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JA SOLAR SUSTAINABILITY AND ESG REPORT 2023

JA SOLAR

TOGETHER



TOWARDS

TOMORROW



ABOUT THIS REPORT

TOGETHER
TOWARDS
TOMORROW

Reporting Period

This is an annual report covering the period from January 1, 2023, to December 31, 2023 (hereinafter referred to as the "reporting period"). To improve the integrity of the Report, some data may exceed the above range (subject to the specific date indicated).

Reporting Boundary

The Report covers JA Solar Technology Co., Ltd. and its subsidiary manufacturing bases, which is consistent with the scope of the disclosure in JA Solar's 2023 Annual Report. Some manufacturing bases consist of multiple companies. Where individual companies are involved in the Report, they will be reflected as such; otherwise, the name of the associated manufacturing base will be used. For ease of presentation, "JA Solar Technology Co., Ltd." is also referred to as "JA Solar", "the Company" or "we" in the Report.

Report Release

This is the seventh sustainability report/ESG report/social responsibility report released by JA Solar and its subsidiaries. The last report was published in April 2023.

References

Sustainability Reporting Standards of Global Reporting Initiative (GRI)
United Nations Sustainable Development Goals (SDGs)
The Ten Principles of the United Nations Global Compact (UNGC)
IFRS Sustainability Disclosure Standards of International Sustainability Standards Board (ISSB)
Hong Kong Stock Exchange (HKEX) *Environmental, Social and Governance Reporting Guide*
Shenzhen Stock Exchange *Self-regulatory Guideline No. 1 for Companies Listed on the Shenzhen Stock Exchange – the Standardized Operation of Companies Listed on the Main Board*

Report Reliability Assurance

The Company guarantees that the contents of the Report do not contain any false records or misleading statements. The majority of the data in the Report was derived from the Company's original operational records and publicly disclosed official documents, such as its quarterly and annual reports. Unless otherwise specified, the amounts disclosed in the Report are measured in RMB.

Report Statement

The financial data involved in the Report are in compliance with the *Accounting Standards for Business Enterprises* and relevant accounting systems promulgated by the state, and have been audited according to the *China Internal Auditing Standards*, truly reflecting the financial indicators and operating conditions of the Company. The Report has been reviewed and audited internally by the Company and a report assurance agency has been engaged to provide guidance and evaluation to ensure that the Report is true, accurate, and complete. JA Solar hopes to enhance communication with stakeholders through the release of the Report.

Report Acquisition

The Report can be accessed online and is available in both Chinese and English. You may log on to the Company's official website (<http://www.jasolar.com>) or contact esg@jasolar.com to obtain an electronic copy of the Report. In case of any ambiguity in the comprehension of the Chinese and English content, the Chinese version shall prevail.



CONTENTS

001 MESSAGE FROM THE CHAIRMAN

003 ABOUT JA SOLAR

005 SUSTAINABILITY IMPACT MAP 2023

011 SUSTAINABILITY MANAGEMENT

021 ASSISTING IN ACHIEVING THE UN SDGs

107 KEY PERFORMANCE INDICATORS

112 GRI CONTENT INDEX

115 VERIFICATION STATEMENT OF GHG EMISSIONS

117 INDEPENDENT ASSURANCE REPORT

TOPIC 1 023

PROMOTING SUSTAINABLE DEVELOPMENT OF THE VALUE CHAIN VIA GREEN TRANSITION

TOPIC 2 027

ACCELERATING TOWARDS A ZERO-CARBON FUTURE VIA CLIMATE ACTION

TOPIC 3 033

WE CARE EVERY CORNER OF THE WORLD



TOGETHER

1.0 ENVIRONMENT 035

GROWING TOGETHER ON A GREEN JOURNEY TO ACHIEVE CARBON NEUTRALITY

STRENGTHENING ENVIRONMENTAL MANAGEMENT 037

FULL-LIFE-CYCLE SUSTAINABILITY 049

COMBATING CLIMATE CHANGE 054

PROMOTING LOW-CARBON INITIATIVE AND LIFESTYLE 058

TOWARDS

2.0 SOCIETY 061

PURSuing THE DREAM TOWARDS A BETTER SOCIETY

INTELLIGENT MANUFACTURER MODEL 063

CREATING SHARED VALUE WITH PARTNERS 074

BUILDING A VIBRANT WORKPLACE 078

RESPONSIBLE AND HAPPY SOCIETY 090

TOMORROW

3.0 GOVERNANCE 095

ACHIEVING EXCELLENT GOVERNANCE TO SHAPE A SUSTAINABLE TOMORROW

ENHANCING CORPORATE GOVERNANCE 097

ENSURING COMPLIANCE OPERATIONS 101

PROTECTING INTELLECTUAL PROPERTY RIGHTS 105

SAFEGUARDING INFORMATION SECURITY 106



MESSAGE FROM THE CHAIRMAN

It has become a global consensus to implement ESG practices across all operations and promote sustainability. In its capacity as a global leader in PV power generation solutions, JA Solar abides closely by the G2G sustainability philosophy of "Green to Green, Green to Grow, Green to Great". In addition to contributing to the global transition to green and low-carbon energy, JA Solar also strives to be an advocate, practitioner, and leader of ESG by working together with various stakeholders to create a sustainability ecosystem.

