



2022
Huason Energy ESG Report

About this Report

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Overview

This is an annual Environmental, Social, and Governance (ESG) report (hereinafter referred to as "Report") issued by Anhui Huasun Energy Co., Ltd. (hereinafter referred to as "Huasun Energy"). The Report primarily discloses Huasun Energy's philosophy, progress, and achievements in ESG. The Report covers the period from January 1, 2022, to December 31, 2022. To enhance the comparability and completeness of the Report, related information may trace back beyond the Report period.

Reporting Basis

This Report is compiled with reference to the *Sustainability Reporting Guidelines* of the Global Reporting Initiative (GRI) (2021) and the Reporting Framework of the Task Force on Climate Related Financial Disclosures (TCFD).

Reporting Scope and Coverage

The organizational scope of this Report covers the main body of Huasun Energy, which is consistent with the financial report. Unless otherwise specified, the currency units mentioned in this Report are RMB. The data and cases in this Report are predominantly sourced from relevant internal statistics of Huasun Energy, public statements and reports, third-party surveys and interviews, as well as data released by government departments and professional institutions. The Board of Directors of Huasun Energy guarantees that the content of this Report does not contain any false information, misleading statement, or material omission.

Access to this Report

This Report is published in electronic format, which can be downloaded from the company's official website (www.huasunsolar.com). This Report is provided in both Chinese and English. In case of any discrepancy between the Chinese version and the English version, the Chinese version shall prevail.

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Message from the Chairman



In the context of the goal of "carbon peaking and carbon neutrality", "accelerating the planning and construction of the new energy system" has become the main theme today. The new energy system predominantly features "new", which further supplements and upgrades the "clean, low-carbon, safe, and efficient" modern energy system, according with the new strategy of energy power and energy security. The goal of photovoltaic is to become the absolute mainstay of the new energy system. To this end, disruptive technology is required to achieve the most efficient and cost-effective power generation. Heterojunction (HJT) is the photovoltaic product with the highest conversion efficiency and the strongest power generation capacity in the market and is the key platform technology that can achieve absolute parity photovoltaic storage.

Huasun Energy always adheres to the long-term corporate value, with the vision of "becoming a world-leading efficient solar energy technology company", actively pursue continual development. We strive to achieve the goal of "making photovoltaic the absolute mainstay of the new energy system" through cost reduction and benefit enhancement, and application of the disruptive technology of HJT. At the same time, Huasun Energy deepens the sustainable development strategy and corporates with stakeholders to undertake social responsibilities to make corporate development and responsibility resonate at the same frequency. Currently, we are progressing into the next stage of new energy development.

Adherence to compliance is a driving force behind business development. We firmly believe that integrity and compliance is the basis for the development of enterprises in market competition through establishing the sound scientific corporate governance structure, improving the performance of corporate governance, and creating the honest business environment to promote the healthy development of corporate. Huasun Energy focuses on creating an incorruptible culture, while enhancing our

integrity review. In 2022, in cooperation with other professional organizations, we optimized our internal control systems by implementing integrity review, further consolidating the foundation for the Company's development.

Leading excellent intelligent manufacturing is the competitiveness of enterprise development. By advocating and practicing "customers and quality first, constant struggle, technological innovation, and lifelong learning", Huasun Energy has focused on exploring low-cost and efficient technology for the mass production of HJT solar cells and modules. We established a research and development team of authoritative experts from the solar energy industry, who have come up with technical solutions to enhance the operating efficiency of photovoltaic cells. In 2022, Huasun Energy recruited 200+ senior technical experts and achieved mass production of HJT solar cells with an average efficiency exceeding 25%, highest power exceeding 730W, and module efficiency exceeding 23%, all of which ranked at the top. In addition, Huasun Energy has passed multiple product quality and safety certifications and professional tests related to HJT modules. As at the end of the reporting period, Huasun Energy has submitted a total of 166 patent applications and received 70 authorized patents.

Building a zero-carbon world is the credibility of enterprise development. With the deepening of the goal of "carbon peaking and carbon neutrality", the public has increasingly focused on green, low-carbon, and environmental protection. We adhere to the concept of green development, establish a greenhouse gas emission management system to enhance carbon emission management. In 2022, we invited industry certification authority to conduct ISO 14064 carbon verification of the company's greenhouse gas emissions, refining the company's carbon goals according to scientific data. Relevant statistics indicate that, by the end of 2022, the carbon footprint of the HJT products provided

by Huasun Energy was as low as 389.59 grams of carbon dioxide equivalent/watt, which was about 3% to 22% lower than the carbon footprint of low-carbon PERC components in the industry. During the reporting period, the HJT battery modules that have been put into operation by Huasun Energy can provide clean electricity of 4.5 billion kilowatt hours per year, significantly reducing carbon emissions by approximately 4.52 million tons per year.

Establishing an empowering ecosystem is vital for business development. We actively build the talent training team, implement the three-level program of talent plan ("newly qualified - potential - expert"), and establish a talent selection and development mechanism of "differentiated selection, process management, and tiered development". In addition, we are focused on establishing an equal, diverse, and inclusive career development policy, as well as harmonious coexistence with communities. Fully utilizing our own strengths, we encourage our suppliers to establish industrial clusters in local communities, having cumulatively provided over 3,000 job opportunities, promoted local economic development, and improved local living standards.

As a leading HJT enterprise in the industry, we will strive to develop high-quality green products, and provide customers with better clean energy solutions, to promote high-quality development of the industry. Simultaneously, we will practice the path of green and sustainable development, integrate ESG into our business, forge ahead with all employees, and positively contribute to social and economic development and an enhanced future for everyone.

Chairman Xiaohua Xu

ESG Performance Highlights

Achievements in 2022

Business Performance
- First-class development: setting industry precedents



Focusing on the HJT technology
— The first **full industry chain layout** covering the silicon wafers, battery, and modules of HJT in the world

Leading in the field of efficient HJT
— More than **1GW** of photovoltaic modules delivered in **2022**

Leading the industry in large-scale production
— **The first to achieve** mass production of GW-level single-sided microcrystalline HJT in the industry, with an energy conversion rate exceeding **25%**

Adhering to the open innovation
— Achieved **localization of equipment and raw materials** and **rapid cost reduction and benefit increase**

Governance Performance
- consolidating the foundation for development and enhancing operational sustainability



Roofed in the culture of compliance
— Established a **comprehensive compliance management system**

Adhering to sustainable management
— Established an **ESG governance structure** and identified material issues

Reinforcing the cornerstone of technological innovation
— As of the end of the reporting period, we have accumulated **166** patent applications and **70** authorized patents

Environmental Performance
- Breaking through for zero-carbon development




Promoting "green manufacturing"
— Reducing carbon emission intensity of HJT manufacturing to **12.73** tons CO₂ equivalent/MW under full production conditions

Seeking more green development opportunities
— Generating over **4.5 billion kWh** of green electricity and reducing CO₂ emission of **4.52 million tons** annually

Enriching low-carbon attributes of HJT products
— According to third-party certification results, the carbon footprint has been reduced to **389.59** grams of carbon dioxide equivalent/watt, making us occupy a **leading position** in the market of commercial photovoltaic modules

Exploring the path of carbon neutrality implementation
— Forming a closed loop of electricity featuring **"self-production, self-generation, and self-use"** through construction of photovoltaic facilities in the industrial parks and factories

Social Performance
- Reinforcing the industry and establishing an empowering ecosystem



Gathering industry experts
— More than **200** senior technical personnel, including **4** chief scientists of major national scientific research projects and **4** leading talents in HJT, forming a **Research & Development Team** composed of authoritative industry experts with **over 15 years** of experience in HJT

Enabling the growth of employees
— Establishing a comprehensive training system for all levels of employees, initiating the **education improvement program**, providing education subsidies, and reimbursing tuition and textbook fees

Deepening the partnership with universities and research institutions
— Cooperating with **more than 10** universities and research institutions in 2022

Strengthening industry collaboration
— Sharing HJT topics at industry summits and forums, participating in the development of **4** industrial standards

Focusing on employee health and safety
— The coverage rate of health and safety training during the reporting period reached **100%**

Building an HJT capital
— During the reporting period, Huasun Energy has provided **more than 3,000** jobs for local people, with an output of RMB 2.5 billion and a year-on-year increase of 852%

ESG Honors in 2022

External certifications



Module power up to 730W
TÜV Rheinland

SA8000 Social Responsibility Management System Certification
Social Accountability International (SAI)

On-site factory inspection certification
TÜV Rheinland

The most recognized global photovoltaic module supplier grading system

Calibration efficiency of 25.6%
National Institute of Metrology, China

Photovoltaic module supplier rating Tier 1 photovoltaic module manufacturers
Bloomberg New Energy Finance (BNEF)

China Quality Certification Centre (CQC) Product Certification
CQC

Japan Market Access Certification
Japan Photovoltaic Energy Association (JPEA)

CE certification
EU Certification Authority

China Green Building Materials Product Certification Certificate
China Building Material Test & Certification Group Co., Ltd. (CTC)

Microgeneration Certification Scheme (MCS) certification
UK Microgeneration Certification Scheme Committee

External awards



PV Magazine Award 2022 for excellent module products

PV Magazine, an authoritative media in the global new energy industry

2022 Ernst&Young Fudan Greatest Potential Enterprises

Ernst&Young China, School of Management, Fudan University

Annual award for ultra-high performance photovoltaic modules

OFweek

Annual Most Growable Enterprises

OFweek

National High-Tech Enterprise Certification

The Office of the Leading Group of National High-tech Enterprise Identification and Management

Top 20 Enterprises in Comprehensive Strength

Xuancheng Municipal Committee of the Communist Party of China and Xuancheng Municipal People's Government

2022 Entrepreneurship Anhui Star

Department of Human Resources and Social Security of Anhui Province

2022 Asian Photovoltaic Innovation Enterprises

Photovoltaic Green-Ecosystem Organization (PGO)

2022 Innovative Small and Medium Enterprises in Anhui Province

Anhui Provincial Department of Economy and Information Technology

Most Influential Solar Cell Enterprises

Organizing Committee for Selection of the Solarbe Award

2022 Anhui Famous Export Enterprises

Anhui Provincial Department of Commerce

Most Influential Solar Cell Enterprises

Organizing Committee for Selection of the Solarbe Award

2022 Special Contribution Award for Industrial Enterprises in Xuancheng Economic and Technological Development Zone

2022 Special Contribution Award for Industrial Enterprises in Xuancheng Economic and Technological Development Zone

Anhui Provincial Advanced Collective

Anhui Provincial Committee of the Communist Party of China and Anhui Provincial People's Government

Awards received in 2023



External awards

PVBL (Photovoltaic Brand Lab) Fastest Emerging Company in PV Industry 2023

Century New Energy Network (CNE) and PVBL

PVBL Most Innovative PVC Solar Enterprises Award 2023

Century New Energy Network (CNE) and PVBL

PVBL Top 100 Solar PV Brands in the World

Century New Energy Network (CNE) and PVBL

Standing Committee Unit

Carbon Neutrality Committee of China Energy Conservation Association

Gigawatt Gold Award

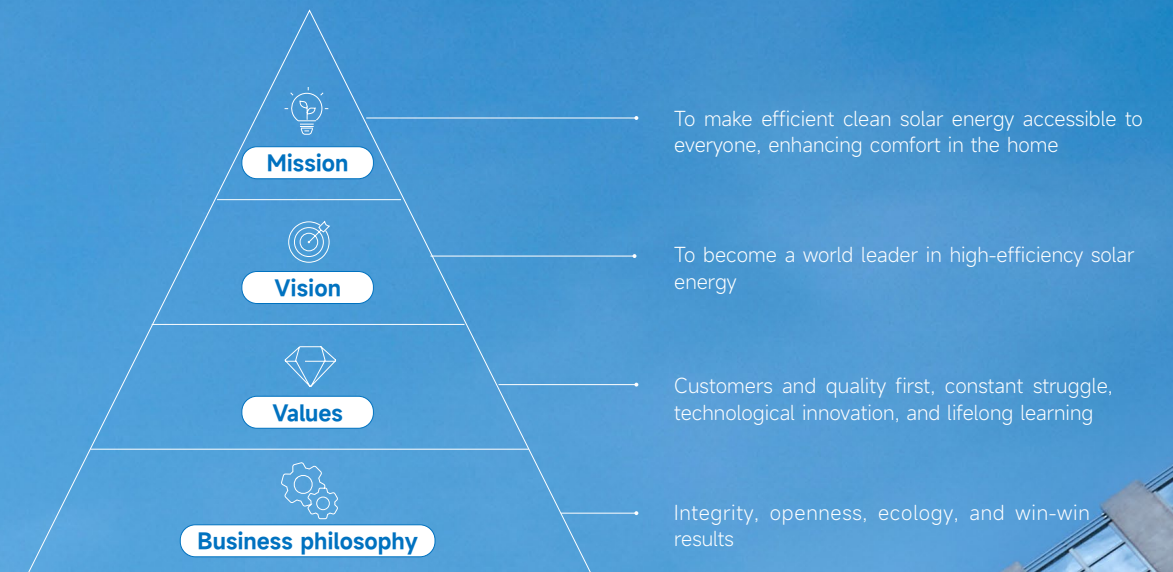
Organizing Committee of the 16th International Photovoltaic Power Generation and Smart Energy Conference and Exhibition (SNEC2023)



About Huasun Energy

Company Profile

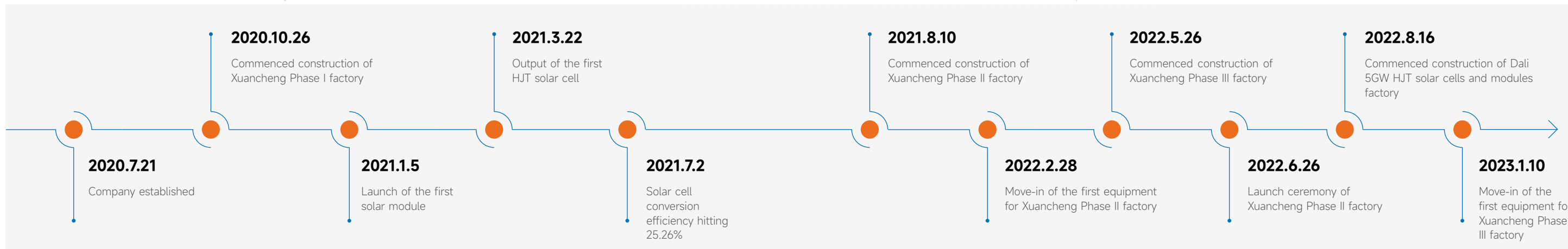
Anhui Huasun Energy Co., Ltd (abbreviated as "Huasun Energy") was established in July 2020, with its headquarters located in Xuancheng, Anhui Province. It is a technology innovative enterprise focusing on the research, development, application and industrialized production of ultra-high efficiency N-type silicon heterojunction (HJT) solar silicon wafers, cells and modules. The company is committed to becoming a world-leading technology company for intelligent manufacturing of high-efficiency solar clean energy. It aims to provide customers with cleaner energy solutions featuring higher efficiency, better performance, and higher returns.





Business development

As the leading HJT supplier in China, Huasun Energy holds China's first mass production line of GW-level HJT solar cell equipment and has become the world's largest HJT product manufacturer since the second quarter of 2022. The company plans to increase the total production capacity to over 40GW during the "14th Five-Year Plan" period to drive industrial supply chain integration and technological upgrading.





Consolidating the Foundation of Responsibility Fulfillment

Huasun Energy continually enhances sustainability and compliance during routine operations and management, with an aim to creating a corporate culture of fairness and integrity, and promoting a long-term development through effective ESG management. In addition, the company maintains active communication and interaction with internal and external stakeholders to understand their primary concerns about sustainability issues, so as to enhance the sustainability of economic, environmental, and social development.

Corporate governance

Huasun Energy has specified the rights and responsibilities of the Board of Directors, and organized internal audits and supervision to ensure stable development and legal business operations, to consolidate a foundation of fulfilling environmental and social responsibilities.

Governance structure



In accordance with the *Company Law of the People's Republic of China* and related laws, regulations, and relevant regulatory provisions, Huasun Energy has formulated relevant policies, defined the corporate governance structure and personnel responsibilities, and safeguarded the "right to know" of directors and supervisors, to ensure that corporate governance is undertaken in a compliant, scientific, and effective manner.

Corporate governance

As the ultimate governance body of the company, the Board of Directors is responsible for the overall governance and supervision in Huasun Energy. The Strategic Development Committee, the Operation Decision-making Committee, the Human Resources Committee, and the Technical Committee reporting to the Board of Directors of the company perform their respective duties of supervision and guidance, jointly ensuring the efficient operational decision making and rational internal resource allocation, in order to safeguard the long-term interests of all stakeholders. According to the company's internal articles of association and business requirements, Huasun Energy holds a board meeting every month to evaluate the company's transactions and performance.

Governance effectiveness

The Board of Directors of Huasun Energy values effectiveness corporate governance. In particular, the directors have significant industry experience, superior business management abilities, expertise skills in the fields of finance, law, and energy.

Risk management

Internal control

Huasun Energy has formulated its *Internal Audit Policy*, the *Internal Control Manual*, and related risk management procedures. Subject to supervision and guidance by the Board of Directors, the Audit Risk Control Department regularly identifies and evaluates risks according to the actual situation within the company, to provide a basis for management decision-making. Also, the company has designed risk mitigation plans and measures according to the evaluation results and management decision-making opinions, and optimized the efficiency of internal control procedures, thereby ensuring the effective implementation of corporate strategy.

During the reporting period, Huasun Energy, with the assistance of professional consulting institutions, enhanced internal management control, organized special internal control and operational risk inspections with respect to key areas and channels. Specifically, each department further monitored and resolved the identified key risks, and undertook optimization measures, thus improving the company's internal control procedures.

In addition, Huasun Energy regularly organizes internal evaluation and training for employees in accordance with the *Internal Control Manual*, to ensure that all employees fully understand risk management policies and consolidate the company's risk management foundation.



Enhancing internal management control - specialized training related to Research and Development (R&D) expense accounting

Attaching great importance to internal management control, Huasun Energy strictly implements internal control requirements such as *No. 10 of the Application Guidelines for Internal Control of Enterprises - Research and Development*. During the reporting period, Huasun Energy invited an external third-party organization to provide specialized training related to R&D expense accounting, in order to enhance the internal control over R&D expense accounting, and to assist all relevant employees whose positions are related to R&D to better understand the regulatory requirements of internal control over R&D. In addition, typical cases and practice experience were shared to assist employees to enhance their understanding and to standardize their behaviors in future work.

