

东方日升能源管理项目与实施情况说明

Risen Energy Energy Management Programs  
and Implementation Statement

| 项目 Item                      | 说明 Description                                                                                                                                                                                                                                                                                        |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 文件定位<br>Document positioning | <p>作为公司能源管理政策的配套实施文件，披露公司能源管理项目、节能行动、清洁能源使用、绩效评估及持续改进情况。</p> <p>As an implementation document supporting the Company's energy management policy, this Statement discloses energy management programs, energy-saving actions, clean-energy use, performance evaluation and continuous improvement.</p> |
| 披露年度<br>Disclosure year      | FY2025                                                                                                                                                                                                                                                                                                |
| 适用范围<br>Scope                | <p>公司及纳入管理范围的生产基地、办公场所、仓储设施、自有或自用能源设施，以及主要用能设备、系统和流程。</p> <p>The Company and the production bases, offices, warehouses, self-owned or self-used energy facilities, and major energy-consuming equipment, systems and processes within its management boundary.</p>                                    |
| 复核机制<br>Review mechanism     | <p>本说明根据法律法规、客户要求、公司经营情况、能源管理绩效及低碳转型进展定期复核，并在必要时更新。</p> <p>This Statement is reviewed periodically and updated where necessary based on laws and regulations, customer requirements, business operations, energy management performance and low-carbon transition progress.</p>                       |

文件目的与管理原则 | Purpose and Management Principles

本说明用于系统呈现公司能源管理项目的组织方式、实施内容、绩效跟踪和持续改进情况。公司以自身运营能源管理为重点，同时将供应链低碳要求、产品低能耗设计和客户低碳需求纳入协同管理。

This Statement presents the organization, implementation, performance tracking and continuous improvement of the Company's energy management programs. The Company focuses on energy management in its own operations while coordinating supplier low-carbon requirements, low-energy product design and customer low-carbon expectations.

公司坚持源头识别、数据监测、项目推进、结果验证、持续改进的能源管理原则。能源管理



落实到能源评审、用能基准、设备改造、运行参数优化、绿电消纳、项目复盘和员工操作习惯中。

The Company follows the principles of source identification, data monitoring, project implementation, result verification and continuous improvement. Energy management is implemented through energy reviews, energy baselines, equipment retrofits, operating-parameter optimization, green-electricity consumption, project review and employee operating practices.

## 能源管理承诺 | Energy Management Commitment

公司将能源绩效改进作为运营管理和低碳转型的重要内容，通过工艺优化、设备更新、数字化监测、清洁能源利用和员工节能实践，持续降低单位产品能耗，提高能源利用效率，并减少对传统能源的依赖。

The Company treats energy-performance improvement as an important part of operational management and low-carbon transition. It continuously reduces energy consumption per unit of product, improves energy efficiency and reduces reliance on conventional energy through process optimization, equipment upgrades, digital monitoring, clean energy use and employee energy-saving practices.

在新建、改建和扩建设施、设备、系统及用能过程时，公司将能源绩效改善机会、现场可再生能源利用、低污染能源替代和后续运行维护要求纳入设计、论证、采购、施工和验收阶段，避免仅在投产后进行补救式节能。

For new, modified and expanded facilities, equipment, systems and energy-using processes, the Company considers energy-performance improvement opportunities, on-site renewable energy use, less-polluting energy alternatives and subsequent operation and maintenance requirements during design, feasibility assessment, procurement, construction and acceptance, rather than relying only on remedial energy saving after commissioning.

## 能源管理体系与职责 | Energy Management System and Responsibilities

公司依据 GB/T 23331-2020《能源管理体系要求及使用指南》建立能源管理体系，设立能源管理专项小组，并发布《能源体系管理手册》。手册明确能源治理架构、职责权限、能源方针、风险和机会识别、目标指标策划、能源评审、能源绩效参数、能源基准、数据收集、绩效评价和持续改进等要求。

The Company has established an energy management system in accordance with GB/T 23331-2020 Energy Management Systems - Requirements with Guidance for Use, set up a dedicated energy management team, and issued the Energy System Management



Manual. The manual defines the energy governance structure, responsibilities, energy policy, risk and opportunity identification, target planning, energy reviews, energy performance indicators, energy baselines, data collection, performance evaluation and continuous improvement requirements.