In light of the escalating global demand in the PV market, we have steadfastly adhered to our founding mission of "Developing solar power to benefit the planet". Our unwavering efforts in R&D innovation have allowed us to make significant advancements in photovoltaic power generation while enhancing efficiency and reducing costs, thereby enabling more people to embrace green energy. The Company's sales and service network spans 165 countries and regions. During the reporting period, JA Solar shipped over 57GW of solar cell modules, achieving avoided emissions of over 37 million tCO₂e based on grid emission factors of these countries.

With ESG as a strategic priority, we have established a robust three-level sustainability governance system to ensure the seamless implementation of our ESG strategic goals. We strictly adhere to the laws and regulations of all countries as well as international norms to guarantee our operational compliance. Moreover, we have embarked on a strategic path of globalization, digitalization, and ecologization, which gears us towards the comprehensive fostering of a green manufacturing system and creating zero-carbon products throughout their full life cycles.

We firmly believe that sustainability is a shared responsibility that requires collaboration among global partners. Taking on a leadership role, JA Solar actively engages in domestic and international advocacy efforts while contributing to global environmental governance. By announcing sustainability programs at the United Nations Climate Change Conference and participating in China's "GE100%" Initiative as a pioneer, we have demonstrated our commitment to working for global sustainability in practical ways.

Looking ahead, we remain steadfast in our original mission, striving relentlessly to be a reliable and accountable provider of clean energy and a champion of ESG practices. With our global partners, we will forge together towards tomorrow!

Jin Baofang
Chairman of JA Solar
April, 2024

ABOUT JA SOLAR

COMPANY PROFILE

JA Solar Technology Co., Ltd. ("JA Solar") is a global leader in PV power generation solutions. Founded in 2005, JA Solar was listed on NASDAQ in 2007. After being privatized and delisted from the US stock market in 2018, it was officially listed on the A-share market of the Shenzhen Stock Exchange (stock code: 002459) in 2019. JA Solar, which was both established and registered publicly in Ningjin County, Hebei Province, has its headquarters located in No. 8 Building, Nuode Center, East Auto Museum Road, Fengtai District, Beijing. JA Solar has established 14 manufacturing bases around the world and owns 13 sales companies overseas. It has also built a vertically integrated industry chain encompassing silicon wafers, cells, modules, and PV power plants, with over 50,000 employees. The Company's product sales and service network spans 165 countries and regions, ranking among the top companies worldwide for module shipments for several consecutive years.

JA Solar has consistently adhered to technological innovation as its core driving force and embarked on a path of high-quality development, ensuring that its product technology remains at the forefront of the industry. At the end of 2023, JA Solar held 1,263 valid granted patents. The Company has established a global modern enterprise management system, backed by a core management team that holds profound insights into global PV industry technology, business development paths, and future trends. With continuous technological innovation, robust financial power, and a well-developed global sales and service network, JA Solar has been widely recognized by domestic and international customers. Moreover, it has been listed in the "Fortune China 500" and "Global Top 500 New Energy Enterprises" for consecutive years.

In 2023
JA Solar owned

Manufacturing bases
around the world

14

Sales companies
overseas

13

Employees worldwide

50,258

Covered countries
and regions

165

Valid granted
patents

1,263

Financial
Performance

Operating
income of RMB

81.556
billion

A YoY
increase of

↑ 11.74%

Net profits attributable
to the parent company
of RMB

7.039
billion

A YoY
increase of

↑ 27.21%

Basic earnings
per share of RMB

2.14

Gross profit
margin of

18.13%

Vision

Being a great enterprise

Mission

Developing solar power to benefit the planet

Core Values

Being customer-centered, promoting welfare for our staff members, and creating value for the owners

Spirit

Being genuine, simple, respectful and restrained, grateful

Motto

To be an upstanding and responsible person and apply oneself with integrity and industry

SUSTAINABILITY IMPACT MAP



HONOR

Awards	Awarded by
"Seashell Finance Private Listed Company ESG Pioneer"	Seashell Finance, Beijing News, and Qianlong.com
2023 Forbes China ESG Innovative Enterprise	Forbes China
2022 China's Corporate Social Responsibility and Carbon Neutrality Pioneer of the Year	Ministry of Industry and Information Technology
Fifth Batch of National Specialized and New "Little Giant" Enterprises of Ministry of Industry and Information Technology	
Intelligent Manufacturing Demonstration Factory of 2023	
Excellent Scenarios for Intelligent Manufacturing of 2023	
Fifth Batch of "Green Design Demonstration Enterprise for Industrial Products"	
List of "Excellent Practice Cases of Green and Low-carbon Development of Enterprises in 2022"	
Third Batch of "Smart PV Pilot Demonstration Enterprises" of Ministry of Industry and Information Technology	Five ministries and commissions including the Ministry of Industry and Information Technology
The 4th IFF Global Green Finance Award	International Finance Forum
"Zero-Carbon Future · ESG Innovation Practice List"	Wallstreetcn.com
Third Prize in "Global Call 2023"	United Nations Industrial Development Organization
Title of "National Advanced Private Enterprise in Employment and Social Security"	Ministry of Human Resources and Social Security
Top 50 Private Listed Companies for ESG Indices (Ranked 1st)	All-China Federation of Industry and Commerce
Best ESG Practice in Listed Company Case Study of 2023	China Association for Public Companies
"Belt and Road" ESG Classic Case	China-Asia Economic Development Association
2023 Annual "GREENPV Technology Innovation Award"	PV Committee of China Green Supply Chain Alliance
15th on the "Top 30 Technology Innovation Pioneers among China's ESG Listed Companies" List	Financial Program Center of China Media Group

