.

## Low-carbon clean operations

Driven by technological innovation and seeking sustainable development, LEAD actively explores new paths for low-carbon and clean operation. We are well aware that green operations are not only a demonstration of corporate social responsibility, but also a key to creating low-carbon value for customers. By offering clean production technologies and low-carbon solutions, we help customers significantly reduce the lifecycle carbon footprint of their products, enhancing our competitive advantage in the green supply chain. This transformation not only promotes the high-quality development of the industry but also brings more environmentally friendly and sustainable product choices to end users, achieving a win-win situation of environmental benefits and commercial value.

### Green manufacturing

In our operation, we have taken diverse innovative measures and promoted technological transformations in six aspects: energy conservation of buildings, energy conservation of auxiliary systems, energy conservation of production systems, renewable energy consumption, management system strengthening, and digital and intelligent energy and carbon system. In this way, we have comprehensively achieved digitization, high efficiency, electrification, and cleanliness in energy consumption, significantly reducing operational carbon emissions.

#### Energy conservation of buildings

Improve building thermal insulation performance, air conditioning and ventilation systems, lighting, etc.

#### Energy conservation of auxiliary systems

Adopt high-efficiency and energy-saving air compressor systems, heating and cooling systems, etc., or optimize or transform equipment selection, and add energy-saving automatic control systems to reduce energy consumption and carbon emissions.

#### Energy conservation of production systems

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Analyze existing process flows and production lines to find out room for improvement, and adjust process parameters and improve production processes to reduce emissions.

#### Management system

Establish an effective carbon emissions and energy monitoring and management system, set up emission reduction performance metrics and systems, and strengthen employees' awareness of energy conservation and emission reduction.

#### Energy online dynamic monitoring system

Build a comprehensive system for factory energy use online dynamic monitoring and management to ensure energy consumption safety, realize energy conservation, and provide a basis for intelligent data perception.

#### Digital and intelligent energy and carbon system

Accurately assess and manage the energy consumption and carbon emissions of the company.

#### Renewable energy consumption

Increase the proportion of renewable energy use by, for example, building rooftop distributed photovoltaics.

#### 2024 Energy Consumption



#### LEAD Wuxi Factory-a Model of Green Manufacturing

As a world's leading intelligent equipment manufacturer, LEAD always upholds the concept of sustainable development, dedicated to creating a model green factory. The company has obtained certification of ISO 14001 environmental management system and ISO 50001 energy management by executing clean production, energy conservation and emission reduction measures, as well as intelligent energy management. In terms of specific practice, we not only introduce efficient energy-saving equipment, but also continuously optimize production processes to significantly reduce energy consumption and carbon emissions levels. With the intelligent management system, the company has achieved real-time monitoring and dynamic optimization of energy use, ensuring that every resource can maximize its efficiency. In 2023, thanks to its outstanding green transition practices, LEAD won the title of "Green Factory of Jiangsu Province", becoming a model of green and low-carbon manufacturing.

We continuously explore and implement various emission reduction actions. In 2025, the company neutralized 100% Scope 1 and 2 emissions of 2024 at the factory located in No. 18, Xinzhou Road, Wuxi City by purchasing GEC and VCS carbon credits, and obtained the ISO 14068 Carbon Neutrality Certification. This marks the completion of LEAD's first carbon-neutral factory, representing a significant milestone for the company on the zero-carbon manufacturing path.





LEAD Green Factory Certificate

LEAD Carbon-neutral Factory Certificate

#### LEAD Drives Rooftop Photovoltaic Construction, Powering the Future with Clean Energy

LEAD is promoting the planning, construction, and grid-connected power generation of rooftop distributed photovoltaic systems as an important practice of the green development strategy to increase the PV local utilization rate, thereby assisting the transition and transformation from carbon-intensive energy to low-carbon energy.

Our factory in Naila, Germany has achieved 100% green power supply, setting a benchmark in the company's global green manufacturing initiative. At the same time, we are actively promoting the construction of high-efficiency and intensive rooftop distributed photovoltaic projects at domestic production bases in a systematic manner.

Through precise analysis of the electricity consumption in the factory, LEAD has decided to implement a phased PV system rollout across all company operations. Phase One will cover the three major production bases in Wuxi City and some of the electric vehicle carports. The annual power generation is expected to exceed 10,000MWh, achieving 100% consumption within the plant with no surplus for external transmission. This measure not only significantly reduces reliance on the traditional power grid but also effectively lowers operating costs. With the advancement of Phase Two in the future, it is expected that the total PV installed capacity in the company's domestic production bases will exceed 20MW by December 2026. At that time, green energy will become an important component of factory power supply.