能源管理按照策划、实施、检查、改进的闭环推进。能源管理专项小组负责制度建设、目标分解、项目跟踪和绩效复盘；各生产及职能部门负责落实本部门用能管控、节能项目实施、能耗数据报送、现场改善和员工培训。

Energy management follows a Plan-Do-Check-Act cycle. The energy management team coordinates system building, target allocation, project tracking and performance review, while production and functional departments implement energy-use controls, energy-saving projects, energy data reporting, on-site improvement and employee training.

能源相关风险与机会管理 | Management of Energy-related Risks and Opportunities

公司将能源管理纳入气候相关风险与机会识别、评估和管理流程。结合外部气候政策、行业动态、客户低碳要求、电力价格及绿电政策变化、公司业务现状和资产信息，公司识别与自身运营及价值链相关的能源风险与机会，并将其转化为能源管理措施、项目储备和技术改进方向。

The Company integrates energy management into the identification, assessment and management of climate-related risks and opportunities. By considering external climate policies, industry trends, customer low-carbon requirements, changes in electricity prices and green-energy policies, business conditions and asset information, the Company identifies energy-related risks and opportunities across its own operations and value chain and translates them into management measures, project pipelines and technology-improvement priorities.

| 重点议题<br>Key issue                                                       | 可能影响<br>Potential impact                                                                                                                                                                                                                             | 管理应对<br>Management response                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 国际气候政策与低碳合规要求<br>International climate policy and low-carbon compliance | 碳关税、价值链绿色合规、产品碳足迹和低碳认证要求提高，对能源结构、用能效率和数据留痕提出更高要求。<br>Carbon-border measures, value-chain green compliance, product carbon footprints and low-carbon certifications raise requirements for energy structure, energy efficiency and data traceability. | 开展产品生命周期评价及碳足迹核算，推进绿色工厂、低碳制造工艺和能源碳管理数字化平台建设，预留绿电交易与虚拟电厂接口。<br>Carry out product life-cycle assessment and carbon-footprint accounting, promote green factories, low-carbon manufacturing processes and digital energy-carbon management platforms, and reserve interfaces for green-electricity trading and virtual power plants. |



| 重点议题<br>Key issue                                                          | 可能影响<br>Potential impact                                                                                                                                                                                                                                                       | 管理应对<br>Management response                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 可再生能源政策与电价波动<br>Renewable-energy policy and electricity-price volatility   | 补贴、电价、绿证、绿电交易及区域政策变化可能影响能源成本和项目收益稳定性。<br>Changes in subsidies, electricity prices, green certificates, green-electricity trading and regional policies may affect energy costs and project-return stability.                                                                   | 提高分布式光伏、储能和绿电自用比例；跟踪绿电及绿证采购机会；结合销售预测和产能安排优化生产用能。<br>Increase the use of distributed PV, energy storage and self-consumed green electricity; track green-power and green-certificate procurement opportunities; optimize production energy use based on sales forecasts and capacity planning.         |
| 下游客户低碳产品要求<br>Downstream low-carbon product requirements                   | 客户和市场对低碳产品、低碳组件、供应链减排和可追溯数据的要求增强。<br>Customers and markets increasingly require low-carbon products, low-carbon modules, supplier decarbonization and traceable data.                                                                                                          | 推进低碳产品认证、原材料采购管控、供应商绿色准入和节能技术改造，降低单位产品能耗及产品全生命周期排放。<br>Promote low-carbon product certification, raw-material procurement control, green supplier admission and energy-saving technical retrofits to reduce unit product energy consumption and life-cycle emissions.                                 |
| 技术创新与业务转型机会<br>Technology innovation and business-transition opportunities | 高效电池、轻量化组件、储能热管理、能源管理平台和光储项目为能源效率提升及低碳产品竞争力提供机会。<br>High-efficiency cells, lightweight modules, storage thermal management, energy management platforms and PV-storage projects create opportunities for energy-efficiency improvement and low-carbon product competitiveness. | 加大先进工艺研发，优化材料、制造和散热设计；通过 Risen EnergyOS、Risen Cloud 等系统提升能源监测、预测和运行优化能力。<br>Increase R&D in advanced processes, optimize material, manufacturing and thermal designs, and enhance energy monitoring, forecasting and operational optimization through systems such as Risen EnergyOS and Risen Cloud. |