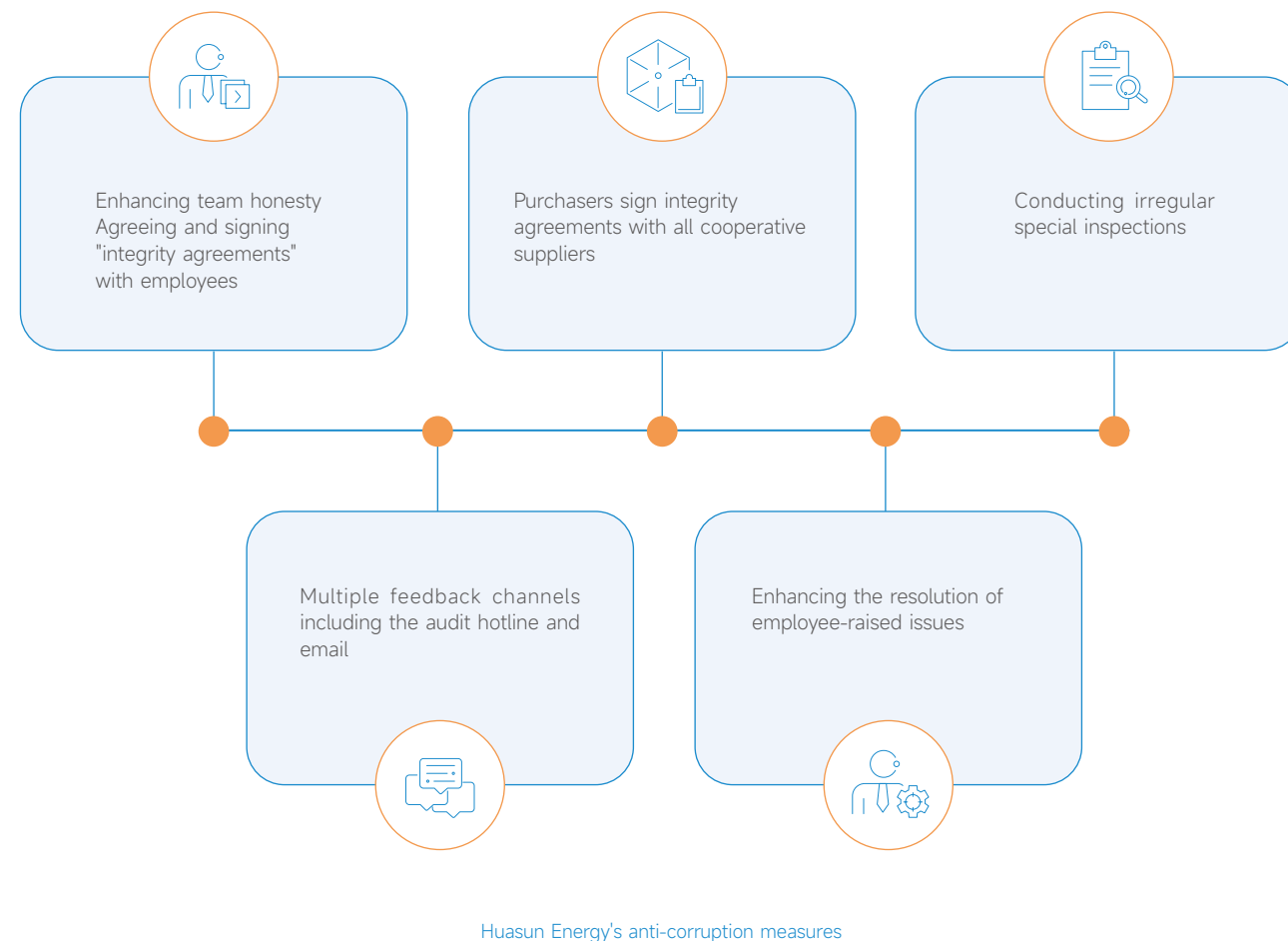
Internal audit

Fully leveraging the role of audit in terms of supervision, service, and promotion, Huasun Energy has revealed, analyzed, and studied issues from the execution perspective, and proposed professional improvement suggestions to further standardize management work. During the reporting period, the company organized routine and special internal audits within the Administrative Service Center, Supply Chain Management Center, Technical Research and Development Center, Component Business Department, and Cell Business Department. According to the internal audit results, Huasun Energy has drafted plans for enhancing internal departmental control and further dividing staff responsibilities to match the R&D and business activities with the company's strategic goals, so as to better supervise the implementation of development strategies and achieve sustainable operation.

Compliance management

Business ethics

Strictly abiding by the relevant provisions of business ethics in laws and regulations such as the *Company Law of the People's Republic of China*, Huasun Energy has formulated the *Guidelines for Integrity Practice of Cadres* and enhanced the risk prevention and control system for integrity practice and the reporting mechanism, to support high-quality development. During the reporting period, Huasun Energy was not involved in any concluded case of corruption litigation.



Focusing on the internal control situation, Huasun Energy has implemented a "zero tolerance" attitude towards employees' illegal and/or undisciplined acts. As a dedicated department of internal supervision and management, the company's Audit Risk Control Department has established and maintained reporting channels to receive reports and complaints from all employees. Simultaneously, the Department is responsible for tracking and handling reported incidents, and ensuring prompt communication and effective feedback in connection with reports and complaints.

In addition, Huasun Energy encourages all parties to supervise. To this end, Huasun Energy has opened a variety of online and offline complaint and reporting channels including email, telephone, WeChat, and work seminars.

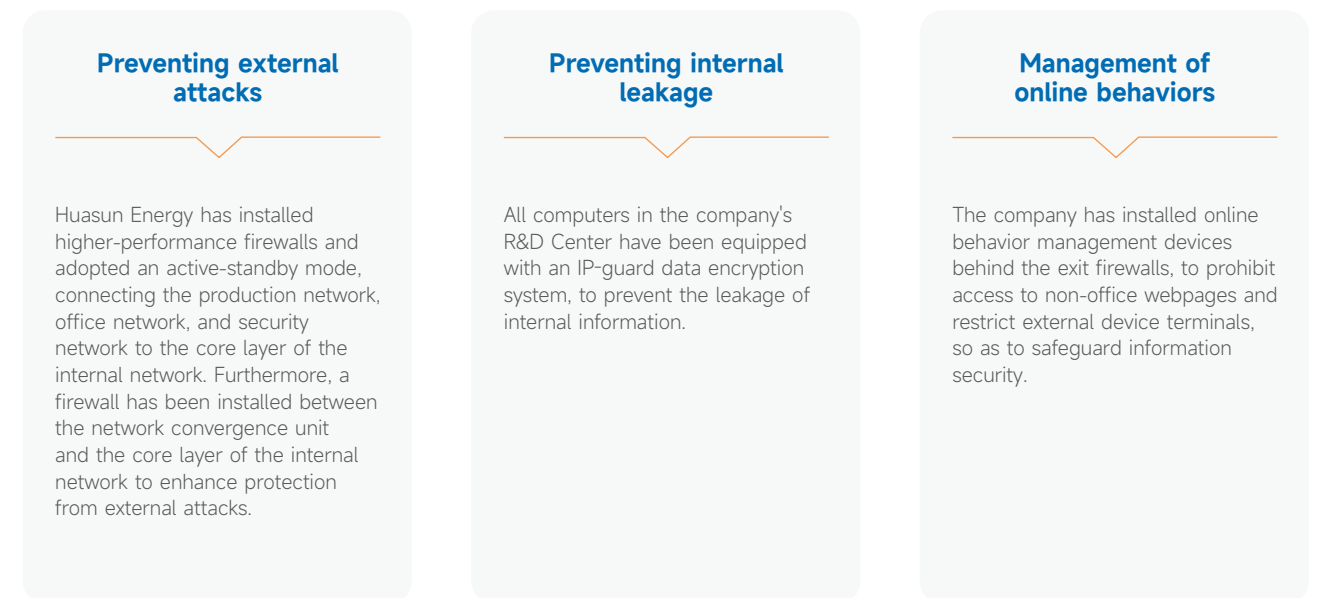


Reporting process of Huasun Energy¹

Huasun Energy has further normalized integrity education. Specifically, Huasun Energy has taken multiple initiatives including requiring new employees to sign integrity agreements and to study the Employee Handbook, establishing internal control systems for daily operations, and publicizing the anti-corruption policies, in order to enhance the integrity culture, and employees' awareness of integrity and self-discipline, as well as their ability to resist corrupting influences.

Information security

Huasun Energy has spared no effort to ensure the security of business secrets, information materials and customer privacy. In accordance with national laws, regulations, and policies such as the *Cybersecurity Law of the People's Republic of China*, Huasun Energy has formulated internal policies including the *Information Security Management Policy*, and enhanced the information security management system, to protect important information and data according to compliance requirements. During the reporting period, no information security incidents related to the leakage of trade secrets or customer privacy occurred at Huasun Energy.



Responsible marketing

In accordance with the *Advertising Law of the People's Republic of China* and other relevant laws and regulations, Huasun Energy has formulated the *Regulations on Compliance Management of Advertising and Publicity* and other rules, and improved the company's responsible marketing system, honoring its commitments to customers and ensuring the authenticity and effectiveness. In addition, Huasun Energy strictly controls the content of information distributed via newspapers, radio, television, and online media, to ensure the accuracy, legality, and authenticity of external publicity. Additionally, Huasun Energy safeguards the consumers "right to know", ensuring that the marketing content does not contain any fraudulent, misleading, or false information.

¹ Huasun maintains strict confidentiality relating to the informant's personal information, and strictly prohibits any retaliation against the informant. If anyone violates the relevant rules and regulations, he/she will be dealt with in accordance with the law.

Intellectual property protection

In strict compliance with the *Trademark Law of the People's Republic of China*, the *Patent Law of the People's Republic of China*, the *Copyright Law of the People's Republic of China* and other laws and regulations, Huasun Energy has drafted their *Intellectual Property Management Policy*, and improved the intellectual property management system, so that the intellectual property management is systematic and rule-based. Huasun Energy has received Intellectual Property Management System (IPMS) Certification, highlighting the company's progress in intellectual property management. In addition, Huasun Energy's patent management system has been tested and officially put in use, in order to enhance digital management of intellectual property rights.

In addition, Huasun Energy places great value on cultivating the employees' awareness of intellectual property protection. Huasun Energy has actively organized intellectual property training and routine publicity among employees from various departments. While advocating technological innovation, the company has also enhanced employees' awareness of, and compliance with, intellectual property protection requirements.

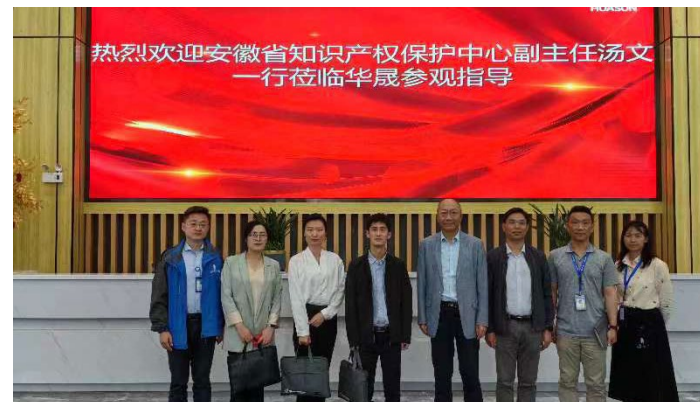
Intellectual property training

Internally

Huasun Energy has arranged for relevant departments to receive appropriate training on intellectual property laws and regulations, patent applications and retrieval and trademark rules, etc., to prevent the occurrence of employee infringement incidents.

Externally

Huasun Energy has dispatched some professional personnel to receive the training organized by provincial and municipal intellectual property offices, to learn and implement the latest national intellectual property laws, regulations, and policies.



Leaders of Anhui Provincial Intellectual Property Protection Center visiting Huasun Energy

Highlights of performance:

76

patent applications during the reporting period



166

patent applications in total



30

patent authorizations during the reporting period



70

patent authorizations in total



ESG management

Upholding the philosophy of "sustainable development", Huasun Energy has established a top-down ESG management system and an ESG governance structure, optimized the ESG management strategy, and expanded the pathways for communication with stakeholders, to ensure that the ESG strategy and management system effectively support the company's sustainable development.

ESG governance structure

Huasun Energy has established an ESG governance structure and clarified the responsibilities of management personnel at all levels, to carry out ESG activities in an orderly manner.



ESG governance structure and related responsibilities

To enhance the review and supervision of ESG activities, Huasun Energy monitors the effectiveness of ESG management strategies according to quantitative indicators and relevant internal policies. In addition, Huasun Energy has established a system of communication between ESG governance and management, to improve the company's ESG management level.

ESG management strategy

Huasun Energy integrates the ESG management strategy into routine operations and management. To date, Huasun Energy has received the SA8000 Social Responsibility Management System Certification, and implemented the ESG management strategy for better development, demonstrating its sense of social responsibility.



Substantive issues

Stakeholder engagement

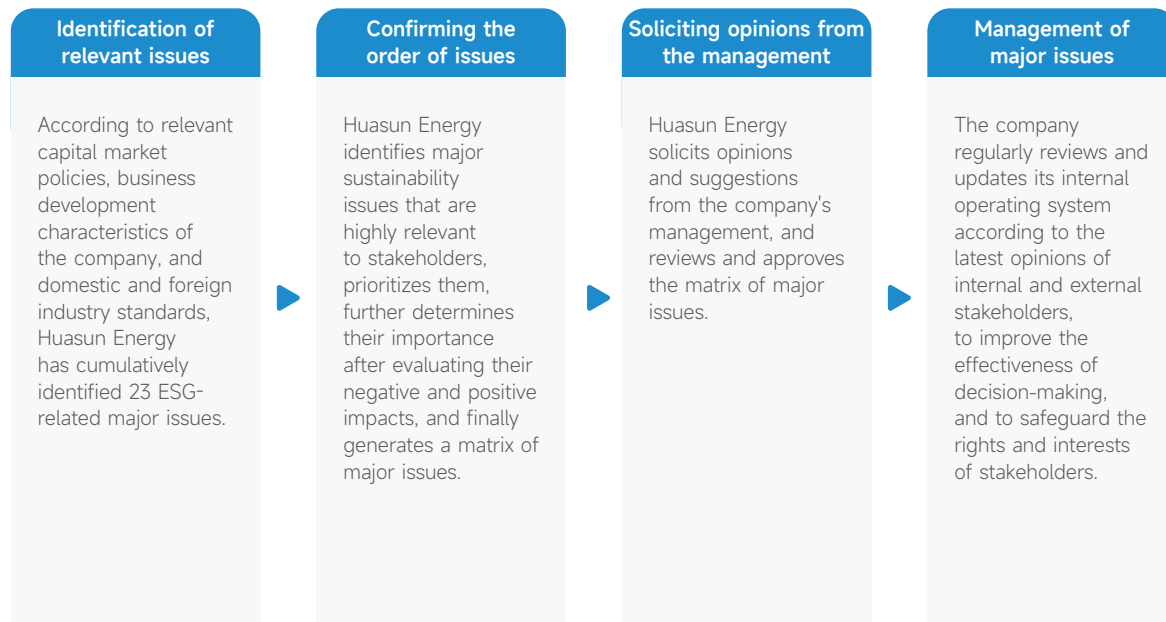
Huasun Energy regularly identifies and manages sustainability issues, and regularly organizes surveys on stakeholders, to comprehensively understand and collect feedback from them. Major issues are identified from the perspectives of the business and stakeholders, and disclosed in this Report.

To establish a multi-level, multi-faceted, and normalized long-term mechanism for communication with stakeholders, Huasun Energy has started close communication and cooperation with stakeholders by utilizing multiple channels and methods, to understand and respond promptly to their expectations and requirements.

Identification of stakeholders	Expectations and requirements	Communication channels and approaches
<p>Government and regulators</p>	<ul style="list-style-type: none"> ◆ Compliance in operation ◆ Risk management ◆ Business ethics ◆ Green products and technologies ◆ Tackling climate change ◆ Resource conservation ◆ Emission management ◆ Industrial cooperation ◆ Community support 	<ul style="list-style-type: none"> ◆ Policy presentation ◆ Institutional investigation ◆ Correspondence ◆ Job meetings
<p>Investors</p>	<ul style="list-style-type: none"> ◆ Corporate governance ◆ ESG management ◆ Risk management ◆ Green products and technologies ◆ Low-carbon energy development opportunities ◆ Protection of shareholders' rights and interests ◆ Stakeholder engagement 	<ul style="list-style-type: none"> ◆ General meeting of shareholders ◆ Information disclosure ◆ Performance presentation ◆ Corporate WeChat number ◆ Regular reporting and announcement ◆ Investor visits, teleconference, and investment banking strategy meetings
<p>Suppliers</p>	<ul style="list-style-type: none"> ◆ Compliance in operation ◆ Sustainable supply chain 	<ul style="list-style-type: none"> ◆ Supplier assessment ◆ On-site audit ◆ Supplier communication and training ◆ Business negotiation
<p>Clients</p>	<ul style="list-style-type: none"> ◆ Business ethics ◆ Intellectual property protection ◆ Information security ◆ Sustainable supply chain ◆ Quality of products and services 	<ul style="list-style-type: none"> ◆ Customer investigation ◆ Technical seminars ◆ Customer service hotline ◆ Client satisfaction surveys
<p>Competitors</p>	<ul style="list-style-type: none"> ◆ Industrial cooperation ◆ Innovative R&D 	<ul style="list-style-type: none"> ◆ Forums and conferences ◆ Exchange learning ◆ Industry alliance
<p>Media/public</p>	<ul style="list-style-type: none"> ◆ ESG management ◆ Green products and technologies 	<ul style="list-style-type: none"> ◆ Organizational activities ◆ Inspection reception
<p>Public welfare organizations/non-governmental organizations</p>	<ul style="list-style-type: none"> ◆ Green products and technologies ◆ Tackling climate change ◆ Resource conservation ◆ Emission management ◆ Reduce energy consumption & emission ◆ Community support 	<ul style="list-style-type: none"> ◆ The Company's official website ◆ WeChat Official Account ◆ Exchange meeting ◆ Public benefit activities
<p>Employees</p>	<ul style="list-style-type: none"> ◆ Employee growth and development ◆ Employee health and safety ◆ Protection of employee rights and interests 	<ul style="list-style-type: none"> ◆ Management meetings and employee meetings ◆ Internal online communication platform ◆ Employee training ◆ Employee activities