Notably, in the planning of photovoltaic construction, we fully consider the relations between climate and photovoltaic efficiency. By optimizing the layout of photovoltaic panels and selecting efficient solar modules, we ensure that the photovoltaic system can perform at its best under various weather conditions.



Photovoltaic installation at the Naila factory in Germany

## Energy-saving Optimization of Air Compression Systems, Making Breakthroughs in Both Digital Management and Energy Efficiency Enhancement

In response to the national call for energy conservation and emission reduction, LEAD has initiated the energy-saving improvement project for air compression systems to reduce energy consumption and operating costs by optimizing both hardware and software. By deploying an intelligent management platform, we have achieved the 24-hour real-time monitoring, energy efficiency diagnosis, and warning linkage for the compressed air unit, providing accurate data support for energy conservation. With the data support provided by the intelligent management platform, technical transformation projects such as pressure sensor network optimization and pipeline renovation are precisely implemented, leading to a significant reduction in energy consumption, improvement of equipment operational efficiency, and continuous optimization of production costs. At the same time, the project optimizes the equipment control method, and adds pressure sensors and controllers to enhance the system's operational efficiency. After the project implementation, the energy consumption of the improved compressed air system decreased by more than 36% year-on-year in 2024, saving a total of 1,680MWh of electricity for the whole year, far exceeding the expected target.



### Green logistics

Green logistics is not only a key area for companies to fulfill their environmental responsibilities, but also a core driver for the industry to promote low-carbon transformation. Through technological innovation and mode optimization, we are committed to reducing the carbon emissions from logistics within our operational scope. From electrification to warehouse layout optimization, from circular transport mode to load improvement, the company promotes the low-carbon transformation of logistics with a systematic approach, reducing energy consumption and carbon emissions, and achieving a win-win situation of economic and environmental benefits.

## Comprehensive electrification to reduce dependence on fossil fuels

We adopt electric forklifts and electric pallet trucks in place of diesel ones for warehousing and transport, reducing the use of fossil fuels, and lowering direct GHG emissions from the source.

## Warehouse layout optimization to reduce transport distance

By optimizing warehouse layout, we reduce the need for external warehouses and concentrate warehouses, cutting the number of short-haul truck trips and warehouse transport mileage. In 2024, we collectively cut over 50,000 kilometers in warehousing transport mileage.

#### Trial milk runs<sup>10</sup> to improve transport efficiency

We pilot milk run within the factory, which reduces transport trips and allows cyclic material loading/ unloading and circular packaging, further reducing transport energy consumption and improving resource utilization efficiency.

#### Increase of loading capacity

By using double-deck goods racks on some vehicles, we expect to increase the truck loading capacity by 15%, further reducing the unit transport energy consumption.

<sup>&</sup>lt;sup>10</sup> A milk run is a logistics management approach that involves using one vehicle to pick up goods from various warehouses and transport them in a single shipment to a final production factory according to the predetermined route and timetable. It can significantly reduce empty runs, cut transport costs, and increase supply chain efficiency.

### Carbon reduction in packaging

LEAD has conducted targeted packaging carbon reduction work in the logistics process based on a thorough assessment of the environmental impact of traditional disposable packaging materials. We have accurately identified key carbon reduction scenarios through a comprehensive whole-process analysis, and developed a phased implementation plan for packaging carbon reduction. For warehousing, we focus on promoting circular packaging alternatives and have established a standardized packaging equipment management system. For finished product packaging, we implement an annual packaging optimization plan to reduce material use and transport losses through innovative structural design.

#### Low-carbon Packaging in Short-haul Logistics

Following the global carbon neutrality strategy, and guided by the concept of circular economy, we have systematically restructured the internal logistics packaging system to create a full-chain low-carbon solution involving material substitution, process optimization, and structural innovation. We have implemented three major strategic initiatives: packaging recycling, circular packaging standardization, and refined consumable use, building a paradigm low-carbon management system for in-plant logistics packaging.

#### **Circular Packaging Standardization Project**

We promote the use of recyclable packaging materials in short-distance transport within the factory, including eco-friendly and durable logistics packaging equipment such as plastic pallets, collapsible containers, steel pallets, and metal racks, to replace conventional packaging equipment like wooden pallets, reducing packaging material consumption and carbon emissions notably.