## 能源评审与节能机会识别 | Energy Reviews and Energy-saving Opportunity Identification

能源评审是公司识别主要用能环节和节能机会的核心程序。公司基于能源消费数据、生产负荷、设备运行状态、公共动力系统运行情况和现场检查结果，识别照明、空调、制冷系统、空压及 CDA 系统、氮气系统、排风系统、废水处理系统、高耗能设备和关键工序中的主要能源使用、异常能耗及低效运行点。

Energy review is the Company's core process for identifying significant energy uses and energy-saving opportunities. Based on energy consumption data, production load, equipment operating status, public utility systems and on-site inspection results, the Company identifies significant energy uses, abnormal energy consumption and inefficient operating points in lighting, air conditioning, refrigeration systems, compressed air and CDA systems, nitrogen systems, exhaust systems, wastewater treatment systems, high-energy equipment and key production processes.



对于已识别的节能机会，公司明确责任部门、实施措施、实施范围、用能基准、预计改善方向、进度节点和验证方法。相关内容纳入能源管理实施方案，并结合运行数据、现场反馈和设备稳定性要求进行滚动更新。

For identified opportunities, the Company defines the responsible department, action plan, implementation scope, energy baseline, expected improvement, timeline and verification method. These actions are incorporated into the energy management implementation plan and updated on a rolling basis according to operating data, on-site feedback and equipment stability requirements.

## 能源数据监测与数字化管理 | Energy Data Monitoring and Digital Management

公司建设能源与温室气体数字化管理能力，对能源消耗、绿电使用、光伏发电及用电、设备运行参数和相关排放数据进行系统化采集、分析和复核。数据管理覆盖主要生产基地及下属公司，按月度颗粒度开展统计，并通过线上填报、现场核验和财务数据交叉校验提升数据准确性和及时性。

The Company is building digital energy and greenhouse-gas management capabilities to systematically collect, analyze and review energy consumption, green-electricity use, PV power generation and consumption, equipment operating parameters and related emissions data. Data management covers major production bases and subsidiaries, is conducted on a monthly basis, and improves accuracy and timeliness through online reporting, on-site verification and cross-checks against financial data.

能源碳管理平台用于支撑能耗监测、节能项目复盘、温室气体核算和供应链绿色管理。采购科数据库可对采购活动相关数据进行分类、匹配排放因子和形成数据留痕，为供应商绿色评价、产品碳足迹核算和节能改进提供支撑。

The digital energy-carbon management platform supports energy monitoring, review of energy-saving projects, greenhouse-gas accounting and green supply-chain management. The procurement database classifies procurement-related data, matches emission factors and retains data records, providing a basis for green supplier evaluation, product carbon-footprint accounting and energy-saving improvement.

## 能源目标与关键指标 | Energy Targets and Key Indicators

公司积极践行“双碳”战略，支持《巴黎协定》目标，并参照科学碳目标倡议（SBTi）《科学碳目标设定手册》的相关方法，结合自身运营边界、能源使用结构和主要产品生产特点，设置温室气体减排、可再生能源使用及单位产品能耗改善目标。其中，可再生能源使用占比和每瓦异质结电池耗电量为能源管理的直接指标；温室气体排放目标作为能源结构优化与能效提升的结果性指标同步跟踪。



The Company actively supports China's dual-carbon strategy and the objectives of the Paris Agreement. With reference to the Science Based Targets initiative (SBTi) target-setting guidance, and taking into account its operational boundary, energy-use structure and key product manufacturing processes, the Company has established targets covering greenhouse gas emissions reduction, renewable energy use and energy-intensity improvement. Renewable energy use and electricity consumption per watt of heterojunction cell produced are treated as direct energy-management indicators, while greenhouse gas emissions are tracked as outcome indicators of energy-structure optimization and energy-efficiency improvement.