Resolution of significant issues

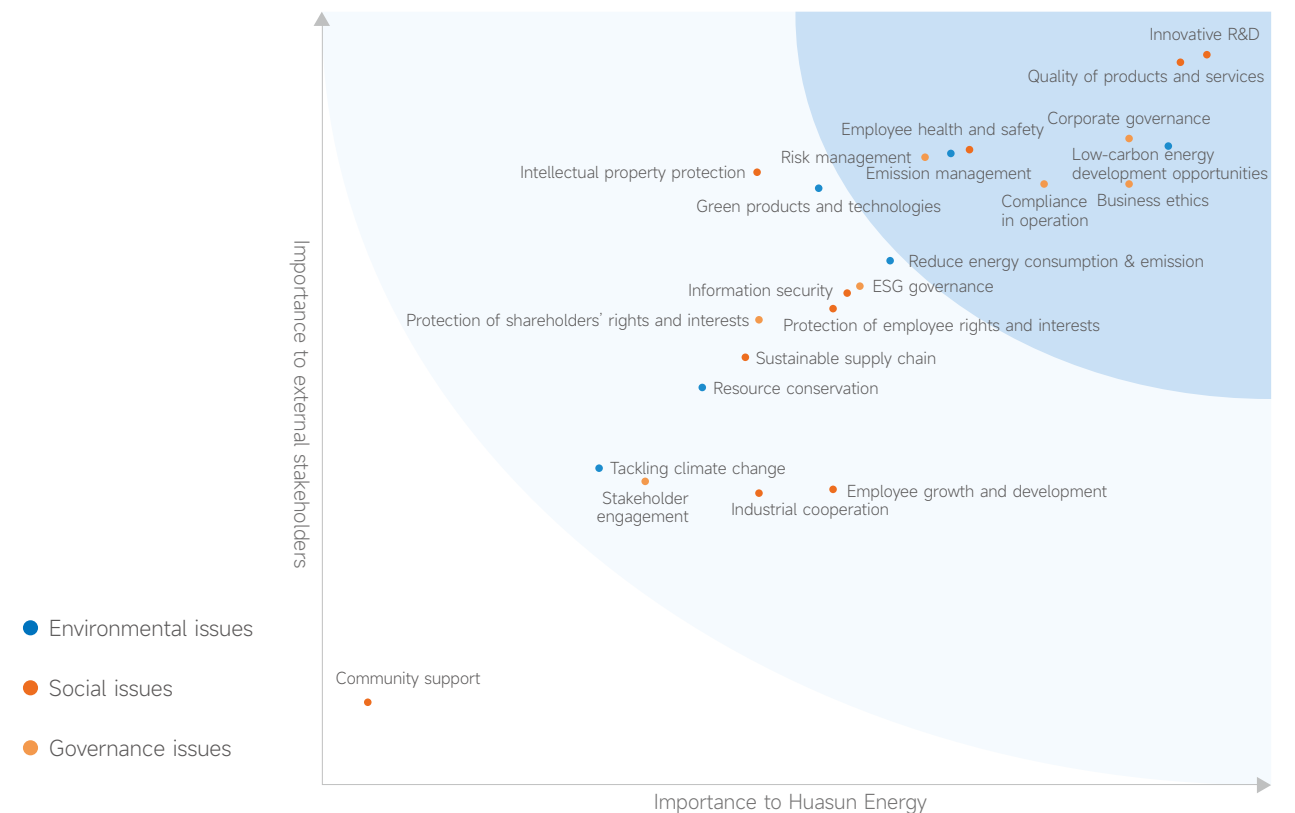
According to the existing national policies and key concerns of the capital market with regard to ESG-related opportunities and risks, Huasun Energy has identified and evaluated major issues, ensuring all the issues of concern to the company and stakeholders are covered. Huasun Energy's existing procedure for determining the issues is as follows:



Matrix of ESG-related major issues

Category	Important issues	Moderately important issues	Less important issues
Environmental	<ul style="list-style-type: none"> Low-carbon energy development opportunities Emission management Reduce energy consumption & emission 	<ul style="list-style-type: none"> Green products and technologies Resource conservation Tackling climate change 	
Social	<ul style="list-style-type: none"> Employee health and safety Innovative R&D Quality of products and services 	<ul style="list-style-type: none"> Information security Intellectual property protection Protection of employee rights and interests 	<ul style="list-style-type: none"> Employee growth and development Sustainable supply chain Industrial cooperation Community support
Governance	<ul style="list-style-type: none"> Compliance in operation Risk management Business ethics Corporate governance 	<ul style="list-style-type: none"> ESG governance Stakeholder engagement Protection of shareholders' rights and interests 	

Matrix of major issues of Huasun Energy



| Development advantages | Quality assurance | Responsible procurement |

Leading in smart manufacturing

As a leader in the HJT field, Huasun Energy is committed to “becoming a world-leading high-efficiency solar energy technology company”, specializing in the research and development, manufacturing, and application of ultra-high efficiency silicon HJT solar cells and modules. The company has established a superior research and development, manufacturing, and quality management system, integrating resources from the entire industry supply chain to continuously promote technological innovations and changes. Huasun Energy devotes to providing customers with clean energy solutions with enhanced efficiency, performance, and profitability.

| Development advantages

| Quality assurance

| Responsible procurement



Development advantages

With the development of green energy on the fast track, the technology enabling the efficient energy conversion has become one of the decisive factors for the photovoltaic industry. At present, the efficiency of crystalline silicon solar cells has reached its theoretical physical limit, while a breakthrough has been made in the technology relating to N-type solar cells. In addition, a breakthrough in the mass production of HJT products has provided the basis for the development of the next generation of perovskite/ tandem HJT solar cell technology. The latest technology is expected to become the only crystalline silicon technology capable of exceeding the mass production efficiency threshold of 30%.

HJT solar cells have the twin advantages of being crystalline silicon and possessing an amorphous silicon membrane, resulting in both excellent performance and efficiency in light absorption and passivation. To date, HJT technology enables the highest conversion efficiency and output power of solar cells in the solar energy industry. With the objective of integrating multiple benefits in technology, process, and industry, Huasun Energy has continuously enhanced the high-quality and efficient mass production of HJT solar cells, resulting in the development of the photovoltaic industry.

	PERC	TOPCon	HJT ²
Solar cell efficiency(%)	23.5	24.5 → 25.0 → 25.5	25.0 → 26.5 → 27
Double-sided rate(%)	~75	~85	>90
Tandem complexity of perovskite	Complex, significant changes in the existing process route	Complex, significant changes in the existing process route	Simple, laminated on the existing process
Solar cell process steps	10	12	4
Peak process temperature of solar cells (°C)	850	1000	200
Carbon footprint (kg eq CO ₂ /kW)	550-600	450-500	300-400
Silicon wafer thickness (μm)	155 → 150	140 → 130	130 → 90
Silver consumption (mg/W)	10 → 7.5	14 → 9.5	15 → 7 → 0

Significant differences in surface passivation effects of different solar cell structures	Reverse saturation current J _s fA/cm ²
 AL BSF-p-type -21% Back Surface Field	Front ~400 back ~400
 PERC-p-type -23.5-24% Passivated Emitter and Rear Cell	Front ~400 back ~2
 TOPCon-n-type-24.5-25.5% Tunnel Oxide Passivated Contact	Front ~350 back ~10
 HJT-n-type -25-27% Heterojunction with Intrinsic Thin Layer	Front ~1 back ~1 The physical structure of HJT determines the optimal surface passivation effect

² HJT is the heterojunction.

Industrial advantages

Mass production

IPCE exceeding

25%

predicted to increase to

26%-27%

in the future

In response to the global demand for carbon neutrality, the proportion of energy generated from renewable energy sources will gradually increase and it will become the predominant energy source among renewable energy sources ultimately. According to statistics disclosed by the International Energy Agency, 35%+ of electricity will be generated by the photovoltaic industry in the future. It is therefore inevitable that the industry must be optimized and upgraded. To enhance the commercial mass production of HJT solar cells, the key is to reduce costs and improve the conversion efficiency.

As the largest manufacturer of HJT solar cells and modules, Huasun Energy has enhanced its production efficiency by utilizing its research and development skill and advanced production technology. The company is the leading mass producer of GW single-sided microcrystalline HJT products, with an IPCE exceeding 25%, which is predicted to increase to 26%-27% in the future. Additionally, Huasun Energy has improved the double-sided microcrystalline mass production process, resulting in the research and development efficiency of HJT solar cells produced by utilization of this process reaches 26.1%, which has been certified by the National Institute of Metrology.

Huasun Energy has successfully achieved cost reduction and efficiency enhancement for HJT solar cells and modules, and has introduced the technologies of silver-coated copper slurry, butyl adhesive, and optical conversion film for the mass production of solar cells and modules. At the end of the reporting period, Huasun Energy ranked first in the global photovoltaic industry, becoming the first company to supply 1GW of HJT products and having received further orders for 10GW+ of HJT products.

Existing HJT mass production capacity is

5.1^{GW}

HJT production capacity under construction has begun to move towards

20GW+

Currently, Huasun Energy is the first global business capable of supplying HJT silicon wafers, cells, and modules within the entire industry chain, including vertically integrated products and solutions. Huasun Energy's existing HJT mass production capacity is 5.1GW, while the capacity under construction has begun to move towards 20GW+. Simultaneously, Huasun Energy has continually achieved industry records in the installation/debugging speed, including 42 days of lead time for the first film, and the highest efficiency of 25.3% for the first film. At present, Huasun Energy has achieved the highest efficiency while ensuring maximum production capacity and received significant market recognition while maintaining its leading position in the HJT industry.



350MW photovoltaic power station in Bulgaria, the world's largest HJT solar power station



50MW Agriculture-Photovoltaics Complementary Project in Weifang, Shandong province



23MW Fishery-Photovoltaics Complementary Project of CGN New Energy (Xuancheng) Co., Ltd.



10MW Industrial and Commercial Project of Guangde Zhongding Auto Parts Co., Ltd.

Practical power station application cases

Open innovation

Upholding the philosophy of "if you want to go far, go together", Huasun Energy has enhanced the integration and cooperation within the industry supply chain by establishing a pattern of "open innovation". The company has established an open, inclusive, and mutually beneficial industry cooperation pattern, resulting in overall cost reduction and benefit improvement by enhancing cooperation and the industry supply chain efficiency.

In addition, an open innovation system and cooperation platform continually incubate higher-quality and more efficient products and procedures across the industry supply chain. Huasun Energy, in cooperation with innovation partners, has achieved technological enhancement in ultra-thin silicon wafers, low-cost metallization, and equipment performance, resulting in further development of the industry.

Exploratory applications

With the continuous growth of onshore photovoltaic installed capacity and the increasing maturity of technology, offshore photovoltaic power generation is becoming a significant application scenario of achieving the goal of "carbon peaking and carbon neutrality". However, the complex and ever-changing marine environment poses novel challenges to the efficiency and security of offshore photovoltaic power generation, also to integrated development of the marine ecology.

Continuously expanding product applications and scenario boundaries, Huasun Energy has launched the world's first offshore HJT solar module, entitled the "V-ocean HJT Solar Module for Offshore Scenario". Huasun Energy has undertaken specialized multi-faceted research, development and technological innovation related to extreme offshore operating conditions, to exceed the technological and cost limits with high reliability and superior power generation capacity.



Performance advantages of the world's first offshore photovoltaic HJT module, entitled "the V-ocean high-efficiency offshore photovoltaic HJT module"

Huasun Energy V-ocean HJT Solar Module for Offshore Scenario has passed a series of tests relating to salt spray, PID, ammonia and so on. Additionally, Huasun Energy received weather resistance certification for the world's first photovoltaic modules in the marine environment from Bureau Veritas, and a weather resistance certification for its modules from TÜV and Bureau Veritas. In addition, the V-ocean HJT solar module for offshore scenario is one of the first domestic-manufactured products which received the high-quality product selection certification for weatherability of photovoltaic modules for differentiated applications from the National Center of Supervision and Inspection on Solar Product Quality (CPVT).

In addition to high reliability, Huasun Energy V-ocean HJT Solar Module for Offshore Scenario has intrinsic advantages including high efficiency and high-power generation capacity. The empirical results from China Building Material Test and Certification (CTC) (Ding'an county, Hainan province) demonstrated that the normalized power generation gain of Huasun Energy's high-efficiency HJT modules was typically 6.9% higher than that of PERC modules.

Furthermore, the use of Huasun Energy V-ocean HJT Solar Module for Offshore Scenario significantly reduces transportation, installation, and electrical connection costs. Especially when, offshore photovoltaic construction cost is significantly greater than that of onshore power stations. Huasun Energy modules reduce structural system costs by 10% and enhance sea area utilization by 8%.



The normalized power generation gain of Huasun Energy's high-efficiency HJT modules was typically

6.9%

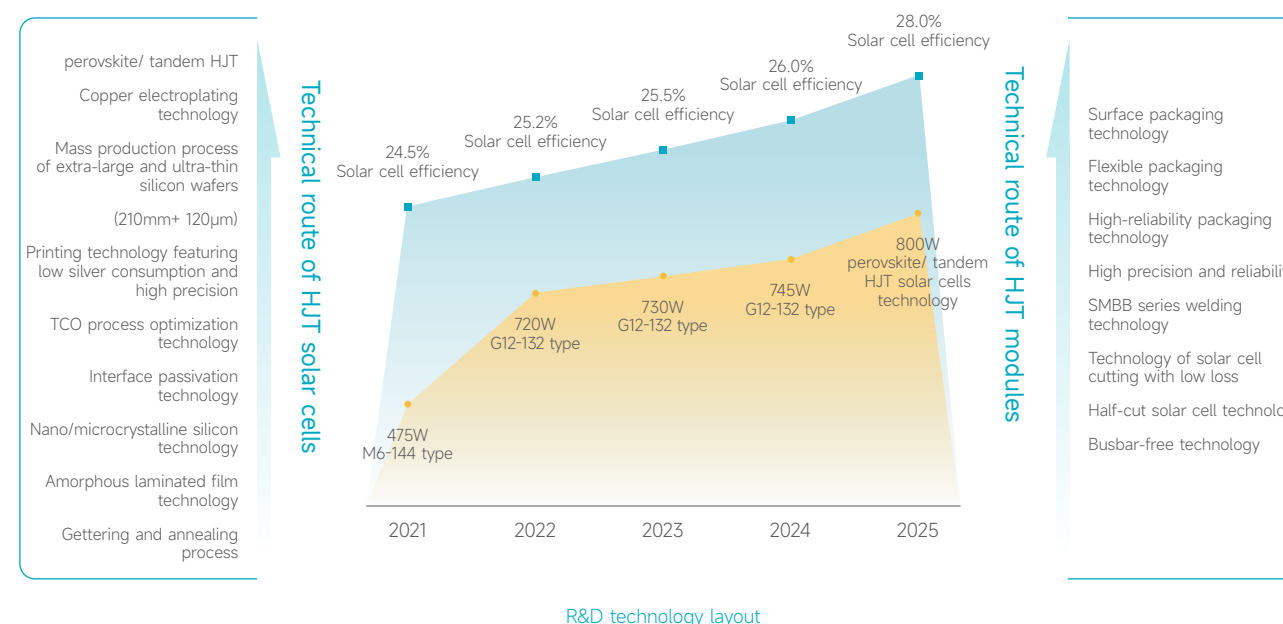
higher than that of PERC modules

Technical advantages

Technology development strategy

Focusing on development of the HJT technology, Huasun Energy has formed a strategic technology layout. Taking the lead in integrating the technologies for research, development and industrialization of HJT silicon wafers, cells, and modules, Huasun Energy has further expanded the technical boundaries of HJT solar cells and modules, and boosted the future development and application of perovskite/tandem HJT solar cells. Relying on higher conversion efficiency, more stable power generation performance, better quality assurance, and platform-based technology expansion capacity, Huasun Energy is committed to providing customers with the most valuable services.

Strategic, long-term, and complete R&D layout



Significant technical input

Attaching great importance to technological innovation, research, and development, Huasun Energy has set up a research and development pilot-scale production line with fixed assets valued at RMB 100 million, as well as 73 research and development systems that can be utilized to produce HJT solar cells and modules, with the associated testing and characterization capabilities. In 2021-2022, the company invested over RMB 100 million in research and development, planning to invest further RMB 250 million in research and development during 2023.

Actively exploring effective approaches to enhancing the efficiency of photovoltaic solar cells, the company has built a superior R&D team led by authoritative industry experts and composed of 200+ senior technical specialists in the HJT field in order to achieve low-cost and high-efficiency mass production of HJT solar cells and modules. At present, the company has 4 chief scientists of national major scientific research projects and high-level introduced talents, 4 leading experts in the HJT field, 8 doctoral researchers, and 63 researchers with a master's degree. In addition, core team members of the company have significant experience in the photovoltaic industry, including over 15 years of experience in the development and management of HJT technology, thus enhancing the company's technological innovation, research and development.

Advantages of enhanced performance

HJT solar cells have extremely low degradation characteristics: high conversion rate, low temperature coefficient, uniform color, no LID³ and no PID⁴. They are high-quality products with significant power generation enhancement for the same installed capacity compared with other equivalent products and technologies. Through continual optimization of the technologies and processes, Huasun Energy has successfully utilized the fundamental advantages of HJT solar cells and ensured that photovoltaic power stations achieve the optimal leveled cost of energy (LCOE).

Lamellar advantages

- As the related technology becomes mature, HJT solar cells can be manufactured by utilizing silicon wafers with a thickness of 100μm, which can be combined with busbar-free solar cells with shingled modules, to further improve efficiency and reduce costs.
- The low-temperature (below 200°C throughout the production) manufacturing process of HJT solar cells ensures fewer hidden cracks and defects.

Extremely low degradation

- HJT solar cells are constructed from N-type silicon wafers, without boron oxygen (BO) bonds in ordinary photovoltaic cells, resulting in an absence of LID effect and fundamentally ensuring its durability and profitability.
- The transparent conducting oxide (TCO) film layer of heterojunction solar cells is conductive, and surface charges will therefore be unpolarized, without PID, thus fundamentally preventing PID degradation.

Power generation under weak light

- The N-type monocrystalline silicon wafers of HJT solar cells have better weak light effects than the P-type monocrystalline silicon wafers of PERC solar cells. The generating capacity per watt of HJT solar cells is about 0.5-1% higher than that of double-sided PERC solar cells.

Ultra-high double-sided rate

- HJT solar cells have a unique and natural double-sided symmetrical structure, so that they can be easily made into double-sided solar cells, with a double-sided rate reaching up to 95%. In addition, the generating capacity per watt is about 3%-6% higher than that of double-sided PERC solar cells.

Ultimate temperature coefficient

- The HJT solar cell modules are packaged with double-glass Ethylene-vinyl acetate (EVA, optical conversion film) and butyl adhesive, and have superior waterproof performance, thus ensuring that the internal materials are not corroded, and avoiding PID owing to superior material performance.

Ultimate temperature coefficient

- The temperature coefficient of HJT solar cells is about -0.26%/°C. In high-temperature environments, the power generation performance of double-sided HJT solar cells is more stable, and the generating capacity thereof is up to 3.9% higher than that of double-sided PERC solar cells.

Advantages of HJT solar cells

Through increasing investment in research and development of mass production technologies, quality enhancement, and efficiency increase of HJT solar cells, the company has achieved technological breakthroughs in the mass production of HJT solar cells by utilizing the unique super multi busbar (SMBB) technology, low-cost mass production technology, and high-capacity microcrystalline technology.

Unique SMBB technology

- The combination of SMBB series welding technology and low-loss half-slice cutting technology improves the module power and reduces silver slurry loss.
- Heterojunction solar cells and modules are high-precision and reliable.

Low-cost mass production technology

- Huasun Energy has significantly reduced mass production costs by first introducing silver-coated copper slurry and new printing technology.

High-capacity microcrystalline mass production line

- Huasun Energy established the industry's first GW-level large-scale, high-capacity microcrystalline mass production line, with the maximum average mass production efficiency of solar cell slices exceeding 25%.