Based on packaging material procurement data, we initiated a pilot project for standardizing collapsible container recycling in 2022. The project aims to extend the lifespan of packaging materials and enhance logistics efficiency and site utilization, effectively reducing wood consumption and carbon emissions with cost savings and efficiency improvements. Since 2023, we have further expanded the project, investing in 8,400 standard polypropylene (PP) collapsible containers in three years. In so doing, we have reduced the use of up to 45,000 wooden pallets by the end of 2024, and are expected

to further cut 26,000 wooden pallets in 2025. It is projected that a total of 1,420 tonnes of wooden pallets can be saved over three years, leading to a reduction of approximately 64,200 tonnes of  $CO_2e^{11}$ . Through the project, the warehouse sorting and put-away are done in a neat and organized manner, effectively reducing the risk of goods loss. The wrapping film packaging process is also spared, improving operational efficiency and reducing material consumption. For short-haul transport, the use of collapsible containers greatly increases loading rates, reduces empty runs, and increases the utilization rate of line-side warehouses, creating efficient coordination across the entire warehousing and logistics process.



Standardized collapsible container loading and transportation

In order to align with the automation upgrade of warehouse logistics, we also promote the standardization of packaging specifications. For the packaging of medium-sized and long-roller components, technical assessments and cost analyses mandated conversion to  $1,200\times1,000\times150$ mm high-density polyethylene (HDPE) pallets, reducing the variety of packaging specifications and avoiding resource waste caused by different packaging. This project not only reduces packaging costs but also enhances automation warehousing compatibility, saving a total of 110 tonnes of wooden pallets in 2023 and 2024, and reducing about 4,974.32 tonnes of  $CO_2e^{11}$ .

#### Wrapping Film Use Optimization

Based on the short distance and stable road conditions of short-haul transport, we conduct a scientific evaluation and optimization of the standards for wrapping film use in material packaging. Through experiments and verification, we have reduced the number of wrapping film winding turns from 12 to 10, and are moving further to 8 turns, increasing wrapping film use efficiency while ensuring packaging reliability. It is estimated that this program reduces the consumption of polyethylene (PE) wrapping film by 30%. As of the end of 2024, we have saved 108 tonnes of PE film, reducing emissions by around 42.13 tonnes of  $CO_2e^{11}$ . In 2025, we are projected to further reduce PE film consumption by 53 tonnes, an emission reduction of about 20.68 tonnes of  $CO_2e^{11}$ . This optimization reduces not only packaging material consumption but also the generation of plastic waste.

<sup>11</sup> Calculation description: The emission reduction is calculated with emission factors, and covers emissions from material production and transportation. The estimation is based on actual material savings and corresponding transport distances, applying benchmark emission factors for production and logistics.

#### Low-carbon Innovation in Finished Product Packaging

Following the wave of green transformation in the manufacturing industry, we focus on finished product packaging innovation, pioneering a sustainable development path that balances economic and ecological benefits through innovative thinking and systematic planning. We have optimized the structure of finished product packaging, and established a scientific and efficient low-carbon management system of finished product packaging.

#### Packaging Structure Optimization Project of Whole Production Lines

To improve the operational efficiency, we have identified domestic finished packaging as a key area for cost reduction and efficiency improvement based on systematic analysis. Regarding the packaging of finished equipment products, which mainly adopt solid wood and plywood, we utilize mechanical analysis and product characteristic simulation technology to improve the material standards for packaging different tonnage equipment. This optimization ensures the effective reduction of material usage while ensuring solid packaging protection.

During project implementation, we have established a comprehensive process control mechanism, which ensures the smooth execution of optimization solutions and controls the risk of goods damage during transportation. We have achieved multidimensional breakthroughs in key areas including packaging material standardization, innovative structural design across product lines, container loading optimization, and wooden crate recycling, cumulatively realizing cost savings of 28.82 million RMB. The continuously optimized packaging structure has lowered not only packaging costs, but also wood consumption and carbon emissions. As of the end of 2024, we have continued to expand the scope of packaging simplification, saving 9,950 m<sup>3</sup> of wood consumption, 30%-40% reduction per equipment, and reducing about 674,900 tonnes of  $CO_2e^{11}$ .

#### As of the end of 2024

Reduction of wood packaging materials per equipment

Total reduction of wood consumption

Total reduction of emissions

30~40%

9,950 m<sup>3</sup>

674,900 tonnes of CO<sub>2</sub>e



#### Packaging Structure Optimization Project of Key Equipment

In order to comprehensively upgrade finished product packaging structures, we have selected 35 key equipment models as the first batch of packaging optimization targets, adopted a concentrated management approach for key projects, and formulated an annual phased implementation plan. This project focuses on high-value key equipment and conducts independent structural analysis and material optimization for each equipment on the premise of transport safety through lean design of wood usage, successfully reducing the amount of wood used for packaging, and achieving both resource conservation and emissions reduction. In 2023, the project cut annual cost by over 1.38 million RMB and emissions by about 31,000 tonnes of  $CO_2e^{12}$ .