| 指标与目标类别<br>Indicator and target area                     | 目标内容 Target                                                                                                                                                                                                                                                     | 跟踪与进展<br>Tracking and progress                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 温室气体排放<br>Greenhouse emissions gas                       | <p>到 2030 年，自身运营温室气体排放（范围 1、范围 2）较 2023 年基准年下降 50%；到 2050 年，实现全价值链净零排放。</p> <p>By 2030, reduce Scope 1 and Scope 2 greenhouse gas emissions from own operations by 50% from the 2023 base year; by 2050, achieve net-zero emissions across the value chain.</p> | <p>公司按年度跟踪范围 1、范围 2 排放及能源结构变化，并将其作为能源效率提升、绿电使用和能源结构优化的结果性指标进行管理。</p> <p>The Company tracks Scope 1 and Scope 2 emissions and changes in energy structure annually, and manages them as outcome indicators of energy-efficiency improvement, green-electricity use and energy-structure optimization.</p>                                                                                                    |
| 可再生能源使用占比<br>Renewable energy use share                  | <p>到 2030 年，可再生能源使用占比达到 20%；到 2050 年，可再生能源使用占比达到 100%。</p> <p>By 2030, increase the proportion of renewable energy use to 20%; by 2050, achieve 100% renewable energy use.</p>                                                                                  | <p>2025 年，公司可再生能源使用占比达到 26%。公司将继续通过分布式光伏、光储系统、绿电采购及绿证等方式巩固和提升可再生能源使用水平。</p> <p>In 2025, the Company's renewable energy use reached 26%. The Company will continue to consolidate and increase renewable energy use through distributed PV, PV-storage systems, green-electricity procurement and green certificates.</p>                                                                                    |
| 异质结电池每瓦耗电量<br>Electricity intensity per watt of HJT cell | <p>每瓦异质结电池耗电量每年下降 5%。</p> <p>Achieve a 5% annual reduction in electricity consumption per watt of heterojunction cell produced.</p>                                                                                                                             | <p>2025 年，每瓦异质结电池耗电量下降 5%的目标已达成。公司继续按基地、产线和产品类型跟踪该指标，并结合产量、工艺变化和设备运行数据进行复盘。</p> <p>In 2025, the target of reducing electricity consumption per watt of heterojunction cell produced by 5% was achieved. The Company continues to track this indicator by site, production line and product type, and reviews performance together with production volume, process changes and equipment operating data.</p> |



| 指标与目标类别<br>Indicator and target area      | 目标内容 Target                                                                                                                                                                                                                                              | 跟踪与进展<br>Tracking and progress                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 节能项目实施效果<br>Energy-saving project results | <p>对已实施节能项目按节电量、节约电费、设备效率、运行稳定性和单位产品能耗改善情况进行量化评估。</p> <p>Quantitatively evaluate implemented energy-saving projects by electricity saved, cost savings, equipment efficiency, operating stability and improvement in product-level energy intensity.</p> | <p>公司对重点节能项目开展实施前后对比评估；对空压机、冰机等高耗能设备调控项目，结合峰谷用电和运行参数优化，目标降低整体能耗 8%至 12%。</p> <p>The Company compares pre- and post-implementation data for key energy-saving projects. For high-energy equipment such as air compressors and chillers, it optimizes peak-valley electricity use and operating parameters, with a target of reducing overall energy consumption by 8% to 12%.</p> |

节能降耗项目与实施情况 | Energy-saving Programs and Implementation

公司围绕生产和运营全过程降低能源强度，重点推进设备运行优化、公共动力系统改造、照明与空调精细化管控、工艺参数优化、能耗数据管理和能源结构优化。各项行动均纳入能源管理实施方案，由责任部门结合能耗监测结果进行跟踪和优化。

The Company reduces energy intensity across production and operations by focusing on equipment-operation optimization, public utility system retrofits, refined lighting and air-conditioning control, process-parameter optimization, energy data management and energy-structure optimization. Actions are incorporated into the energy management implementation plan and tracked by responsible departments based on energy monitoring results.