Technical advantages of Huasun Energy

³ LID: Light Induced Degradation
⁴ PID: Potential Induced Degradation

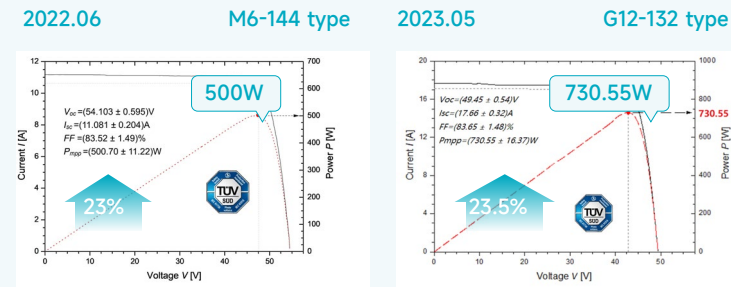
Significant technological achievements

In order to evaluate the realistic performance of HJT solar cells and modules more accurately, Huasun Energy has continuously evaluated the conversion efficiency of mass-produced HJT solar cells and modules and verified the test results. Test results demonstrate the technical advantages of Huasun Energy's products, and confirm the leading position of HJT solar cells in the photovoltaic industry supply chain.



Empirical performance testing of Huasun Energy's HJT solar cells and modules

The results of empirical testing and verification demonstrate that the maximum conversion efficiency of Huasun Energy's conventional mass-produced HJT solar cells and modules is approximately 23.5%. The powers of M6-144 and G12-132 conventional modules reach up to 500 watts and 730.55 watts, respectively, exceeding those of competitors' equivalent products.



Conventional mass-produced HJT solar cells and modules is approximately

23.5%

The powers of M6-144 conventional modules reach up to

500 watts

The powers of G12-132 conventional modules reach up to

730.55 watts

Huasun Energy has been included in the list of the World's Top 20 Solar PV Brands published by the globally authoritative third-party testing laboratory PV Evolution Labs (PVEL)⁵, and keeps far ahead in total energy yield. During the test, PVEL analyzed the parameters of Huasun Energy HS-210-B132DS670 photovoltaic mold and calculated the efficiency according to the module data of the Himalayan G12 series 655-675W HJT solar cells. The results demonstrated that the specific energy rate of Huasun Energy products in Boston reached 1270kWh/KWp, which was significantly greater than the optimal rate of 1255kWh/KWp. In contrast, this figure for Las Vegas was 2210kWh/KWp, significantly greater than the local optimal rate of 2130kWh/KWp.

⁵ PVEL, as an independent third-party module testing agency in the United States, releases the list of World's Top 20 Solar PV Brands after rigorous testing every year.

| [Development advantages](#) | [Quality assurance](#) | [Responsible procurement](#) |

Process advantages

Simple four-step process

The manufacturing of other solar cells requires 10+ steps, while just four steps are needed for the manufacturing of HJT solar cells (cleaning and texturing, double-sided CVD, double-sided PVD, and silk-screen printing), thereby maximizing cost reduction and efficiency enhancement in the mass production process.



Scale and smart manufacturing

With the advent of the Industry 4.0 Era, systematization, digitization, intelligentization, and datafication becomes the overall transformation focus of the manufacturing industry in China. Based on a lean management system, Huasun Energy utilizes automation integration technology, digitization and intelligentization to enhance business digitization, smart manufacturing, process standardization, having achieved significant cost reduction and efficiency improvement.

Business digitization: a digital system of manufacturing and operation

Positioning: to become the control centre for management of the company's manufacturing performance and core indicators

Core path: real-time monitoring of business trends and indicators for daily management at the manufacturing site to facilitate lean management

Production automation: smart manufacturing system

Positioning: Positioning: integrating digital management tools to establish a closed loop of manufacturing management

Core path: to establish a manufacturing platform that integrates various management systems, and to create an integrated IoT platform for production, testing, power, and logistics devices

Process standardization: lean manufacturing system

Positioning: to establish a continuously optimized production promotion organization to better achieve the company's vision

Critical path: to design and build a benchmark base by applying key lean management tools, and to carry out the activities of enhancement and promotion in order to ultimately achieve whole- business lean manufacturing



Digital achievements in operation and management

Through continuous enhancement of digital operation and control capabilities, Huasun Energy further optimizes the production and operation processes. At present, the company has optimized the processes of sales, research, development, and production by utilizing integrated management and control of business accounting and finance, integrated process design and production, and collaborative control of the supply chain. In addition, Huasun Energy has enhanced the operational efficiency within each department and achieved integration of the entire business process.



Achievements of smart manufacturing

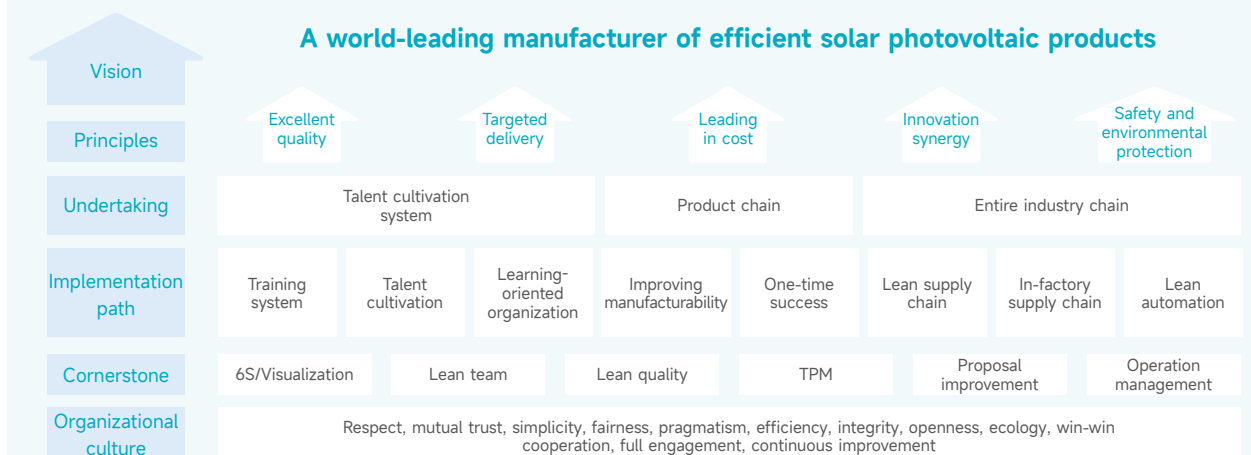
Although the HJT production process consists of just four steps, the technical difficulties of manufacturing in each step are significantly higher than that for PERC solar cells. In addition to the requirements for conversion from pan-semiconductor micron technology to quasi-semiconductor nanotechnology and from a class 100,000/300,000 clean room to a class 1000 clean room, the requirements for cleanliness, precision, uniformity, and continuity are very strict.

As the first company that has achieved mass production of HJT products, Huasun Energy has multiple unique advantages. For example, all of Huasun Energy's production plants have installed comprehensive temperature and humidity control systems. All production lines are controlled by the centralized software, and every production unit can detect and report any faults online. These initiatives enhance production efficiency and ensure product quality.



Achievements of lean manufacturing

In order to satisfy the company's requirements of systematic improvement, bottleneck reduction, and daily management, Huasun Energy has established a lean manufacturing system encapsulating training empowerment, operational management, and continuous development. In addition, the company has developed 20 key lean management tools, including value stream tools, lean layout design tools, and lean material distribution tools. Furthermore, Huasun Energy has further enhanced the lean culture awareness of all employees and optimized the lean manufacturing system.



Quality assurance

Adhering to the business philosophy of quality first, Huasun Energy further enhances its quality management system, optimizes its customer service process, and creates a universal corporate quality culture, supplying every customer with excellent quality products and services.

Quality control

Quality management system

Huasun Energy has established a superior quality management system and received the ISO 9001 quality management system certification, thereby establishing a company-wide foundation for product quality management.

Focusing on overall quality management, the company has undertaken refined management and full-process quality management of incoming materials including silicon wafers, solar cells, and modules to ensure superior performance of the products in every aspect.

Huasun Energy's HJT solar cells have passed professional industry testing and a series of product quality and safety certifications.



ISO 9001 Quality Management System Certification

Quality management and audit

Huasun Energy undertakes product quality management thoroughly and meticulously, to ensure its objectivity and scientificity. During the reporting period, Huasun Energy invited third-party professional organizations to undertake quality audits to ensure the products comply with quality standards. Huasun Energy organized four internal quality audits and further optimized the audit findings in order to incorporate the quality management philosophy into entire business operations.

Certification items	Certification authority	Start date of audit	End date of audit	Certification results
MCS	TÜV	January 19, 2022	January 19, 2022	Pass
Product certification - remote preliminary review	PCCC	February 11, 2022	February 11, 2022	Pass
Product certification - on-site review	PCCC	March 3, 2022	March 4, 2022	Pass
Annual supervision review	CQC	July 30, 2022	July 30, 2022	Pass

Huasun Energy's external quality audit system



Internal quality audits

In order to better identify operational issues and continuously enhance, Huasun Energy drafted an internal audit plan and ensured its implementation within all relevant departments during the reporting period. As a result of the implementation of this internal audit plan, Huasun Energy has highlighted the existing situation within its quality management system, and resolved the shortcomings and deficiencies in its product quality management.



Supplier quality management

The reliability and premium quality of suppliers are fundamental to our quality assurance. Through comprehensive control over access, daily management, and assessment of suppliers, Huasun Energy comprehensively reduces supply chain risks and ensures quality reliability throughout the product lifecycle.

Strict control over supplier access

- Huasun Energy formulated *Supplier Access Management Regulations* to clarify the responsibilities of relevant departments in connection with the company qualification review, sample testing, reliability testing, small sample testing, medium sample testing, and access approval.

Daily management of suppliers

- Huasun Energy formulated the *Regulations on the Management of Raw Material Suppliers*, specifying and following the provisions in supplier development, procurement contract signing, quality assurance capability review, performance evaluation and management, supplier list management, and supplier engineering adjustments.

Regular supplier assessments

- Huasun Energy organizes assessments based on supplier's performance on a quarterly and annual basis.

Quality empowerment and communication

Enhancement in the ability and awareness of employees is Huasun Energy's priority to improve the quality of products and services. The company regularly organizes quality training and advising activities for all employees to promote two-way improvement and form a virtuous circle, therefore establishing a sound basis for the quality improvement of products and services.



Activities of training by quality method and empowerment

During the reporting period, Huasun Energy established the Quality Improvement Department and opened the "Six Sigma Green Belt"⁶ series of courses for all employees, in order to enhance their abilities to analyze and solve practical issues, and to create a corporate atmosphere and culture of discussion, identification, and decision-making based on facts and evidences.

Employees are entitled to obtain a "Green Belt" certificate after receiving the training and passing the exams. During the reporting period, a total of 22 employees passed the exams.



Activities of soliciting suggestions

Huasun Energy launched the campaign of all-staff continuous improvement, openly requesting and evaluating reasonable suggestions, and utilizing incentives. This campaign has significantly mobilized the enthusiasm of grassroots employees to resolve not only existing and instant issues, but also brought other long-term enhancement. During the reporting period, a total of 150 suggestions were received, of which 148 were accepted and implemented.



Service guarantee

Protection of clients' rights and interests

Huasun Energy always adheres to the values of "customers and quality first, constant struggle, technological innovation, and lifelong learning". After in-depth market research and comprehensive evaluation during the reporting period, Huasun Energy officially released the "Limited Warranty for Rooftop HJT Photovoltaic Modules", extending the process warranty period of six major rooftop Himalayan HJT solar modules to 30 years.

Currently, the industrial average process warranty and power warranty periods for domestic photovoltaic products are 15 years and 25 years respectively. Since the launch of the Himalaya solar modules, Huasun Energy offered the first ever 30-year warranty for linear power, providing customers with the dual benefits of extended warranty and reduced degradation. Huasun Energy has recently extended the product process warranty to 30 years, fully demonstrating its confidence in the long-term reliable operation of its products. In the future, Huasun Energy will further expand the coverage of 30-year process warranty, to enhance the protection of the rights and interests of more customers.



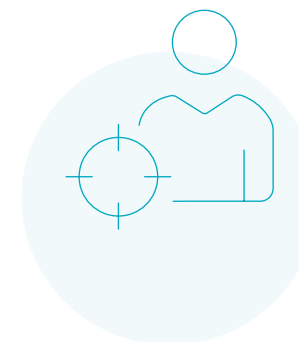
Customer service system

We are committed to providing customers with superior service experience through delivery of standardized or customized services in an all-round manner.

Huasun Energy establishes a reliable product recall process. If any product quality defect is discovered, Huasun Energy's customer service personnel will contact relevant departments to track, record, resolve, and respond to the issue, in order to provide customers with a comprehensive after-sales service.

The company formulated the *Operation Procedures for Module Shipping, Unloading, Handling and Installation* to standardize and unify logistic procedures including packaging, shipping, loading, unloading, handling, and installation of modules, to ensure the safety and integrity of the modules during the shipping and installation process.

The company has established a strict customer complaint response process, which enables timely understanding and feedback of customer needs, and quick contact with relevant departments. Based on the sound response process and system, Huasun Energy can provide customers with appropriate solutions, maximized satisfaction and excellent experience.



⁶ Six Sigma Green Belt: Six Sigma is a technique for improving the process of quality management, which can significantly improve quality and reduce costs while pursuing the objective of "zero defects", in order to ultimately enhance financial performance and competitiveness of the Company. As a role of Six Sigma, the Green Belt participates in all stages of project operations under the direct leadership of the Black Belt. The individuals or a larger team have received training related to the tools, methods, and skills required for Six Sigma improvement projects.

Responsible procurement

Focusing on the reliability and interoperability of the supply chain, Huasun Energy has integrated the concept of sustainable development into supply chain management. By enhancing procurement management system and supplier evaluation standards, and strengthening cooperation with industry chain enterprises, Huasun Energy has continually consolidated the supply chain while fostering collective progress within the photovoltaic industry.

Procurement management



Supplier access control

Huasun Energy takes strictly controlling procurement quality and supplier access as the first step for comprehensive management. The company formulated the *Procurement Management Control Procedure* and other related policies to standardize the procurement process. In order to mitigate supply chain risks, the company's qualified suppliers have been carefully selected according to their business operation duration, supply experience, financial condition, previous and current cooperation performance, with multiple rounds of investigation and review for reasonable and scientific screening.

In the screening stage of supplier access control, the company assesses suppliers based on their business capabilities, financial condition, and other related aspects. Huasun Energy establishes a supplier categorization management system, which further improves the specific criteria and requirements for suppliers in different categories. Huasun Energy has additionally undertaken categorization and classification measures to ensure the quality and reliability throughout the supply chain, and to effectively identify and control risks.

Supplier quality assessment

In terms of supplier quality assessment, Huasun Energy mainly considers four aspects from the perspective of business, service, delivery time, and quality, aiming to ensure the reliability and rationality of product quality and prices.

In order to further ensure the quality of supplied products, Huasun Energy standardizes the procurement behaviors of various branches and strictly controls the procurement process to ensure that the quality, prices, delivery time, and other aspects of the purchased products are in line with the specified procurement requirements and plan. Additionally, Huasun Energy conducts regular development certification, daily management, and performance assessments of suppliers to ensure that they consistently provide high-quality and reasonably priced products in a sustainable manner.

Maintaining supply chain stability

A supply chain is crucial to business continuity. Huasun Energy implements a backup strategy for the procurement of key raw materials, which are purchased from at least three major suppliers as well as multiple alternative suppliers to ensure the stable supply.

In addition, the company conducts regular assessments of in-house suppliers to analyze and control key factors including procurement locations, continuity, and safety risks. Furthermore, Huasun Energy has developed a safety inventory plan to ensure production consistency.

In addition, the company formulated the *Regulations on the Management of Raw Material Procurement Allocation* to standardize the monthly allocation of raw and auxiliary materials, which ensures the security and reliability of the supply of raw and auxiliary materials. The Regulations provide guidelines on formulating monthly procurement allocation plans and managing real-time dynamics of suppliers' supply shares, ensuring the transparency, fairness, rationality, and efficiency in the procurement of raw and auxiliary materials.

Alternative suppliers

Purchases one category of similar ordinary materials from at least three suppliers, and scarce materials from at least five suppliers.

Stability assessment

Conducts monthly, quarterly, and annual assessments to suppliers, evaluating their supply and emergency capabilities from multiple dimensions.

Safe inventory plan

Developed the safe inventory and material purchase plans, and signed annual supply contracts for critical materials.

Improvement in procurement efficiency

Because of the rapid development in photovoltaic technologies, procurement efficiency and quality are fundamental to Huasun Energy's sustainable development. In order to ensure the quality and efficiency of procurement, Huasun Energy initiated supply chain digitization by establishing an operation platform to integrate multiple procurement sources. Currently, the platform has integrated 20 operational modules, including the collaborative platform, OA office, supplier portal, procurement management, sales management, warehouse management and logistics management, which has significantly enhanced efficiency, and further specified and standardized the procurement process.

During the reporting period, the company organized 18 special training sessions of 63 hours in total for procurement personnel. Training topics included procurement knowledge, ERP operation, procurement practices, procurement code of conduct, *Procurement Management Procedure*, and *Regulations on the Management of Raw and Auxiliary Material Procurement Shares*. These training sessions assist procurement personnel to gain a better understanding of procurement-related procedures and develop their professional skills, which enable them to work in an efficient and high-quality manner.

Responsibility assessment

While ensuring quality and business continuity, Huasun Energy incorporates numerous key ESG issues and indicators into the supplier access and management procedure, to establish a sustainable supply chain. The company formulated the *Supplier Assessment Management Measures* to assess suppliers' quality management and engineering capabilities on a monthly and quarterly basis. This ensures that all suppliers provide qualified products and services.

In terms of business ethics, Huasun Energy regards integrity as the cornerstone of cooperation, and requires every supplier to sign commitment letters and confidentiality agreements to prevent potential corruption and conflict of interest risks in advance and avoid corruption and bribery in the procurement process, and ensure that suppliers' business ethics standards are consistent with the company's position. In terms of environmental protection, the company requires suppliers to take effective measures or actions in environmental management system, waste disposal, etc. and primarily evaluates suppliers according to their performance in these issues. In terms of social responsibility fulfillment, Huasun Energy requires suppliers to operate in strict accordance with all applicable laws and regulations, and regularly evaluates their performance in labor rights, employee health and safety, protection of patents and intellectual properties.