Calculation description: The emission reduction is calculated with emission factors, and covers emissions from material production and transportation. The estimation is based on actual reductions in wood packaging procurement costs, applying marginal supply chain emission factors.



### Drive the low-carbon transformation of the supply chain

 Encourage employees to engage in emission reduction LEAD actively encourages the low-carbon transformation of the supply chain by empowering upstream industrial partners to participate in carbon reduction through systematic measures. We have established a supplier access mechanism that incorporates environmental performance into evaluation and prioritizes low-carbon partners. We implement a green procurement strategy, giving priority to low-carbon raw materials and environmentally friendly components to effectively reduce the overall carbon emissions level of the supply chain. Furthermore, the company continuously strengthens the capacity building of suppliers by promoting upstream suppliers in the value chain to optimize production processes, improve energy efficiency, and reduce production carbon emissions to jointly participate in carbon reduction efforts.

LEAD drives employee engagement in carbon reduction initiatives in a systematic approach, aiming to establish a complete closed loop from awareness building to behavioral guidance. This effectively enhances employee participation, providing crucial support for the company's emission reduction goals. The company has established a sound low-carbon incentive mechanism to recognize and reward individuals and teams with outstanding energy-saving and emission reduction performance. Meanwhile, we regularly conduct training sessions on carbon reduction knowledge to enhance the low-carbon awareness of all staff. In operations, the company has switched to paperless meetings, double-sided printing, and other lowcarbon office measures. It also enforces a strict garbage classification system and sets up classification and recycling facilities, driving employees to develop environmentfriendly habits. Furthermore, we promote the concept of green travel, encouraging employees to choose low-carbon commuting methods.

## **Future Prospects**

LEAD always believes that low-carbon operations are not a cost burden, but an important driver for enterprise transformation and upgrading. As the Sixth Assessment Report of the IPCC warned the accelerating approach of climate tipping points, climate change has evolved into a significant challenge of systemic and disruptive risks. From supply chain disruptions caused by extreme weather to the reshaping of international trade patterns through the European Union's CBAM, businesses are now facing dual pressures of physical and transition risks. We have been keeping a close eye on global climate challenges, and, as an active practitioner of the dual-carbon goals, have been taking concrete actions to accelerate the green and low-carbon transition of the manufacturing industry at home and worldwide.

Amid the global pursuit of carbon neutrality, LEAD will continue to push forward the low-carbon development across the entire value chain to build a green and low-carbon ecosystem from upstream suppliers to downstream customers. For upstream vendors, we adhere to green procurement and continuously promote the low-carbon development of raw materials. In our own operations, we aim to build carbon-neutral factories, speed up the upgrading of intelligent manufacturing and the application of renewable energy, and reduce the carbon footprint from R&D and design to production logistics. In terms of downstream customers, we utilize our advantages in the Li-ion battery, photovoltaics, hydrogen energy, and energy storage sectors to provide customers with more efficient, lower-carbon whole-line solutions, and improve industrial closed-loop through Li-ion battery recycling technology.

Looking forward, we will rise to challenges, adhere to the development model featuring intelligent manufacture for a low-carbon future, and create a win-win situation of environmental and economic benefits through smarter and more efficient operational methods. We will work hand in hand with industry partners to advance the global energy transition, contribute to the carbon neutrality goals with China's manufacturing strength, and create a green and sustainable future.



## Appendix

## Boundaries and methods of GHG accounting

#### **Reporting period**

The quantified data of GHG in this report covers the period from January 1, 2024, to December 31, 2024.

#### Organizational boundaries

We conduct operational boundary carbon accounting work in accordance with ISO 14064-1:2018, and count and disclose Scope 1, Scope 2, and Scope 3 emissions according to the GHG Protocol.

Given our operational situations, we use the operational control approach to determine the organizational boundaries, identifying six companies, Wuxi Lead Intelligent Equipment Co., Ltd., Guangdong Lead Intelligent Logistics Technology Co., Ltd., Jiangsu Lead Technology Co., Ltd., Wuxi Lead Laser Intelligent Equipment Co., Ltd., Jiangsu Lead Hydrogen Intelligent Equipment Co., Ltd., and Zhuhai Titans New Power Electronics Co., Ltd., which include five major plants and fifteen warehouses.