● 光伏业务重点节能措施 | Key Energy-saving Measures in PV Operations

| 基地<br>Site                     | 主要措施<br>Main measures                                                                                                                                                                                                                                                                                        | 节能效益<br>Energy-saving results                                                                                        |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 滁州新能源<br>Chuzhou New Energy    | <p>开展车间照明与风机管控、照明设施合理化改造、废水处理工艺调整等 9 项节能措施。</p> <p>Implemented nine energy-saving measures, including workshop lighting and fan control, rationalization of lighting facilities and wastewater-treatment process adjustments.</p>                                                                            | <p>实际降低用电量约 285.24 万 kWh/年。</p> <p>Reduced electricity consumption by approximately 2.8524 million kWh per year.</p> |
| 宁波光伏科技<br>Ningbo PV Technology | <p>推进生产区温湿度分区分管、氮气替代 CDA 气环优化、冰机冷水温度控制优化、废气系统风机频率动态调优等 7 项措施。</p> <p>Implemented seven measures, including zoned temperature and humidity control, nitrogen substitution and CDA ring optimization, chilled-water temperature control optimization, and dynamic frequency tuning of exhaust-system fans.</p> | <p>合计降低能耗约 211.65 万 kWh/年。</p> <p>Reduced energy consumption by approximately 2.1165 million kWh per year.</p>       |



| 基地<br>Site               | 主要措施<br>Main measures                                                                                                                                                                                                                                                                                | 节能效益<br>Energy-saving results                                                                             |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 义乌新能源<br>Yiwu New Energy | 开展车间冷机管控及启停管理、室外废碱池加热优化、CDA系统供气压力优化、车间分区照明节能、焊接排废管道合并改造等 5 项措施。<br>Implemented five measures, including workshop chiller start-stop control, outdoor waste-alkali pool heating optimization, CDA supply-pressure optimization, zoned lighting energy saving, and welding exhaust-duct consolidation. | 合计降低用电量约 240.15 万 kWh/年。<br>Reduced electricity consumption by approximately 2.4015 million kWh per year. |

● 储能业务重点节能措施 | Key Energy-saving Measures in Energy Storage Operations

| 项目名称<br>Project                             | 项目描述<br>Description                                                                                                                                                                                                                         | 节能效益<br>Energy-saving effect                                                                                                                                                                                            |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 冷却水路改造<br>Cooling-water loop retrofit       | 将多条原独立运行的冷却水路改造为互通式水路，均衡回水温度，减少因单阀停运导致的高温报警风险。<br>Converted multiple independent cooling-water loops into an interconnected loop to balance return-water temperature and reduce high-temperature alarms caused by single-valve shutdowns.   | 改造后冰机进出口温差提升约 2°C，在满足设备冷却要求的同时优化设备运行效率。<br>After the retrofit, the chiller inlet-outlet temperature difference increased by around 2 ° C, optimizing operating efficiency while meeting equipment cooling requirements. |
| 制冷系统优化<br>Refrigeration-system optimization | 将办公及实验室空调系统切换为冰水系统，优化冷冻水回水阀门，并将冷冻水泵运行频率由 45Hz 调整至 40Hz。<br>Switched office and laboratory air-conditioning to the chilled-water system, optimized chilled-water return valves, and adjusted chilled-water pump frequency from 45Hz to 40Hz. | 在满足制冷需求的同时减少系统运行能耗，并提升供水压力和运行稳定性。<br>Reduced system energy consumption while meeting cooling demand and improving water-supply pressure and operating stability.                                                        |
| 高耗能设备调控<br>High-energy equipment control    | 对空压机、冰机等重点设备开展能耗峰谷分析，实施错峰用电调整与运行参数优化。<br>Conducted peak-valley energy analysis for key equipment such as air compressors and chillers, and implemented off-peak electricity-use adjustments and operating-parameter optimization.           | 提升设备运行效率，项目目标为降低整体能耗 8%-12%。<br>Improves equipment operating efficiency, with a project target of reducing overall energy consumption by 8%-12%.                                                                        |

清洁和绿色能源使用 | Clean and Green Energy Use

公司通过绿电采购、分布式光伏、光储系统、储能设施和绿证等方式，提高自身运营中的清洁及绿色能源使用比例。绿色能源使用被纳入能源结构优化管理，有助于降低传统能源依赖，