The company has established open and transparent reporting channels, facilitating the reporting of any procurement issue that potentially violates business ethics simply by sending an email or scanning the official QR code. The company's Audit and Risk Control Department will investigate the reported issue in accordance with the law and take measures to solve the relevant issues in a timely and appropriate manner.

| Climate actions | Green manufacturing | Low carbon operation |

Creating a zero-carbon world

The photovoltaic industry practically pushes forward global decarbonization under the context of carbon neutrality. Owing to leading conversion efficiency and output power, HJT solar cells and modules can provide clean energy with low energy consumption. Upholding the mission of “to make efficient clean solar energy accessible to everyone, enhancing comfort in the home” , Huasun Energy is committed to providing “efficient and low-consumption” clean energy solutions. Meanwhile, the company continuously improves its environmental management system, and actively promotes green technologies and products, aiming to incorporate low-carbon practices across all aspects of the supply chain.

| Climate actions

| Green manufacturing

| Low carbon operation

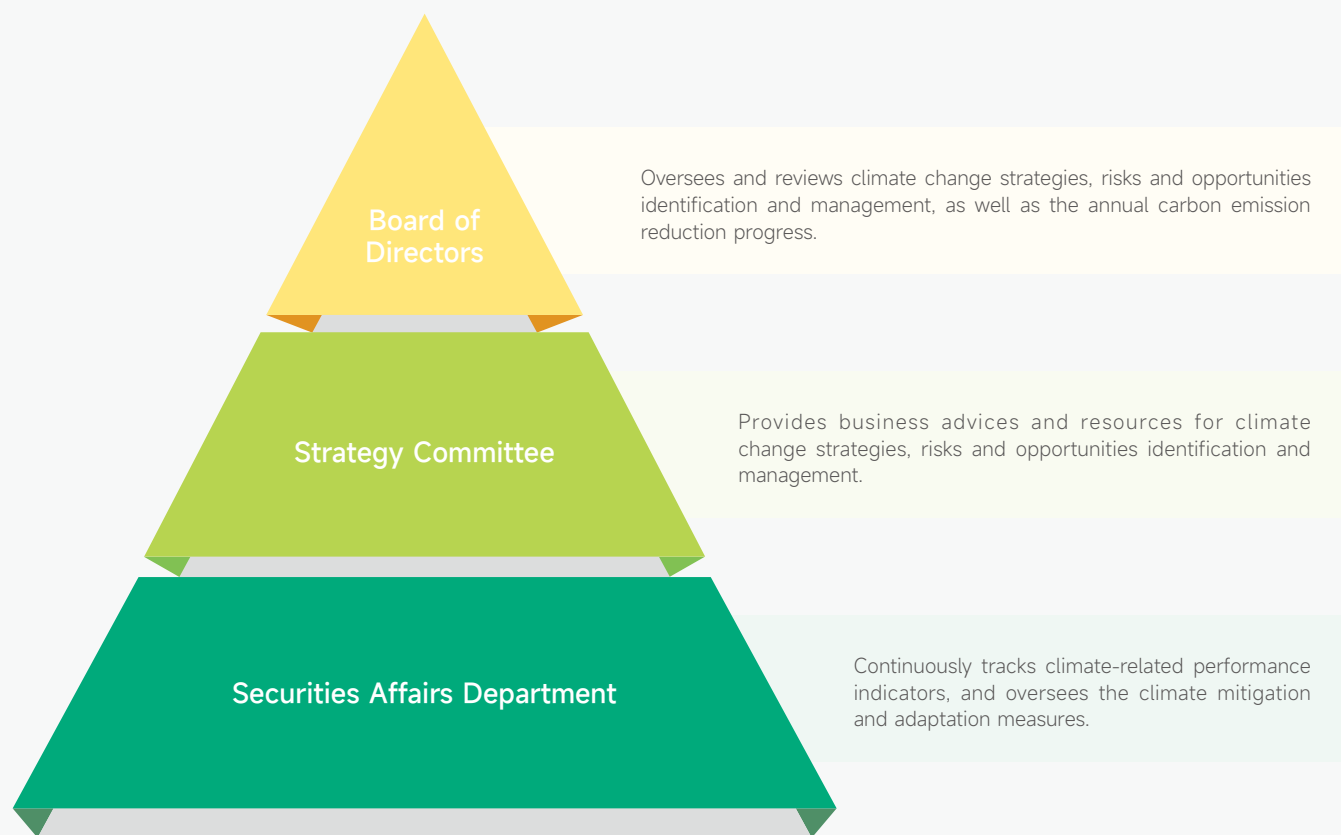
Climate actions

Huasun Energy focuses on climate change and the associated risks and opportunities with great significance. In positive response to the Paris Agreement, the company actively contributes to China's goal of "carbon peaking and carbon neutrality" by establishing a governance system and a risk management system, and developing environmental-friendly products to pursue decarbonization opportunities.

Climate governance

Climate governance structure

Huasun Energy has incorporated climate issues into the overall ESG governance structure, which strongly supports the Company's objective of addressing climate change risks and opportunities.



Identification of risks and opportunities

Huasun Energy proactively refers to the information disclosure framework of the Task Force on Climate-Related Financial Disclosures (TCFD) to address climate change. Huasun Energy identifies and evaluates climate change risks and opportunities, develops countermeasures related to the company's strategy and operations, and integrates climate actions into business expansion, operation, marketing strategies, etc.

Risk type	Risk subtype	Time Range	Risk parameter	Countermeasures
Physical risks	Acute risks	Short-term risks	Natural disasters including typhoons, floods, and droughts, and extreme weather conditions including high temperatures	<ul style="list-style-type: none"> Pay close attention to the weather forecast, alarm promptly in case of any extreme weather events Develop emergency plans for natural disasters and extreme weather events; organize regular emergency drills
	Chronic risks	Long-term risks	Sea level rise, temperature rise, and precipitation changes caused by global warming	<ul style="list-style-type: none"> Monitor temperature and precipitation in daily operations; identify potential long-term climate risks, and develop contingent plans to adapt to rising temperature and/or precipitation
Transitional risks	Policies and laws	Long-term risks	A more stringent carbon restriction and/or trading scheme is unveiled	<ul style="list-style-type: none"> Pay close attention to new legal and regulatory requirements; establish a carbon management mechanism, and conduct corresponding carbon management
			Increasingly stringent requirements for disclosure of carbon emissions	<ul style="list-style-type: none"> Monitor day-to-day carbon emissions; enhance the management and control of greenhouse gas emission data
	Technology	Medium-term risks	Increasingly stringent industry requirements by government and regulators	<ul style="list-style-type: none"> Strictly follow the host country product regulations; continuously explore product decarbonization pathways
			The success rate of energy-saving and emission-reduction transformation of equipment and/or technology	<ul style="list-style-type: none"> Improve the feasibility analysis mechanism before project input; guarantee the effectiveness of transformation towards energy saving and emission reduction
	Market	Short-term risks	Increase in raw material costs	<ul style="list-style-type: none"> Focus on the raw material market trends, and regularly conduct business continuity assessments Optimize the raw material procurement process; enhance communication and strategic cooperation with green raw material suppliers
			Customers increase their focus on the businesses' actions in relation to the climate	<ul style="list-style-type: none"> Communicate with customers about their climate action expectations, and regularly report the Company's progress accordingly
Reputation	Medium-term risks	Investors increasing their focus on the businesses' actions in relation to the climate	<ul style="list-style-type: none"> Expand investor communication channels, effectively communicate about decarbonization commitments 	
Opportunities	Products and Services	Long-term risks	Customers are increasingly focused on selecting environmentally friendly products and services	<ul style="list-style-type: none"> As a leader in HJT technology, Huasun develops low carbon photovoltaic products to enhance product competitiveness
	Energy efficiency	Short-term risks	Enhance energy efficiency by utilizing clean energy	<ul style="list-style-type: none"> Promote distributed photovoltaic and other clean energy to enhance energy efficiency
	Market	Medium-term risks	Expand market segment and enhance accessibility to clean energy	<ul style="list-style-type: none"> Enhance market penetration by offering clean energy solutions to additional customers

Management of indicators and objectives

Huasun Energy has established a comprehensive greenhouse gas emission management system and actively conducted carbon footprint verification to scientifically and transparently support low carbon development. Huasun Energy invited authorized certification institutes to conduct carbon audits based on ISO 14064 standard for the whole life cycle of HJT solar cells and modules (Phase I), including the process of design, production, and sales. The institutes further predict long-term GHG emission trend based on production capability and other factors, which serve as scientific references for decarbonization roadmap establishment and carbon target tracking. Audit demonstrated the total carbon emissions of Huasun Energy's HJT solar cells and modules (Phase I) were 34,840.94 tons of carbon dioxide equivalent.



Carbon emission verification declaration certificate

34,840.94

tons CO₂e of total carbon emissions

During the reporting period, indicators in terms of greenhouse gas emissions of Huasun Energy are shown in the table below:

Greenhouse gas emission indicators		
Indicators	Units	Year 2022
		Total
Total greenhouse gas emissions (Scope 1)	tons of CO ₂ equivalent (tCO ₂ e)	226.77
Total greenhouse gas emissions (Scope 2)	tons of CO ₂ equivalent (tCO ₂ e)	77,656.82
Total GHG emissions	tons of CO ₂ equivalent (tCO ₂ e)	77,883.60
GHG emissions intensity	tons of CO ₂ equivalent/megawatt (tCO ₂ e)	45.81
GHG emissions intensity	tons of CO ₂ equivalent/RMB10,000 (revenue)	47.51
Total GHG emissions during full production (Scope 1) ⁷	tons of CO ₂ equivalent (tCO ₂ e)	226.77
Total GHG emissions during full production (Scope 2)	tons of CO ₂ equivalent (tCO ₂ e)	144,119.26
Total GHG emissions during full production	tons of CO ₂ equivalent (tCO ₂ e)	144,346.03
GHG emissions intensity during full production	tons of CO ₂ equivalent/megawatt (tCO ₂ e)	12.73
GHG emissions intensity during full production	tons of CO ₂ equivalent/RMB10,000 (revenue)	15.00

⁷Huasun Energy's HJT solar cells and modules (Phase II) were in the process of being developed when their yield increased, and full production was not achieved during several months in 2022, therefore the data representativeness is low. This Report discloses data during full production are equal to one month's full production data × 12. The greenhouse gas emissions during full production included the emissions from the combustion of fossil fuels and the consumption of purchased electricity.

Low-carbon opportunities

Seizing the low-carbon opportunities

The HJT solar cell structure has intrinsic low-carbon properties. Huasun Energy further optimizes the mass production techniques, focusing on "low-consumption manufacturing" and "high-efficiency performance" to realize products' maximum low-carbon potential.

Ultimate physical symmetric structure	Minimum solar cell process temperature	Optimal single watt power generation capacity	Simplest solar cell process steps
Minimum silicon material consumption	Best stacking technology platform	Minimum consumption of precious metal Ag	Minimum CO ₂ emission technology

Low-carbon properties of HJT solar cells

Up to now, Huasun Energy has approached the "low consumption, high efficiency" target in terms of raw material use, production techniques, and production workflows. We guarantee product efficiency and performance while reducing the carbon footprint.



Low-carbon raw materials: silicon wafer thinning

Thickness of silicon wafer is one of the most significant factors affecting the carbon footprint during battery production. The symmetrical structure, free stress, and low-temperature process result in a satisfactory yield rate of HJT solar cells as well as silicon wafer thinning. Future technological innovation will allow silicon wafers to be less than 100 μm. In combination with busbar-free solar cells with shingled modules, this would result in efficiency enhancement and cost reduction, and would significantly optimize the carbon footprint of traditional photovoltaic products. During the reporting period, Huasun Energy has achieved mass production of 130 μm thick silicon wafers. Huasun Energy's silicon wafer cutting equipment capable of cutting 100 μm silicon wafers maximizes low-carbon properties of products.





Low-carbon process stages: low-temperature manufacturing process

The low-temperature process of horizontal carriers for HJT solar cells and modules facilitates the use of ultra-thin silicon wafers, and effectively reduces the utilization of raw material silicon, thereby reducing the carbon emissions of single silicon wafers. High temperatures are not required for production of Huasun Energy's HJT solar cells, and process temperatures are controlled at around 250°C to reduce energy consumption, thermal stress (generated by thin silicon wafers during the high-low-temperature process) and avoid potential risks of fragmentation and cracking. During the reporting period, Huasun Energy further reduced the laminator process temperature from 160 °C to 145 °C to further conserve energy and reduce emissions.

Reduced the laminator process temperature from 160 °C to

145 °C



Low-carbon production process: simpler manufacturing stages

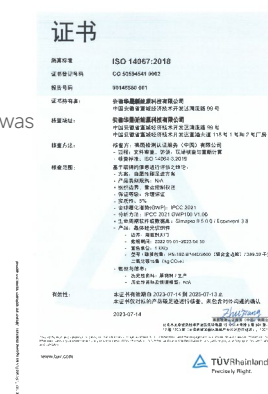
Simplifying manufacturing stages for HJT solar cells and modules can reduce energy consumption to further reduce carbon emissions. The HJT technology enables Huasun Energy to vertically integrate the production process of silicon wafers, solar cells, and modules. Huasun Energy has developed the supply chain from silicon wafers to solar cells and modules, and established a silicon wafer system for HJT solar cells, significantly reducing energy consumption during the production process, which provides a novel pathway for low-carbon transformation possibilities.

Owing to green and low-carbon properties, Huasun Energy's HJT solar cells and modules have been rated as "National Green Building Materials Three Stars Certified Products", highlighting Huasun Energy's initial efforts to maximize low-carbon opportunities. Certified by an authority, the carbon footprint of Huasun Energy's heterogeneous products was as low as 389.59 g CO₂ equivalent/watt. In addition, the company plans to launch its first zero-carbon product during the 14th Five-Year Plan period to enhance Huasun Energy's clean and green development.

Carbon footprint of Huasun Energy's HJT products was as low as

389.59

CO₂ equivalent/watt



Carbon footprint certification



National green building materials three stars certified products certificate

Passing on low-carbon opportunities

In response to China's goal of "carbon peaking and carbon neutrality", the demand for clean energy is increasing on a daily basis. As a clean and renewable energy source, solar energy is superior to traditional energy sources in terms of unit carbon emissions. For example, carbon emissions from photovoltaic power generation per kilowatt hour are only about 3%⁸ of the carbon emissions from thermal power generation. If China's entire thermal power⁹ generation in 2021 was replaced by photovoltaic power generation, it would reduce carbon emissions by about 4.8 billion tons. Solar energy is a significant and feasible path for energy transition and decarbonization.

The HJT technology has superior conversion efficiency and output power performance, serving as the key technology for affordable PV storage. Features including high double-sided rate, low temperature coefficient, low power attenuation, and weak light performance secures HJT technology' superior power generation performance. Compared to PERC/TOPCon technologies, it enables higher power generation gains and lower carbon emissions in relation to the equivalent installed capacity of module and gross radiation intensity. According to the empirical results and relevant calculations undertaken by the China Building Material Test and Certification (CTC) (Ding'an county, Hainan province), the average relative gain of Huasun Energy's HJT photovoltaic modules (on cement ground) was about 6.9% higher than that for crystalline silicon terrestrial photovoltaic modules with the equivalent installed capacity of module and gross radiation intensity. Meanwhile, the HJT technology is significantly superior to the PERC technology in terms of carbon footprint¹⁰. The average carbon footprint¹¹ of Huasun Energy's HJT products is approximately 3%-22% lower than that for PERC products. As a high-efficiency clean energy solution, low-carbon HJT technology supports energy transition and the goal of "carbon peaking and carbon neutrality".

Continuously exploring the comprehensive utilization of photovoltaic products, Huasun Energy has enhanced the integration of photovoltaics with other formats, and developed various high-performance HJT products customized for different applications, which has revitalized traditional industrial and agricultural sectors, contributing to rural development.

Carbon emissions from photovoltaic power generation per kilowatt hour are only about

3%

of the carbon emissions from thermal power generation



Reduce carbon emissions by about

4.8 billion tons

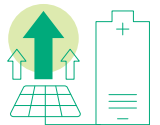
if entire thermal power generation in 2021 was replaced by photovoltaic power generation



Huasun Energy's HJT photovoltaic modules (on cement ground) was about

6.9%

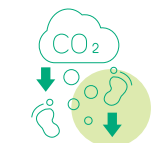
higher than that for crystalline silicon terrestrial photovoltaic modules with the equivalent installed capacity of module and gross radiation intensity



Average carbon footprint of Huasun Energy's HJT products is approximately

3%—22%

lower than that for PERC products



⁸ For further details relating to the carbon emissions from photovoltaic power generation per kilowatt hour, please refer to the *Research Report concerning the Operation of the Chinese Power Generation Enterprises in the Carbon Market* released by China Electricity Council; for further details relating to the carbon emissions from thermal power generation per kilowatt hour, please refer to the *Whole Life Cycle Power Generation Options* issued by the United Nations Economic Commission for Europe.

⁹ Please refer to the 2021 Thermal Power Generation in China released by the National Bureau of Statistics.

¹⁰ The outdoor testing occurred in Ding'an County, Hainan province from February 2022 to January 2023. It was certified by the National Center of Supervision and Inspection on Solar Photovoltaic Product Quality (CPVT). The module testing inclination and the minimum ground clearance were 15.5° and 1.5 meters, respectively.

¹¹ The average carbon footprint of Huasun Energy's HJT products was certified to be 389.59 g CO₂ equivalent/watt.



Weijing New Energy Agro-Photovoltaic Integration Project

The Himalaya G12-132 solar module was adopted for Huasun Energy Weijing New Energy Agro-Photovoltaic integration project. The module (maximum power 700 watts) enhanced power generation gains. Advanced packaging technology and high-quality packaging materials provide Huasun Energy's HJT modules with superior water vapor barrier capability. The double-glass structure effectively eliminates the PID issue, and the 30-year power warranty enables customers to receive genuine power generation benefits.

The results of preliminary analysis indicate that after the Phase I project is grid-connected, and average annual power generation will be approximately 64 million kWh (which is about 6%-8% higher than the annual power generation of the equivalent-capacity double-sided PERC solar module power station), as well as an annual increase of approximately RMB 1.5 million in revenue. Green photovoltaic power will reduce the annual consumption of standard coal by 25,000 tons and reduce the annual production of carbon dioxide by 63,000 tons, creating significant ecological benefits.

Module maximum power	Power generate	Annual increase of approximately
700 watts	64 million kwh annually on average	RMB 1.50 million in revenue
Reduce standard coal consumption by	Reduce	
25000 tons annually	63000 tons of CO ₂ emission	



As a result of its business development, Huasun Energy has established a pathway for supply chain partners to access clean energy and low-carbon opportunities. During the reporting period, Huasun Energy commenced production of totally 2.7GW HJT solar cells and modules. Estimate based on the irradiation conditions of Golmud Power Station in Qinghai Province states that Huasun Energy will generate approximately 4.5 billion kilowatt hours of clean electricity annually and reduce the production of approximately 4.52 million tons of carbon emissions annually.

Generate approximately **4.5** billion kilowatt hours of clean electricity annually

Reduce the production of approximately **4.52** million tons of carbon emissions annually



Green manufacturing

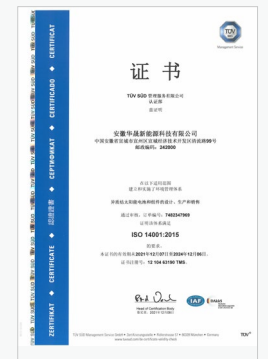
Through long-term reliable supply of efficient HJT products, Huasun Energy supports global energy revolution and transformation, while actively pursuing green development during production and operation.

Emission management



Emission management system

Huasun Energy strictly complies with the *Environmental Protection Law of the People's Republic of China* and other related laws and regulations, and has formulated a series of internal environmental policies including the *Environmental Operation Control Procedure*, the *Regulations on the Control of Wastewater, Exhaust Gas and Noise Emissions*, and the *Regulations on the Management of Solid Wastes*. Huasun Energy is committed to reducing pollutants from its entire business activities, products, and services to minimize environmental impacts. During the reporting period, Huasun Energy achieved the ISO 14001 environmental management system certification.