#### GHG category

In accordance with the Kyoto Protocol to the United Nations Framework Convention on Climate Change, greenhouse gases are carbon dioxide ( $CO_2$ ), methane ( $CH_4$ ), nitrous oxide ( $N_2O$ ), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride ( $SF_6$ ), and nitrogen trifluoride ( $NF_3$ ).

LEAD's main GHG emissions include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs. Our GHG accounting and reporting involve the following categories:

Category	Included or not	Methodology overview
Scope 1		
Direct GHG emissions		Involve four types of emissions: stationary emissions, mobile emissions, process emissions, and fugitive emissions, all from company-owned or controlled sources.
(ownership or control)	Yes	Count company-owned official fleet, transport diesel vehicles, canteen natural gas, liquefied petroleum gas, extinguishing agents, and other fugitive sources, and calculate emissions with corresponding emission factors.
Scope 2		
Indirect GHG emissions (purchased energy)	Yes	Only involve emissions from purchased electricity, and use the latest national average CO <sub>2</sub> emission factor released by the Ministry of Ecology and Environment of the PRC.
Scope 3		
Others indirect GHG emissions (value-chain activities)	Yes	Include nine categories into the boundary out of the 15 categories of Scope 3 emissions detailed in <i>Corporate Value Chain (Scope 3) Accounting and Reporting Standard</i> . Details are as follows:

Category	Included or not	Methodology overview
Scope 3 category		
C1 Purchased goods and services	Yes	Calculate life cycle emissions based on the amount and category of purchased goods.
C2 Capital goods	Yes	Calculate life cycle emissions based on the amount and category of purchased capital goods.
C3 Fuel and energy related activities	Yes	Calculate upstream carbon emissions based on the consumption of fuel and energy, and quantify carbon emissions from electricity transmission based on the line loss rate.
C4 Upstream transportation and distribution	Yes	Include outbound product shipment services paid for by the company, and quantify carbon emissions based on transportation method, weight, and distance (inbound logistics for purchased goods and capital goods are already included in C1 and C2).
C5 Waste generated in operations	Yes	Quantify carbon emissions based on the categories, weight, and disposal methods of waste.
C6 Business travel	Yes	Quantify carbon emissions from cars, trains, airplanes, and other business travel vehicles based on the reimbursement amount, and quantify carbon emissions of accommodation based on the days of stay.
C7 Employee commuting	Yes	Quantify carbon emissions from employees commuting based on the commuting methods and distances acquired through questionnaires.
C8 Upstream leased assets	No	Emissions from upstream leased assets are included in scope 1 and scope 2 according to the operational control approach.
C9 Downstream transportation and distribution	No	The shipment logistics of sold products are mainly paid for by the company, which falls under the transportation and distribution services purchased by the company, and therefore are classified under C4 Upstream transportation and distribution.
C10 Processing of sold products	No	Emissions of this category are not involved.
C11 Use of sold products	Yes	Calculate emissions based on product sales, and estimated electricity and steam consumption during product use.
C12 End-of-life treatment of sold products	No	Data is unavailable, therefore not included in the calculation.
C13 Downstream leased assets	Yes	Calculate emissions based on the natural gas and electricity consumption data of third-party managed properties in leased areas.
C14 Franchises	No	Emissions of this category are not involved.
C15 Investments	No	Data is unavailable, therefore not included in the calculation.

### Independent assurance statement



### Index

During report compilation, we referred extensively to the *Self-Regulatory Guidelines No. 17 for Companies Listed on Shenzhen Stock Exchange-Sustainability Report (For Trial Implementation)*, and the IFRS S2 issued by the ISSB. The chapter index is detailed as follows:

Content	Chapter index
Governance	
a) Describe the board's oversight of climate-related risks and opportunities.	Responses to Climate Change
b) Describe management's role in assessing and managing climate-related risks and opportunities.	Responses to Climate Change
Strategy	
a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Responses to Climate Change
b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Responses to Climate Change, Green Solutions
c) Describe the resilience of the organization's strategy, taking into consideration different climate- related scenarios, including 2°C or lower scenarios.	Responses to Climate Change, Green Solutions
Impact, risk and opportunity management	
a) Describe the organization's processes for identifying and assessing climate-related risks.	Responses to Climate Change
b) Describe the organization's processes for managing climate-related risks.	Responses to Climate Change
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Responses to Climate Change
Metrics and targets	
a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Responses to Climate Change, Embracing a Zero-carbon Future
b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Responses to Climate Change, Embracing a Zero-carbon Future
c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Responses to Climate Change, Embracing a Zero-carbon Future