并带来积极的环境效益。

The Company increases clean and green energy use in its own operations through green-electricity procurement, distributed PV, PV-storage systems, energy storage facilities and green certificates. Green energy use is incorporated into energy-structure optimization management, reducing reliance on conventional energy and bringing positive environmental benefits.

| 项目主体<br>Entity                 | 能源结构优化措施<br>Energy-structure measure                                                                                                         | 实施效果<br>Result                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 宁波新能源<br>Ningbo New Energy     | 通过优化配电网络，实现冰机系统优先消纳绿电。<br>Optimized the distribution network so that the chiller system gives priority to green-electricity consumption.     | 绿电自用率提升约 24%；在同等生产规模下预计年度可提高光伏用电量 215 万 kWh，相当于减少二氧化碳排放约 1,004 吨，并节省电费约 60.24 万元。<br>Green-electricity self-consumption increased by approximately 24%；under the same production scale, annual PV electricity consumption is expected to increase by 2.15 million kWh, equivalent to reducing around 1,004 tonnes of CO2 and saving about RMB 602,400 in electricity costs. |
| 宁波光伏科技<br>Ningbo PV Technology | 光储系统全面投运，提升组件车间绿电使用比例。<br>The PV-storage system was fully put into operation, increasing the green-electricity share in the module workshop. | 组件车间绿电使用占比约 34%，光伏年用电量约 1,190 万 kWh。<br>The module workshop's green-electricity share reached around 34%, with annual PV electricity consumption of approximately 11.90 million kWh.                                                                                                                                                                                        |
| 集团层面<br>Group level            | 持续推进厂区分布式光伏、储能和绿电采购规模。<br>Continued to expand distributed PV, energy storage and green-electricity procurement across sites.                 | 截至报告期末，集团光伏及储能装机总量分别约 146.83MW 和 26.42MW。<br>By the end of the reporting period, the Group's installed PV and energy storage capacity reached approximately 146.83MW and 26.42MW, respectively.                                                                                                                                                                             |

节能创新、研发与投入 | Innovation, R&D and Energy-saving Investment

公司将能源绩效要求嵌入技术创新、工艺革新、设备选型和产品设计中。已实施或正在推进的投入方向包括生产流程优化、节能设备更新、配电网络优化、光储系统建设、储能设施配置、能源碳数字化管理平台建设以及高效低耗产品研发。

The Company embeds energy-performance requirements into technology innovation, process improvement, equipment selection and product design. Implemented or ongoing investment areas include production-process optimization, energy-saving equipment upgrades, distribution-network optimization, PV-storage system construction, energy storage deployment, digital energy-carbon management platforms and high-efficiency low-consumption product R&D.



- 光伏产品与工艺：持续提升电池与组件功率，优化材料和制造工艺，推动每瓦耗电量下降；围绕海上、湿热、高风雪载荷等场景开展可靠性和低碳产品设计。

PV products and processes: continuously improve cell and module power, optimize materials and manufacturing processes, reduce electricity consumption per watt, and conduct reliability and low-carbon product design for offshore, humid, hot and high wind/snow-load scenarios.

- 储能产品与系统：推进轻量化设计、热管理优化、液冷与温控技术、风机转速和温度状态监测，提高系统安全性和能效。

Energy storage products and systems: promote lightweight design, thermal-management optimization, liquid-cooling and temperature-control technologies, and monitoring of fan speed and temperature status to improve system safety and energy efficiency.

- 能源管理平台：推进 Risen EnergyOS、Risen Cloud 等系统在能源监测、预测、调度和运行优化中的应用，提升项目运行透明度和能效管理能力。

Energy management platforms: apply systems such as Risen EnergyOS and Risen Cloud to energy monitoring, forecasting, scheduling and operational optimization, improving project transparency and energy-efficiency management capability.

## 进展评估与持续改进 | Progress Evaluation and Continuous Improvement

公司建立能源绩效参数，并参照《能源绩效监视测量程序》对能源管理实施方案的执行情况进行监督。对于已实施项目，公司比较项目实施前后的能耗数据、设备参数、运行时长、产量、产品结构、绿电使用比例、光伏用电量和节约电费，识别实际节能效果和偏差原因。

The Company has established energy performance indicators and monitors the implementation of the energy management plan with reference to the Energy Performance Monitoring and Measurement Procedures. For implemented projects, the Company compares energy consumption data, equipment parameters, operating hours, output, product mix, green-electricity share, PV electricity consumption and electricity cost savings before and after implementation to identify actual energy-saving effects and reasons for variances.