ISO 14001 environmental management system certification



Exhaust gas management

Huasun Energy strictly abides by the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution* and related laws and regulations, as well as numerous production-related emission standards, and has undertaken emission reduction and monitoring measures to avoid exhaust gas emission overrun or non-compliance. According to the requirements of pollution discharge permit, the company undertakes planned exhaust gas monitoring once every six months and unplanned exhaust gas monitoring once every year to further ensure emission compliance.

- Cover fine or bulk materials which easily produce dust
- Arrange dedicated sprinkler truck drivers to spray water on roads and material storage areas

Measures for preventing atmospheric pollution



Wastewater management

The company discharges and disposes of wastewater in accordance with the *Law of the People's Republic of China on the Prevention and Control of Water Pollution* and related laws and regulations, continuously optimizing environmental-friendly wastewater treatment facilities and management systems. By utilizing the water quality and quantity monitoring facilities (installed at the discharge outlets of wastewater treatment facilities in every factory area), the company monitors and uploads data online on demand in order to identify and resolve issues promptly. Meanwhile, the company has further optimized the process of disposing of wastewater and pollutants to ensure compliance with discharge regulations.

Domestic wastewater

After decomposition and sedimentation, the sewage is discharged into the municipal sewage pipeline through the on-site pipeline

Kitchen wastewater

After sedimentation and oil separation in an oil separation tank, oil waste is discharged into the municipal sewage pipeline

Construction wastewater

A pollution discharge system was installed on the construction site to ensure that the rainwater and sewage pipelines are separated

Wastewater treatment process



Solid waste management

Strictly complying with the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste* and related laws and regulations, Huasun Energy formulated the *Regulations on the Management of Solid Wastes* to clarify norms for waste disposal classifications. The company manages waste products by category, and strictly controls waste generation, collection, transportation, and treatment to ensure 100% compliant disposal of all waste products.



General industrial solid waste

- Ensure any recyclable materials are recycled
- Entrust a qualified third-party agency to dispose of the unrecyclable materials



Hazardous waste

- Dispose in strict accordance with relevant national standards
- Register by utilizing the solid waste management system and conduct joint control



Domestic waste

- Transfer to the environmental sanitation department for regular clearance and classified disposal

Waste disposal process

During the reporting period, Huasun Energy recycled 426,000 tons of concentrated solar cell water through centralized industrial wastewater treatment for reproduction. In total, 992,996 tons of wastewater were discharged in compliance with the regulations.

Recycled

426,000

tons of concentrated solar cell water

992,996

tons of wastewater were discharged

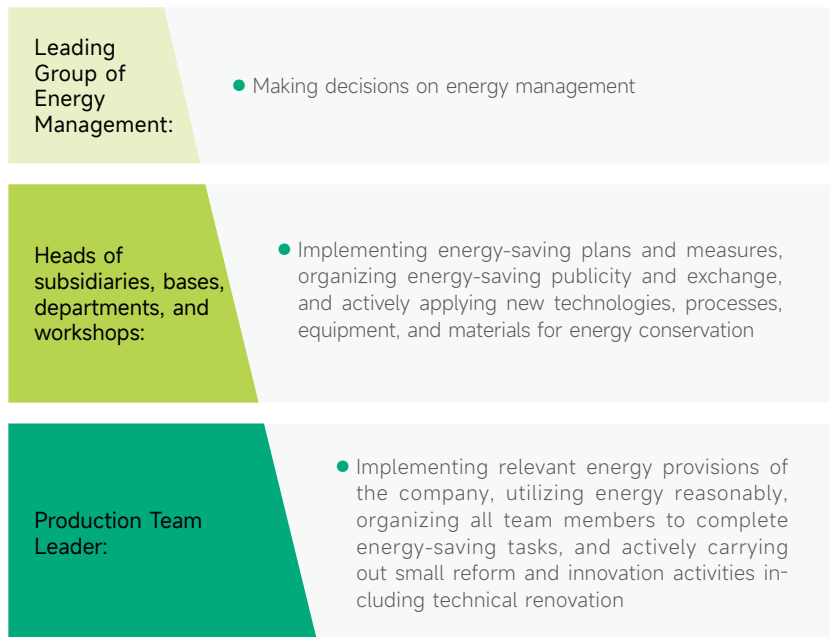
During the reporting period, relevant indicators of waste emissions by Huasun Energy are shown in the table below:

Waste indicators		
Indicators	Units	Year 2022
		Total
Non-hazardous waste	Tons	1.23
Non-hazardous waste per unit of revenue	Tons/RMB 1 million (revenue)	0.00075
Hazardous waste	Tons	375.98
Hazardous waste per unit of revenue	Tons/RMB 1 million (revenue)	0.23
Amount of recycled non-hazardous waste	Tons	184.06

Energy conservation and consumption reduction

Energy management system

Huasun Energy incorporates energy saving and emission reduction into all aspects to enhance energy efficiency, promotes low-carbon technology, and advocates for low-carbon production. The company strictly complies with the *Energy Conservation Law of the People's Republic of China* and related laws and regulations and has established a three-level energy management structure with clearly defined authorities and responsibilities, to ensure the effectiveness of energy management.



Energy management architecture

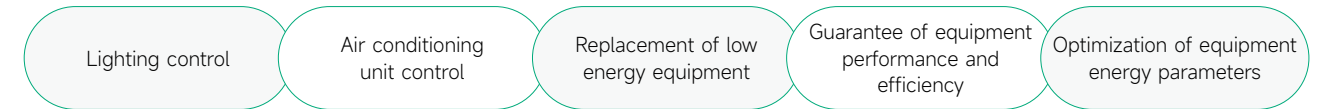
Relying on its comprehensive energy management structure and mechanism, Huasun Energy has achieved the ISO 50001 energy management system certification.



ISO 50001 energy management system certification

Energy Saving and Consumption Reduction Measures

Huasun Energy achieves energy conservation and consumption reduction by utilizing multiple measures including energy efficiency improvement and energy structure optimization. Huasun Energy actively enhances energy saving, emission reduction, and efficiency improvement through heat recycle and energy conversion. Besides, the company continuously increases the proportion of clean energy and plans to invest in and construct clean energy power generators, to enhance energy transformation.



Measures for enhancing energy efficiency

To optimize the energy structure, the company has installed roof-top distributed photovoltaic panels in every factory site, supplying "green and clean" electricity for production and living. While satisfying its own operational and production requirements, Huasun Energy has fully transmitted its excess electricity through the grid connection, thus enhancing the efficiency of its clean energy generation. During the reporting period, Xuancheng Base Silicon Wafer Factory signed a rooftop 1.52 MW photovoltaic panel installation contract, which was put into operation in 2023. In the future, Huasun Energy plans to install additional rooftop photovoltaic panels in other factory areas, intending to complete a closed-loop electricity application featuring "self-production, self-generation and self-use".

In addition, Huasun Energy has incorporated clean energy application into the corporate planning process. At present, all plants of the company are designed according to the construction requirements for green buildings and rooftop photovoltaic power stations. In the future, Huasun Energy plans to push forward Green Factories and other certifications to further save energy and reduce consumption.

Xuancheng Base Silicon Wafer Factory signed a rooftop

1.52^{MW}
photovoltaic panel installation contract





Official grid connection of distributed photovoltaic panels for Phase I Solar Module Factory

During the reporting period, the industrial and commercial distributed rooftop solar panels for Phase I Solar Module Factory of Xuancheng Headquarters were officially connected to the National Grid for power transfer. The project with an installed capacity of 3.5MW utilizes Himalaya M6-144 solar modules, which supplies 3.73 million kilowatt hours of clean electricity annually, fully meeting the daily electricity demands of residential buildings, administrative buildings, and mixed-use buildings throughout the park.

To date, this project is operating in good condition, which reduces energy costs and improves the park's ecological condition. The Project produces green electricity equivalent to 1,492 tons of standard coal per year and reduces carbon dioxide emissions by 3,720 tons per year, creating a benign loop of economic development, resource conservation, and environmental protection.

Furthermore, Xuancheng Headquarter of Huasun Energy has installed HJT solar modules in the park, to provide convenient electric vehicle charging services for over 2,000 employees. The total installed capacity of colored steel tiles for the car sheds is 136 KW, which is estimated to generate 140,000 kWh of electricity annually.



During the reporting period, Huasun Energy's key indicators of energy consumption are shown in the table below:

Energy consumption indicators		
Indicator	Units	Year 2022
		Total
Diesel	Tons	0.30
Natural gas	10,000 cubic meters	10.45
Purchased electricity	Megawatt hour	136,168.38
Green electricity purchase	Kilowatt-hour	648,317.60
On-site photovoltaic power generation	Kilowatt-hour	296,624.00
Total comprehensive energy consumption	Megawatt hour	137,204.56
Diesel (full production)	Tons	0.30
Natural gas (full production)	10,000 cubic meters	10.45
Purchased electricity (full production)	Megawatt hour	252,707.80
Total comprehensive energy consumption (full production)	Megawatt hour	253,743.97

Resource conservation

Water resources management

Huasun Energy strictly complies with the *Water Law of the People's Republic of China* and related laws and regulations. We reduce water consumption and enhance water efficiency through technological improvements, equipment updates, etc. Additionally, the company actively optimizes water conservation plans to increase employees' initiatives to conserve water.



Water conservation during construction

- Utilizing recycled water for irrigation
- Using water-minimizing domestic water appliances



Water conservation within the factory

- Regularly inspecting and maintaining faucets to prevent evaporation, drips and leaks
- Regularly maintaining the preparation and circulation of cooling water and pure water systems



Protecting water quality

- Appropriately handling waste materials to minimize river and stream erosion

Measures for water resource protection

Huasun Energy's water consumption predominantly from the local municipal pipelines during the reporting period is shown in the table below:

Water resource indicators		
Indicators	Units	2022
		Total
Total water withdrawal	10,000 tons	135.28
Total amount of recycled and reused water	10,000 tons	26.27

Packaging material management

Huasun Energy utilized the 3R concept (reduction, reuse, recycling) to all aspects including development, production, use, and disposal. Huasun Energy is focused on reducing the use of plastic packaging materials and exploring better packaging solutions while utilizing additional recyclable materials. During the reporting period, Huasun Energy used a total of 36,499 tons of packaging materials.

Used a total of

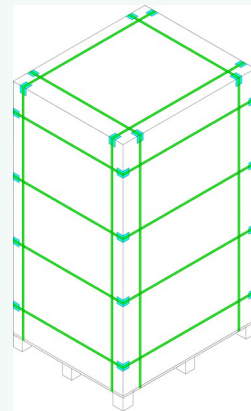
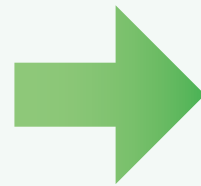
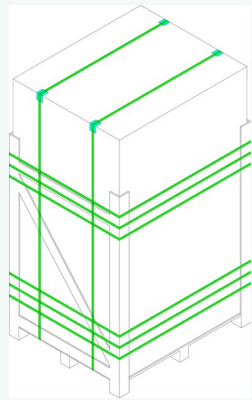
36,499

tons of packaging



Optimized packaging for 210 series modules

Previously, special packaging items including corner protectors were required for packaging of Huasun Energy 210 series modules. Recently, Huasun Energy has introduced different packaging solutions for different shipping conditions through design improvement and verification, which has enhanced packaging utilization and reduced material costs. The original Z-shaped wooden frame has been replaced by four central horizontal packaging belts, which has reduced wood requirements and production costs by approximately RMB 11.96 million annually, while providing equivalent protection.



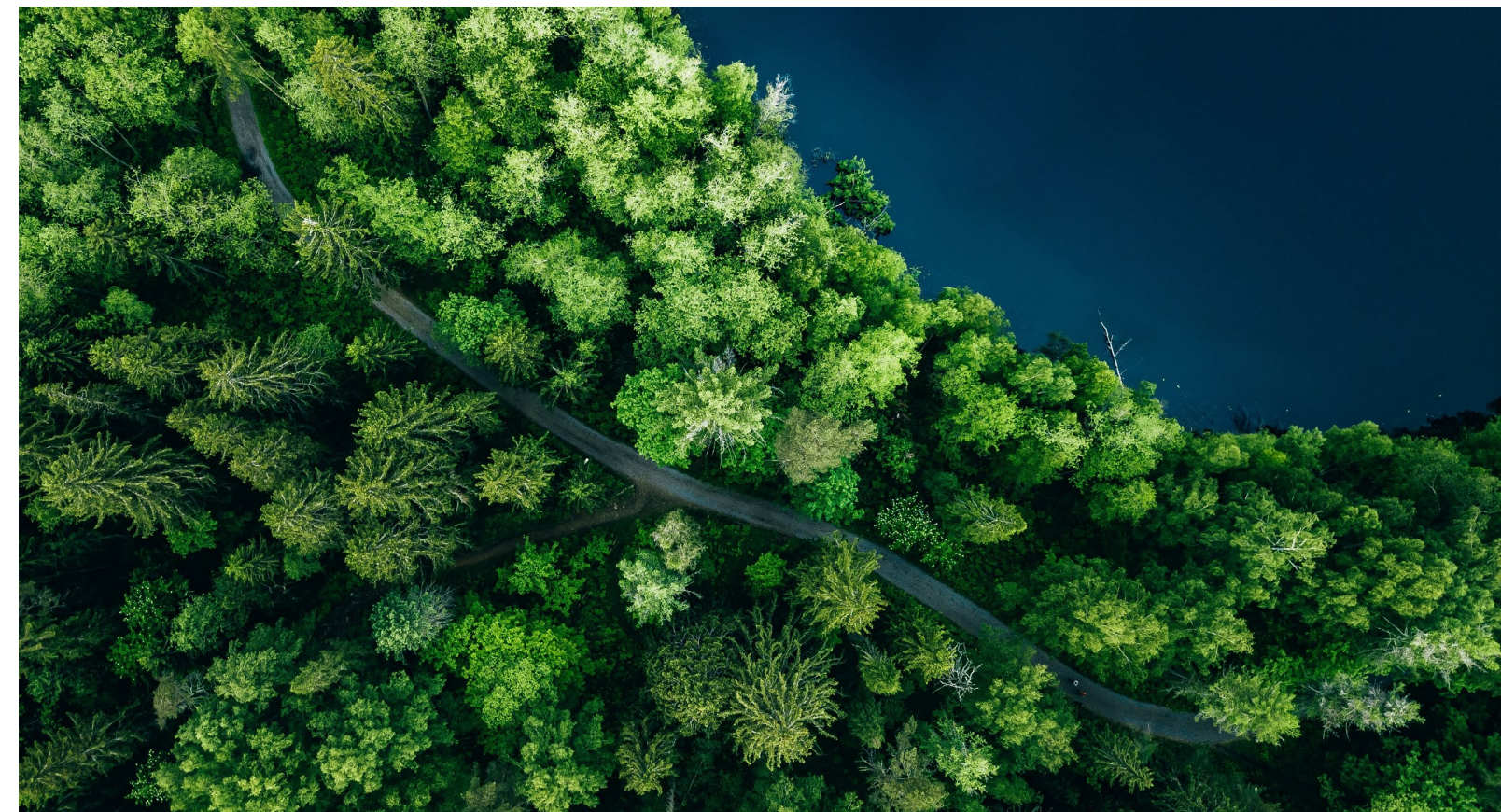
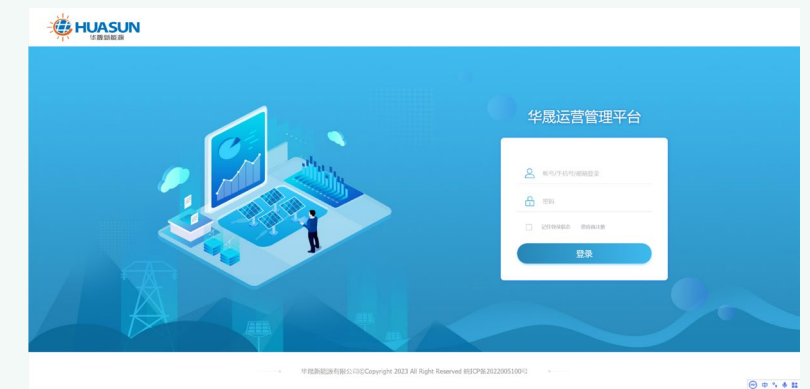
Low carbon operation

Huasun Energy has integrated the concept of sustainability into its routine operations. Complying with the 6S Management Rules for Parks, the company encourages low-carbon lifestyles including the paperless office, water conservation, public transportation, and walking instead of taking elevators, to create a green working environment.



Launch of Huasun Energy's Operation Management Platform

In order to enhance efficiency, minimize resource consumption, and protect environment, Huasun Energy launched its collaborative office system - the "operation management platform" - during the reporting period. Huasun Energy achieved the platform's acceptance and document approval, which not only minimized time and labor costs for document issuance and transfer, but also reduced the consumption of office supplies for printing and writing, while achieving the paperless office.





Establishing an empowering ecosystem

Huasun Energy empowers and communicates with multiple external stakeholders. Focusing on skills enhancement to achieve business development, Huasun Energy has achieved a mutually beneficial situation for the company and its employees by establishing a successful employee management and development pathway and creating a safe and healthy working environment. In order to expand its vision, lead industry development, and establish local agglomerations, the company has boosted local economic development, and assisted with the construction of a "heterogeneous city" in the area where the company's headquarters is located.

| Talent growth

| Industry empowerment

| Social co-development

Talent growth

Adhering to the people-oriented employee development philosophy, and recruiting skilled talents, Huasun Energy has established a successful employee incentive and empowerment pathway, to assist the employee development. Additionally, Huasun Energy has created a harmonious, inclusive, safe and healthy work environment where the entire workforce feels involved, intrinsic, important, enhanced, empowered and enjoyable, to achieve mutually beneficial development of both the company and its personnel.

Attractive for future staff

Compliance with employment regulations

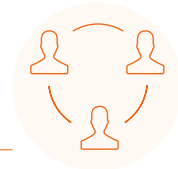
In strict compliance with the *Labor Law of the People's Republic of China* and related laws and regulations, Huasun Energy has drafted *Recruitment Management Measures* and related rules, to comprehensively safeguard the legitimate rights and interests of employees throughout the entire employment lifecycle. With respect to employment, the company strictly complies with the employment policy of "prohibiting the recruitment of child labor or any form of forced labor, as well as eliminating any employee discrimination and unfair competition", ensuring its compliance with labor management regulations.

According to the employment policy in the *Employee Handbook*, the company treats every employee fairly and safeguards their legitimate rights and interests. According to specific policy requirements, Huasun Energy selects candidates according to multiple factors predominantly including their skills and work experience, regardless of their race, nationality, birth status, gender, or religious belief. The company strictly prohibits all discrimination, employee harassment, and/or threats of any kind. In addition, the company has drafted the *Attendance Management Measures* to standardize the management of attendance and overtime.



Diversified recruitment

Huasun Energy firmly believes that a diversified team can enhance innovative capability for accelerated development. The company attracts talent by utilizing diversified recruitment approaches, to reserve talents for rapid development.



Campus recruitment

- Huasun Energy focuses on recruiting employees from campuses to reserve talents, in order to assist with rapid development.
- Huasun Energy offers internship opportunities and has enhanced cooperation with multiple universities to identify and develop industry personnel.
- During the reporting period, the company recruited 70+ newly-graduated students with bachelor degree or above, and 100+ new graduates with college degrees.

Social recruitment

- Huasun Energy has drafted the *Recruitment Management Measures*, and the *Post Statement* to ensure compliance with recruitment policies. The company has established multiple social recruitment pathways including professional recruitment websites, utilizing headhunters, outsourcing recruitment, on-site recruitment, live broadcast recruitment, internal recommendation, as well as internal competition.
- During the reporting period, the company recruited 150+ managers or above, 900+ engineers and technicians, and 1,400+ frontline personnel through these social recruitment pathways.

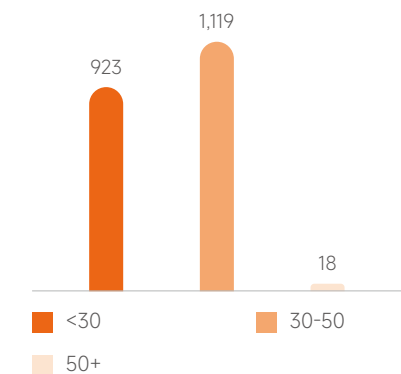
As of the end of the reporting period, Huasun Energy employed a total of 2,060 personnel. The company's employee breakdown is detailed as follows:

Total employees

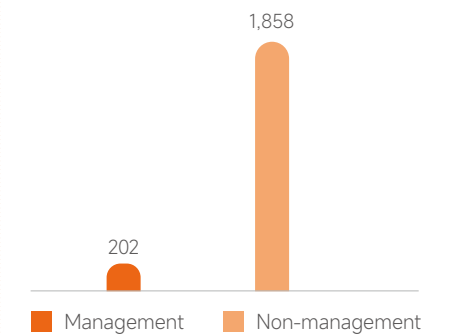
2,060 Person



Number of employees by age



Number of employees by level



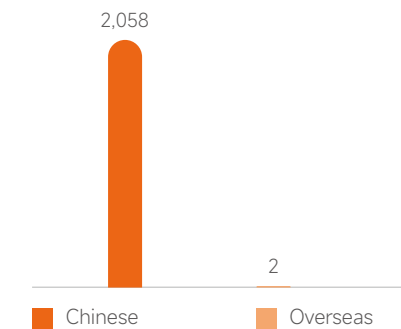
Number of employees by gender

Male

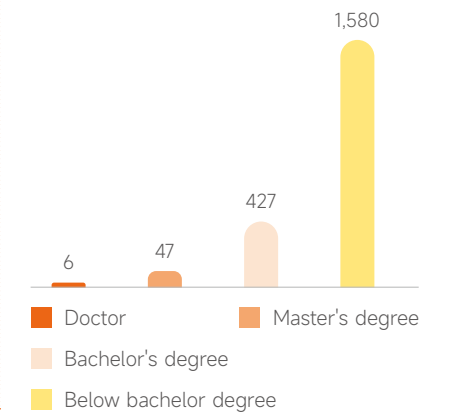
1,560 Person



Number of employees by nationality



Number of employees by academic background



Female

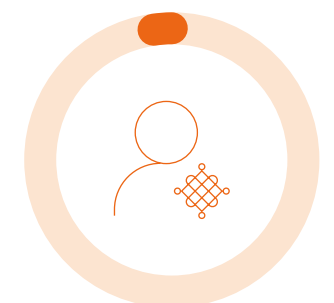
500 Person



The proportion of female employees in management 10.89%







The proportion of minority employees 2.71%



Employee rights and benefits

Paying attention to the importance and contribution of individual employees, Huasun Energy has optimized the policy of employee benefits, and established diversified welfare pathways to motivate employees' enthusiasm and enhance their sense of identity and belonging. In accordance with the *Welfare Management Policy*, the company provides employees with multiple benefits including holiday, comfort, and accommodation benefits, with the intention of ensuring that every employee feels family-like warmth.

Huasun Energy's diversified welfare system

<p>Holiday benefits</p> <p>Huasun Energy provides employees with holiday benefits in the form of shopping cards or gifts.</p> 	<p>Comfort benefits</p> <p>Huasun Energy provides employees with benefits related to birthday, childbirth, care, and death condolences, and these benefits are presented in the form of shopping cards, gifts, or condolence payments.</p> 
<p>Accommodation benefits</p> <p>Huasun Energy provides employees with housing subsidies to encourage the retention of additional personnel.</p> <p>Huasun Energy offers employees the option to stay in its onsite residential accommodation or provides appropriate rental subsidies for eligible employees who choose to live offsite.</p> 	<p>Other benefits</p> <p>Huasun Energy provides employees with other benefits including a physical examination package, high temperature subsidy, team exchange subsidy, seniority pay, team building subsidy and bonus for post-holiday work.</p> 

Care for Women's Day

To enrich the cultural life of female employees and stimulate their enthusiasm for working and living, Huasun Energy launched the "Goddess Day" event to coincide with the Women's Day celebration (March 8), and enhance the positive feelings for every female employee.



Employee communication

In order to encourage communication and exchange between the company and its employees, Huasun Energy has established a flexible and connective communication system. The company provides multiple pathways for employees to offer feedback and suggestions for improvements; the company responds promptly, and offers assistance to employees in difficulty. During the reporting period, the company held 15 seminars, and approximately 500 employees attended in total.



Progress and development

Employee training

Huasun Energy adheres to the philosophy of "constant struggle" and the comprehensive improvement in employees' professional skills and leadership. The company has drafted relevant policies including the *Training Management Policy*, and designed targeted training solutions for employees at different job levels and career stages, to improve their professional skills and abilities. In addition, the company has signed an *Employee Training Agreement* with external training institutions to enhance skills of employees by offering comprehensive and high-quality training.

New graduates and new employees

- "Elite Training Classes" for employees enrolled through campus recruitment
- Every new employee receives induction or pre-job training and must pass the examinations before officially commencing work.

Internal lecturers

- During the reporting period, Huasun Energy held its first internal lecturer training course. To date, 13 professional internal lecturers with management skills have been successfully trained, thus enhancing the skills of company personnel.

Identify team leaders

- The "Enhanced Empowerment Project" for identifying talented personnel
- Huasun Energy comprehensively enhances employees' skills and qualities by utilizing theoretical training, on-site practical training, and assessment in order to identify leadership potential.

Middle and senior management personnel

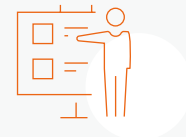
- During the reporting period, Huasun Energy organized six lectures.
- The senior management of the company regularly shares management theories and practical cases to develop and enhance the leadership and decision-making capabilities of middle and senior managers.

In order to maintain the company's development, to implement the strategy of enhancing competitive advantages through employee development, to establish a superior team of talented personnel with a reasonable structure, Huasun Energy actively encourages all employees to participate in-service education. The company plans to launch the "high school degree to college degree" enhancement course during 2023, providing education subsidies and exempting eligible graduates from tuition and textbook fees.

Total training duration of
117.0 hours

Average training duration of per employee
54.8 hours

100%
Employee engagement in training



Talent promotion

Strictly complying with the principle of "selecting people on merit and arranging posts by abilities", Huasun Energy has drafted internal policies and related rules including the *Organization and Position Management Policy*, and established a comprehensive and dynamic management ranking system. In addition, Huasun Energy has advertised the skill requirements of key positions in multiple ways and created multiple channels for development of professional and generally skilled employees.



Performance Incentives

Huasun Energy aims to establish a close relationship between the company and employees by utilizing performance incentives and effective management, to achieve sustainable development. Complying with internal policies including the *Performance Management Policy*, the company has enhanced the performance-oriented employee incentive system, and the performance management process, specifying the process of matching employee quality, abilities, and performance with job requirements, business development, and corporate strategy.

The company has formulated the *Compensation Management Standard*, providing fair and competitive salary and benefits including performance-related bonuses, promotion, and salary enhancement policies to motivate employees. In addition, the company has established a medium to long-term performance incentive plan based on the existing compensation and benefit system, where an employee's remuneration reflects both individual values and correlates with personal achievement and business performance targets.



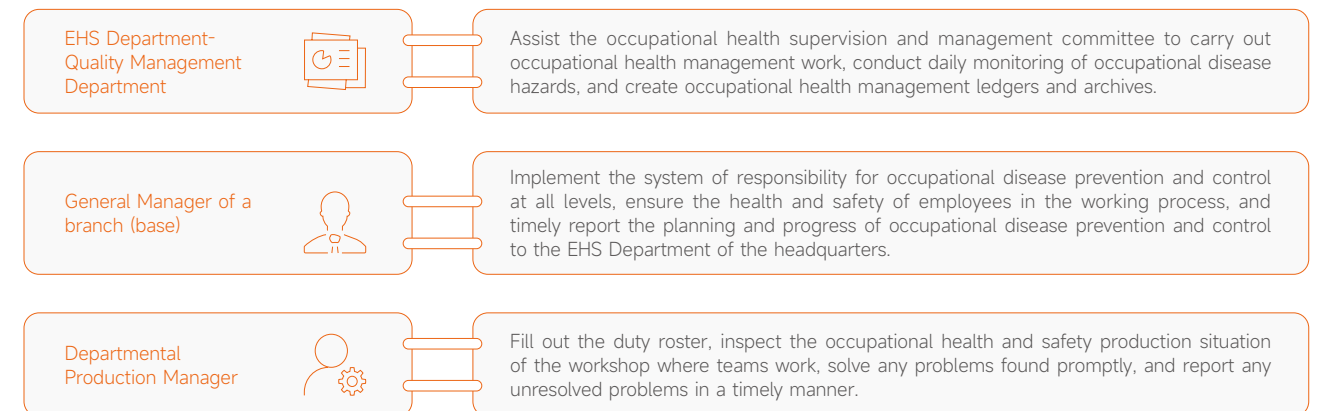
Health and safety

Security management system

Strictly comply with the *Law of the People's Republic of China on Work Safety* and other related laws and regulations, as well as the requirements of the "three simultaneities" for monitoring and management of safety facilities, Huasun Energy has drafted the *Occupational Health and Safety Management Rules* to ensure the occupational health and safety of employees in the production and operation departments.

To optimize the structure, Huasun Energy has specified the responsibilities of each department and established a comprehensive safety supervision and control system throughout the company. Huasun Energy has established an occupational health supervision and management committee responsible for coordinating safety management and occupational hazard prevention and control, and setting annual occupational health objectives. In addition, Huasun Energy has established three-level EHS management guidelines, as well as a safety management system incorporating specified responsibilities and coordinated operations.

As of the end of the reporting period, Huasun Energy has passed ISO 14001 occupational health and safety management system certification.



Huasun Energy holds an occupational health meeting annually to promptly investigate and resolve the significant but unrevealed occupational hazards and issues. By continuously improving the working environment, Huasun Energy ensures the effective utilization of occupational hazard prevention, control funds and other inputs.

Measures for occupational health and safety

Strictly complying with the policy of "prevention first, and combination of prevention and treatment", Huasun Energy has formulated the *Occupational Disease Prevention and Control Policy* and other related rules, and taken multiple measures to ensure the occupational health of all employees and prevent the occurrence of occupational diseases.



Measures for occupational disease prevention and control

In terms of production safety, Huasun Energy promptly investigates and resolves safety hazards. Recently, Huasun Energy has drafted the *Summary for Hidden Danger Inspection and Risk Assessment Tracking and Review Policy*, to encourage relevant departments to develop and implement rectification policies to resolve issues identified during safety inspections.

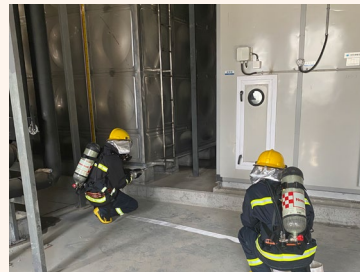
In addition, the company has established a successful management system for reporting, handling, and investigating safety incidents. Huasun Energy has signed a first aid agreement for work-related injuries with designated hospitals to ensure that employees promptly and effectively receive medical treatment in the event of work-related injuries. The company identifies and handles work-related injuries in strict compliance with relevant national laws and regulations, to safeguard the fundamental rights and interests of employees. In the event of any safety incident, the on-site person in charge will immediately report to the office of the occupational health supervision and management committee, specify the incident type, report content, and incident handling criteria, and develop enhanced prevention measures in relation to the cause of the incident, to enhance safety management.

In addition, the company has further optimized the emergency plan management system, and scheduled and organized multiple practice drills to address the risks and issues identified during safety hazard inspections, thereby enhancing employees' emergency response capabilities. During the reporting period, Huasun Energy organized multiple fire drills including desktop drills, emergency evacuation drills, and comprehensive drills.



Fire safety drill

During the reporting period, Huasun Energy held a "safety month" fire safety training, introduced the use of fire-fighting equipment, and organized practical exercises. During this emergency fire drill, each participating group fully experienced the entire process of emergency rescue, and mastered the skills of calmly and effectively dealing with dangerous situations.



Occupational health and safety training

Huasun Energy insists on carrying out the work of safety culture publicity and education. In order to demonstrate that Huasun Energy is devoted to safety culture publicity, education and training, the company has drafted the *Rules of Publicity, Education and Training for Occupational Disease Prevention and Control*. By combining theory and practice, Huasun Energy has created the "safety culture" atmosphere and enhanced the safety awareness of all employees.

The company requires that each employee should receive no less than 8 hours of occupational safety and health training every year, and pass the related examinations before resuming work. During the reporting period, all employees of Huasun Energy received occupational health and safety training, indicating a coverage rate reaching up to 100%.



Emergency rescue training

Huasun Energy invited the Xuancheng Red Cross Emergency Rescue Training Center to share their expertise and experience in first aid. After receiving professional training, all trainees mastered the basic knowledge of emergency rescue, thus ensuring their readiness for emergency rescue within the company.



Industry empowerment

Focusing on technical innovation and development, Huasun Energy regularly hosts technology co-creation, exchange, and discussion meetings with upstream and downstream partners including research institutions, suppliers, and industry associations. The company is committed to empowering the supply chain by utilizing enhancement in skills, technologies, and equipment, and encouraging the application of the HJT technology in the photovoltaic industry to utilize its advanced technology and production experience.

Industry efficiency improvements

Huasun Energy pursues innovation-driven development, and continues to explore skills development, technology research and development, and industry cooperation together with universities and research institutions, to improve the technology for the mass production of high-efficiency and low-cost HJT solar cells, and to offer efficient clean energy solutions to multiple industries, aiming to enhance the safety and comfort of everyone's homes.



- Institute of Electrical Engineering, Chinese Academy of Sciences
- Xuancheng Research Institute
- Westlake Institute for Advanced Study
- University of Science and Technology of China
- Nankai University
- Hefei University of Technology
- Nanjing Tech University
- Jiangsu University
- Jiangsu University of Science and Technology



List of Huasun Energy's cooperative universities and research institutions

Industrial cooperation

By utilizing the mass production of HJT solar cells, Huasun Energy has accelerated the integration and technological enhancement of the supply chain, and encouraged the overall cost reduction, benefit increase, and technological development of the photovoltaic industry. Through technology exchanges, the company further assists suppliers to improve their products, accumulate technical experience and applications, and to achieve technological breakthroughs towards a reliable and sustainable HJT module supply chain.



Developing technology cooperatively to achieve cost reduction and mass production of silver slurry

Huasun Energy and suppliers continue their development to further reduce the consumption of silver slurry, because it is a fundamental factor in reducing the production cost of HJT solar cells. As a result of close interchange and cooperation with suppliers, the company has achieved significant cost reduction as well as mass production of silver slurry. Currently, Huasun Energy has reduced the price of low-temperature silver slurry similar to that for high-temperature silver slurry, and reduced the consumption of silver slurry from 250 mg/piece to 120 mg/piece. Further significant reduction is planned. In addition to enhancement in production efficiency, mass production of silver slurry has reduced the unit consumption by HJT solar cells similar to that for PERC solar cells, which provides a new alternative for the low-carbon energy industry.

Reduced the consumption of silver slurry from

250 mg/piece

to

120 mg/piece



Jointly developing and promoting the optical conversion film technology

In order to manufacture HJT solar cells, optical conversion film technology can significantly enhance the power generation and stability of solar cells. However, this technology has low reliability, so that it is difficult to achieve commercialized large-scale applications. During the reporting period, Huasun Energy assisted suppliers in their reliability assessment and enhancement of the optical conversion film technology. Additionally, Huasun Energy signed a comprehensive strategic cooperation and long-term supply agreements with these suppliers, enhancing the mass production and application of HJT products.



Optimizing equipment and exploring the low-cost, high-efficiency potential

Huasun Energy has established close partnerships with suppliers in relation to equipment and process upgrading. The company promptly informs suppliers of process requirements for their products, to assist with their optimization of production solutions and hardware. During the reporting period, Huasun Energy and suppliers jointly established HJT single-sided and double-sided microcrystalline solar cell production lines with a single-line production capacity of 500+MW. The HJT mass production line established by Huasun Energy in cooperation with suppliers integrates technologies, including silicon wafer gettering and HJT half solar cell process with the latest automated smart manufacturing technology. Enabling full-process data tracking and process control for single silicon wafers, the production line has developed into an intelligent, and efficient solar cell production line that has passed the GW-level certification.

Industrial interchange

As a result of continual efforts and industry cooperation, Huasun Energy has transformed technological achievements into mass production of HJT solar cells. Despite this success, Huasun Energy will continue to explore pathways to reduce the costs of HJT solar cells. Through continual interchange with multiple upstream and downstream partners, participation in industry exchange activities, and preparation of industry standards, Huasun Energy encourages the industrialization and marketization of HJT solar cells.

On January 12, Wang Wenjing delivered a speech entitled *HJT Solar Cells Entering the 10GW Era* at the 6th International Forum on Mass Production and Supply Chain Coordination of Heterojunction Solar Cells

On June 26, Xu Xiaohua made a speech entitled *Equaling the Costs of HJT and PERC Solar Cells*, and Wang Wenjing delivered a speech entitled *Efficiency Enhancement Vital for Cost Reduction of HJT Solar Cells* at the Advanced Forum on Heterojunction Technology Development and Industrialization

On August 11, Jin Lei delivered a speech entitled *HJT Portfolio and Supply in Europe* at the 6th International Forum on Mass Production and Supply Chain Coordination of Heterojunction Solar Cells (High performance at scale with HJT)

On August 18, Zhou Dan delivered a speech entitled *Industrialization Situation and Development Trends of Heterojunction Technology* at the China Photovoltaic Green Supply Chain Conference

On September 2, Wang Jin made a speech entitled *Technology and Current Situation of Huasun Energy's Heterojunction Silicon Wafers* at the HJT&Lamination Technology Summit

On November 24, Criss Jin made a speech entitled *HJT G12 Cell and Module for Utility, Scale PV Parks and C&I Sector Ready for GW Level Deliver* at the Online Forum on TaiyangNews High-efficiency Solar Cell Technology



As of the end of the reporting period, Huasun Energy participated in the compilation of *Assembled Photovoltaic Rooftop Modules*, and *Energy 20220214 – Technical Specification for Accelerated Life Test of Photovoltaic Solar Inverters*. Additionally, Huasun Energy participated in the compilation of *Energy 20190478 – Technical Requirements for Colored Coated Photovoltaic Modules* and *Energy 20190479 – Technical Requirements for Thin-Film HJT Silicon Photovoltaic Modules*, which have been submitted for review.