对于未达到预期效果的措施，公司组织责任部门开展原因分析，调整运行参数、设备维护方式、工艺控制要求或项目实施方案。对于效果稳定的措施，公司将其固化为标准作业要求，并在相似产线、基地或业务场景中复制推广。

For measures that do not achieve expected results, the Company organizes responsible departments to analyze causes and adjust operating parameters, maintenance approaches, process-control requirements or implementation plans. Measures with



stable results are incorporated into standard operating requirements and replicated across similar production lines, sites or business scenarios.

## 员工能源效率培训与意识提升 | Energy-efficiency Training and Awareness

员工能源意识是能源管理体系的重要组成部分。公司面向能源管理人员、设备工程师、生产班组、采购及供应链人员和办公人员开展节能培训，内容包括能源方针与目标、主要用能环节、岗位节能操作要求、异常能耗识别、照明与空调节能、空压与制冷系统节能、绿电及绿证基础知识、数据填报要求和节能改善建议反馈。

Employee energy awareness is an important part of the energy management system. The Company provides energy-saving training for energy management personnel, equipment engineers, production teams, procurement and supply-chain personnel, and office employees. Training topics include the energy policy and targets, significant energy uses, job-specific energy-saving requirements, abnormal energy-consumption identification, lighting and air-conditioning energy saving, compressed-air and refrigeration system energy saving, basics of green electricity and green certificates, data reporting requirements and feedback channels for energy-saving suggestions.

通过培训、班组宣导和现场实践，公司将节能要求转化为日常操作习惯，鼓励员工在设备启停、参数设定、照明空调使用、跑冒滴漏排查和异常能耗反馈等环节参与持续改进。

Through training, team-level communication and on-site practice, the Company translates energy-saving requirements into daily operating habits and encourages employees to participate in continuous improvement through equipment start-stop control, parameter setting, lighting and air-conditioning use, leak inspections and abnormal energy-consumption feedback.

## 供应链与产品低碳协同 | Supply-chain and Product Low-carbon Coordination

在自身运营能源管理之外，公司推动供应链与产品端的低碳协同。公司通过《企业绿色供应链管理评价办法》等工具，将供应商环境表现、能源使用、温室气体数据、原材料低碳属性和绿色产品要求纳入供应链评价，并根据客户及市场对低碳产品的要求，推进低碳认证、原材料采购管控和供应商绿色准入。

Beyond energy management in its own operations, the Company promotes low-carbon coordination across the supply chain and product side. Through tools such as the Enterprise Green Supply Chain Management Evaluation Method, the Company incorporates supplier environmental performance, energy use, greenhouse-gas data, low-carbon attributes of raw materials and green product requirements into supplier



evaluation, and promotes low-carbon certifications, raw-material procurement control and green supplier admission in response to customer and market requirements for low-carbon products.

## 记录、复盘与信息披露 | Records, Review and Disclosure

公司保留能源评审记录、能源绩效监测数据、节能项目实施记录、绿电及光伏用电数据、设备运行和改造记录、培训记录及责任部门确认材料，用于内部管理复盘、目标跟踪、审计核验和后续信息披露。

The Company retains energy review records, energy performance monitoring data, energy-saving project implementation records, green-electricity and PV electricity data, equipment operation and retrofit records, training records and confirmations from responsible departments for internal management review, target tracking, audit verification and subsequent disclosure.

公司通过 ESG 报告、年度报告、公司出版物或官网披露能源管理体系、能源目标、能源评审、节能行动、清洁能源使用、项目成果、培训及持续改进情况，并根据实际运营和项目进展持续完善披露内容。

The Company discloses its energy management system, energy targets, energy reviews, energy-saving actions, clean energy use, project results, training and continuous improvement through ESG reports, annual reports, corporate publications or the corporate website, and continues to improve disclosure according to actual operations and project progress.