Social co-development

Huasun Energy's social responsibilities include offer of benefits for society as well as business development. The company utilizes its social influence to assist with the establishment of industrial clusters and local economic development. Simultaneously, Huasun Energy continues to offer efficient clean energy solutions to multiple regions, enabling the achievement of the goal of "carbon peaking and carbon neutrality".

Economic co-development

Located in Xuancheng Economic and Technological Development Zone, Huasun Energy with an overall site area of approximately 2,000 mu is currently the fastest-growing and largest manufacturer in Xuancheng, which significantly supports local economic development. Since its incorporation, Huasun Energy has provided 3,000+ job opportunities for local people. During the reporting period, the production value amounted to RMB 2.5 billion, a year-on-year increase of 852%.

In addition, Xuancheng focuses on establishing a "2+3+4" industry chain and developing the new energy industry. As the "Xuancheng No.1 Project", Huasun Energy has received great support from the local government. Adhering to the philosophy of comprehensively driving social development by utilizing its own development benefits, Huasun Energy has established cooperative relationships with multiple high-quality suppliers, and accelerated the establishment of industrial clusters. Additionally, Huasun Energy is assisting the Xuancheng government in establishing a "Photovoltaic Heterogeneous City in China".

Besides, the Seminar on the Review of the Photovoltaic Industry Development in the First Half of 2023 and the Outlook on the Second Half of 2023 & Photovoltaic Industry Supply Chain Development (Xuancheng) Forum, hosted by Huasun Energy, will be held in Xuancheng in July 2023. This is the first photovoltaic conference held outside Beijing since the establishment of the China Photovoltaic Industry Association in Beijing in 2014, which will significantly enhance the local influence and investment attraction capability of Xuancheng.

Overall site area of approximately

2,000 mu

Provided

3,000+

job opportunities for local people

Production value amounted to

RMB **2.5** billion

Project launch in Xuancheng to encourage the establishment of a "Photovoltaic Heterogeneous City in China"

The ceremony to celebrate the installation of first-line equipment for Xuancheng Phase III Solar Cell Project of Huasun Energy was successfully held in Xuancheng Economic and Technological Development Zone. The company's representatives said that they would enhance cooperation with all parties and encourage cost reduction, efficiency enhancement, and market applications of the HJT technology, intending to accelerate the aggregation of the supply chain, in order to help Xuancheng become the "Photovoltaic Heterogeneous City in China", and to contribute to the achievement of the goal of "carbon peaking and carbon neutrality".



Installation ceremony of first-line equipment for 2.4GW Solar Cell Project

Introducing suppliers to support the economic development of Xuancheng

During the reporting period, Huasun Energy independently developed Himalaya M6 series 120-cell full-black, lightweight and efficient HJT module that successfully passed TUV certification and was ready for mass production. The company has enhanced the adhesive film and packaging glass, and encouraged additional glass manufacturers to relocate to Xuancheng. Additionally, Huasun Energy has promoted the rapid agglomeration and stable economic development of Xuancheng with diverse and superior products.

Giving back to the community

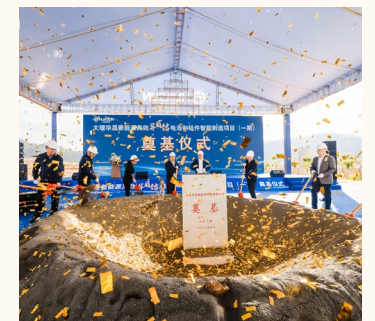
Actively contributing to economic and social development, Huasun Energy continues to provide reliable clean energy solutions to multiple regions through offer of product and service benefits. Besides cooperating with local governments to boost manufacturing and industrial development, Huasun Energy has contributed to energy structure transition and green transformation of multiple regions by supplying superior products and services.



Huasun Energy's 5GW high-efficiency HJT photovoltaic solar cells and modules in Dali

During the reporting period, Huasun Energy officially signed a cooperation agreement with the Dali Prefecture People's Government and Huaneng Lancang River Hydropower INC., regarding the construction of 5GW high-efficiency HJT photovoltaic solar cells and modules in Dali. By communicating with the local government and responding to the strategy of thorough integration of green energy and green advanced manufacturing industry, Huasun Energy has boosted the development of photovoltaic frontier industry highlands and supply chain clusters in Dali.

At the meeting, the Secretary of the Dali Party Committee positively described Huasun Energy's HJT technology and industry project. He explained that HJT technology is the most promising technology platform to speed up the industrial restructuring and green transformation of Dali.



Huasun Energy's 5GW high-efficiency HJT photovoltaic solar cells and modules in Hefei

The centralized signing ceremony for this significant investment was held jointly by Huasun Energy and Feixi County People's Government in Feixi County, Hefei City. Strongly supporting green energy development, Hefei Municipal People's Government has unveiled multiple effective policies, which facilitate Huasun Energy's construction of a modern HJT factory in Feixi. The company's representatives stated that the project would attract hundreds of senior photovoltaic professionals and be conducive to establishing a new supply chain cluster in Hefei. Additionally, it demonstrates that Huasun Energy has reached a new development level of HJT technology.



Huasun Energy's 5GW solar cells and modules in Xishan, Wuxi city

During the reporting period, Huasun Energy attended the signing ceremony for 5GW HJT solar cells and modules in Xishan Economic and Technological Development Zone. The project in Wuxi is another significant production base for Huasun Energy following the construction of headquarters in Xuancheng and the factory in Dali, with an aim to attract superior businesses to jointly promote the high-quality industrial development of HJT technology. Simultaneously, Huasun Energy will cooperate with multiple stakeholders to develop the factory in Wuxi into a significant photovoltaic production base and heterogeneous skills development base, in order to enhance the reliable supply and identification of skilled personnel.





Appendix

GRI Index

Statement of use	Huasun Energy disclosed the information cited in this GRI Index with reference to GRI Standards from January 1, 2022 to December 31, 2022
GRI 1 used	GRI 1: Foundation 2021

Chapter/section index	Titles of disclosure items	Disclosure issues/items
GRI 2: General Disclosure 2021		
The organization and its reporting practices		
2-1	Organizational details	About Huasun Energy
2-2	Entities included in the organization's sustainability reporting	About this Report
2-3	Reporting period, frequency and contact point	About this Report
2-4	Restatements of information	About this Report
2-5	External assurance	Not involved currently
Activities and Workers		
2-6	Activities, value chain, and other business relationships	Consolidating the foundation of responsibility fulfillment – ESG management
2-7	Employees	Establishing an empowering ecosystem – Talent growth
2-8	Workers who are not employees	Establishing an empowering ecosystem – Talent growth
Governance		
2-9	Governance structure and composition	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-10	Nomination and selection of the highest governance body	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-11	Chair of the highest governance body	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-12	Role of the highest governance body in overseeing the management of impacts	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-13	Delegating of responsibility for managing impacts	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-14	Role of the highest governance body in sustainability reporting	Consolidating the foundation of responsibility fulfillment – ESG management
2-15	Conflicts of interest	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-16	Communication of critical concerns	Consolidating the foundation of responsibility fulfillment – ESG management

2-17	Collective knowledge of the highest governance body	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-18	Evaluation of the performance of the highest governance body	Consolidating the foundation of responsibility fulfillment – ESG management
2-19	Remuneration policies	Establishing an empowering ecosystem – Talent growth
2-20	Process to determine remuneration	Establishing an empowering ecosystem – Talent growth
2-21	Annual total compensation ratio	Not involved currently
Strategy, policies and practices		
2-22	Statement on sustainable development strategy	Consolidating the foundation of responsibility fulfillment – ESG management
2-23	Policy commitments	About Huasun Energy
2-24	Embedding policy commitments	About Huasun Energy
2-25	Processes to remediate negative impacts	Leading in smart manufacturing – Quality assurance
2-26	Mechanism for seeking advice and raising concerns	Consolidating the foundation of responsibility fulfillment – Corporate governance
2-27	Compliance with laws and regulations	Appendix – List of Laws and Regulations
2-28	Membership associations	Creating a zero-carbon world – Climate actions
2-29	Approach to stakeholder engagement	Consolidating the foundation of responsibility fulfillment – ESG management
2-30	Collective bargaining agreements	Not involved currently
GRI 3: Material Topics 2021		
3-1	Process to determine material topics	Consolidating the foundation of responsibility fulfillment – ESG management
3-2	List of material topics	Consolidating the foundation of responsibility fulfillment – ESG management
3-3	Management of material topics	Consolidating the foundation of responsibility fulfillment – ESG management
Economic		
GRI 201: Economic Performance		
201-1	Direct economic value generated and distributed	Establishing an empowering ecosystem – Social co-development
201-2	Financial implications and other risks and opportunities due to climate change	Creating a zero-carbon world – Climate actions
201-3	Defined benefit plan obligations and other retirement plans	Establishing an empowering ecosystem – Talent growth
201-4	Financial assistance received from government	Not involved currently
GRI 202: Market Performance		

202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Not involved currently
202-2	Proportion of senior management hired from the local community	Not involved currently
GRI 203: Indirect Economic Impact		
203-1	Infrastructure investments and services supported	Establishing an empowering ecosystem – Social co-development
203-2	Significant indirect economic impact	Creating a zero-carbon world – Climate action
GRI 204: Procurement Practice		
204-1	Proportion of spending on local suppliers	Not involved currently
GRI 205: Anti-corruption		
205-1	Operations assessed for risks related to corruption	Consolidating the foundation of responsibility fulfillment – Corporate governance
205-2	Communication and training about anti-corruption policies and procedures	Consolidating the foundation of responsibility fulfillment – Corporate governance
205-3	Confirmed incidents of corruption and actions taken	Consolidating the foundation of responsibility fulfillment – Corporate governance
GRI 206: Anti-competitive Behavior		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Consolidating the foundation of responsibility fulfillment – Corporate governance
GRI 207: Tax		
207-1	Approach to tax	Not involved currently
207-2	Tax governance, control, and risk management	Not involved currently
207-3	Stakeholder engagement and management of concerns related to tax	Not involved currently
207-4	Country-by-country reporting	Not involved currently
GRI 301: Materials 2016		
301-1	Materials used by weight or volume	Creating a zero-carbon world – Green manufacturing
301-2	Recycled input materials used	Creating a zero-carbon world – Green manufacturing
301-3	Reclaimed products and their packaging materials	Creating a zero-carbon world – Green manufacturing
Environmental		
GRI 302: Energy		
302-1	Energy consumption within the organization	Creating a zero-carbon world – Green manufacturing
302-3	Energy intensity	Creating a zero-carbon world – Green manufacturing
302-4	Reduction of energy consumption	Creating a zero-carbon world – Green manufacturing
302-5	reduction in energy requirements of products and services	Creating a zero-carbon world – Green manufacturing
GRI 303: Water and Effluents		
303-1	Interactions with water as a shared Resource	Creating a zero-carbon world – Green manufacturing
303-2	Management of water discharge-related impacts	Creating a zero-carbon world – Green manufacturing

303-3	Water withdrawal	Creating a zero-carbon world – Green manufacturing
303-4	Water discharge	Creating a zero-carbon world – Green manufacturing
303-5	Water consumption	Creating a zero-carbon world – Green manufacturing
GRI 304: Biodiversity 2016		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Creating a zero-carbon world – Climate actions
304-2	Significant impacts of activities, products, and services on biodiversity	Creating a zero-carbon world – Climate actions
304-3	Habitats protected or restored	Not involved currently
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Not involved currently
GRI 305: Emissions		
305-1	Direct (Scope 1) GHG emissions	Creating a zero-carbon world – Climate actions
305-2	Energy indirect (Scope 2) GHG emissions	Creating a zero-carbon world – Climate actions
305-3	Other indirect (Scope 3) GHG emissions	Not involved currently
305-4	GHG emissions intensity	Creating a zero-carbon world – Climate actions
305-5	Reduction of GHG emissions	Creating a zero-carbon world – Climate actions
305-6	Emissions of ozone-depleting substances (ODS)	Not involved currently
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	Creating a zero-carbon world – Climate actions
GRI 306: Effluents and Waste		
306-1	Water generation and significant waste-related impacts	Creating a zero-carbon world – Green manufacturing
306-2	Actions taken to prevent waste generation	Creating a zero-carbon world – Green manufacturing
306-3	Composition of waste generated	Creating a zero-carbon world – Green manufacturing
306-4	Recovery operations used to divert waste from disposal	Creating a zero-carbon world – Green manufacturing
306-5	Disposal operations	Creating a zero-carbon world – Green manufacturing
GRI 308: Supplier Environmental Assessment		
308-1	New suppliers that were screened using environmental criteria	Leading in smart manufacturing – Responsible procurement
308-2	Negative environmental impacts in the supply chain and actions taken	Leading in smart manufacturing – Responsible procurement
Social		
GRI 401: Employment		
401-1	New employee hires and employee turnover	Establishing an empowering ecosystem – Talent growth

401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Establishing an empowering ecosystem - Talent growth
401-3	Parental leave	Establishing an empowering ecosystem - Talent growth
GRI 402: Labor/Management Relations		
402-1	Minimum notice periods regarding operational changes	Establishing an empowering ecosystem - Talent growth
GRI 403: Occupational Health and Safety		
403-1	Occupational health and safety management system	Establishing an empowering ecosystem - Talent growth
403-2	Hazard identification, risk assessment, and incident investigation	Establishing an empowering ecosystem - Talent growth
403-3	Guidance for Disclosure	Establishing an empowering ecosystem - Talent growth
403-4	Worker participation, consultation, and communication on occupational health and safety	Establishing an empowering ecosystem - Talent growth
403-5	Worker training on occupational health and safety	Establishing an empowering ecosystem - Talent growth
403-6	Promotion of worker health	Establishing an empowering ecosystem - Talent growth
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Establishing an empowering ecosystem - Talent growth
403-8	Workers covered by an occupational health and safety management system	Establishing an empowering ecosystem - Talent growth
403-9	Work-related injuries	Establishing an empowering ecosystem - Talent growth
403-10	Work-related ill health	Establishing an empowering ecosystem - Talent growth
GRI 404: Training and Education		
404-1	Average hours of training per year per employee	Establishing an empowering ecosystem - Talent growth
404-2	Programs for upgrading employee skills and transition assistance programs	Establishing an empowering ecosystem - Talent growth
404-3	Percentage of employees receiving regular performance and career development reviews	Establishing an empowering ecosystem - Talent growth
GRI 405: Diversity and Equal Opportunity		
405-1	Diversity of governing bodies and employees	Establishing an empowering ecosystem - Talent growth
405-2	Ratio of basic salary and remuneration of women to men	Establishing an empowering ecosystem - Talent growth
GRI 406: Non-Discrimination		
406-1	Incidents of discrimination and corrective actions taken	Establishing an empowering ecosystem - Talent growth
GRI 407: Freedom of Association and Collective Bargaining 2016		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Not involved currently
GRI 408: Child Labor		
408-1	Operations and suppliers at significant risk for incidents of child labor	Establishing an empowering ecosystem - Talent growth
GRI 409: Forced or Compulsory Labor		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Establishing an empowering ecosystem - Talent growth
GRI 410: Security Practices		

410-1	Security personnel trained in human rights policies or procedures	Establishing an empowering ecosystem - Talent growth
GRI 411 - Rights of Indigenous Peoples 2016		
411-1	Incidents of violations involving rights of indigenous peoples	Not involved currently
GRI 413: Local Communities		
413-1	Operations with local community engagement, impact assessments, and development programs	Establishing an empowering ecosystem - Social co-development
413-2	Operations with significant actual and potential negative impacts on local communities	Not involved currently
GRI 414: Supplier Social Assessment		
414-1	New suppliers that were screened using social criteria	Leading in smart manufacturing - Responsible procurement
414-2	Negative social impacts in the supply chain and actions taken	Leading in smart manufacturing - Responsible procurement
GRI 415: Public Policy 2016		
415-1	Political contributions	Not involved currently
GRI 416: Customer Health and Safety 2016		
416-1	Assessment of the health and safety impacts of product and service categories	Leading in smart manufacturing - Quality assurance
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Not involved currently
GRI 417: Marketing and Labeling 2016		
417-1	Requirements for product and service information and labeling	Consolidating the foundation of responsibility fulfillment - Corporate governance
417-2	Incidents of non-compliance concerning product and service information and labeling	Consolidating the foundation of responsibility fulfillment - Corporate governance
417-3	Incidents of non-compliance concerning marketing communications	Not involved currently
GRI 418: Customer Privacy		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Not involved currently

List of Laws and Regulations

Laws and Regulations	Corresponding chapters/sections
Company Law of the People's Republic of China Criminal Law of the People's Republic of China Law of the People's Republic of China Against Unfair Competition Law of the People's Republic of China on Anti-money Laundering Cybersecurity Law of the People's Republic of China Data Security Law of the People's Republic of China Personal Information Protection Law of the People's Republic of China Advertising Law of the People's Republic of China Trademark Law of the People's Republic of China Patent Law of the People's Republic of China Copyright Law of the People's Republic of China	Consolidating the foundation of responsibility fulfillment - Corporate governance
Environmental Protection Law of the People's Republic of China Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution Law of the People's Republic of China on the Prevention and Control of Water Pollution Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste Energy Conservation Law of the People's Republic of China Water Law of the People's Republic of China	Creating a zero-carbon world - Green manufacturing
Labor Law of the People's Republic of China Law of the People's Republic of China on Work Safety Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases	Establishing an empowering ecosystem - Talent growth

List of Internal Rules and Regulations

Internal Rules and Regulations	Corresponding chapters/sections
Internal Control Manual Internal Audit Policy Guidelines for Integrity Practice of Cadres Information Security Management Policy Regulations on Compliance Management of Advertising and Publicity Intellectual Property Management Policy	Consolidating the foundation of responsibility fulfillment - Corporate governance

Supplier Access Management Regulations
Regulations on the Management of Raw Material Suppliers
Limited Warranty for Rooftop HJT Photovoltaic Modules
Operation Procedures for Module Shipping, Unloading, Handling and Installation

Leading in smart manufacturing - Quality assurance

Procurement Management Control Procedure
Regulations on the Management of Raw Material Procurement Allocation Shares
Supplier Assessment Management Measures

Leading in smart manufacturing - Responsible procurement

Environmental Operation Control Procedure
Regulations on the Control of Wastewater, Exhaust Gas and Noise Emissions
Regulations on the Management of Solid Wastes

Creating a zero-carbon world - Green manufacturing

6S Management Rules for Parks

Creating a zero-carbon world - low carbon operation

Recruitment Management Measures
Employee Handbook
Attendance Management Measures
Post Statement
Welfare Management Policy
Training Management Policy
Organization and Position Management Policy
Performance Management Policy
Compensation Management Standard
Occupational Health and Safety Management Rules
Occupational Disease Prevention and Control Policy
Summary for Hidden Danger Inspection and Risk Assessment Tracking and Review
Rules of Publicity, Education and Training for Occupational Disease Prevention and Control

Establishing an empowering ecosystem - Talent growth



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