SUSTAINABILITY RATING

In 2023, JA Solar continued sustainability assessment efforts and realized significant improvements in both domestic and international ratings, fully demonstrating its excellent strength and firm determination in sustainability.

AAA	CNI Index ESG Rating "AAA" — Industry ranking: Top 1%
A	Wind ESG Rating "A" — Industry ranking: Top 4%
A-	SynTao Green Finance ESG Rating "A-" — Industry ranking: Top 3%
42	S&P Global CSA score of 42 — Industry ranking: Top 7%, and listed in <i>Sustainability Year Book (China edition) 2024</i>
30.5	Morningstar Sustainalytics ESG risk rating score of 37.1 drops to 30.5 ¹
B Management Level	First proactive response to the CDP's climate change questionnaires, with "B" rating



¹ Sustainalytics is a world-leading institute specialized on ESG research, rating and data. Its ESG risk rating comprehensively evaluates the major ESG risks faced by companies and their risk management capability. A lower rating score indicates a lower level of risk.

SUSTAINABILITY IMPACT



3.17-18

JA Solar attended the roundtable meeting of the Asia Pacific Financial Forum.



3.22-24

JA Solar was invited to the UN Water Conference where we delivered a keynote speech on the topic of "Water Promoting Sustainability".



3.25

On March 25, JA Solar participated in the Forum on Investment in China's Dual Carbon Goals organized by Industrial Securities and the United Nations Development Programme (UNDP).



3.25

On March 25, as a landmark, JA Solar's Headquarters Building in Beijing participated in the "Earth Hour" blackout event initiated by the World Wildlife Fund (WWF).



3.29

On March 29, JA Solar signed a sustainability partnership agreement with the Institute for Sustainable Development Goals of Tsinghua University.



5 MAY

In May, JA Solar passed the SA8000 social responsibility management system certification.



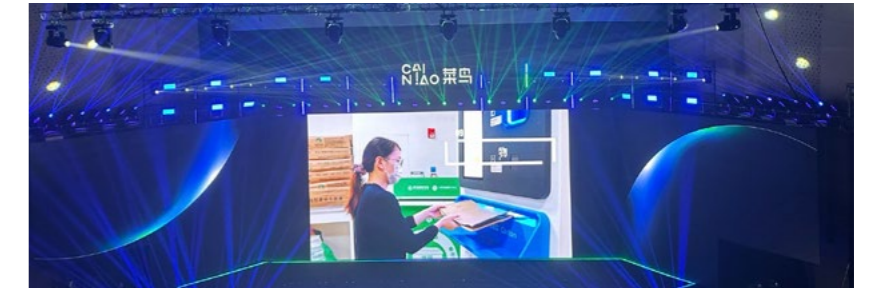
6.13

On June 13, JA Solar was invited to the annual conference of S&P Global Market Intelligence.



6.28

On June 28, JA Solar was invited to the 2023 Global Smart Logistics Summit, during which we shared on topics such as recycled packaging materials.



7.10

On July 10, the n-type product was awarded one of the PPE 2 carbon footprint certificates among the first batch issued by Certisolis in France.



8.19

On August 19, JA Solar assisted in the finals of the 2023 Tsinghua International Case Analysis Competition of Public Policy on SDGs.



9.05

On September 5, JA Solar officially became the first private enterprise member of the World Business Council for Sustainable Development (WBCSD) in China and the world's first member enterprise in the PV industry.



9.07

On September 7, JA Solar was invited to the Global Conference on Environment and Sustainable Development organized by the United Nations Environment Programme (UNEP) where we delivered a keynote speech at the Forum on Sustainable Development.



9.15

On September 15, JA Solar was selected as a case for low-carbon transition research in the *Tracking the Low-Carbon Transition of Enterprises in China - Business and Sustainability in China 2022/2023* released by the United Nations Development Programme (UNDP).



9.18

On September 18, JA Solar attended the UN SDG Summit and reported on its work as a business representative at the UN Autumn Sustainable Markets Initiative CEO Summit.



10.20

On October 20, JA Solar, as one of the first global enterprises to join the "Forward Faster" initiative, was invited to the closed-door meeting for CEOs organized by the United Nations Global Compact (UNGC) for "Forward Faster".



10.22

On October 22, JA Solar, in collaboration with Tsinghua University, held a sustainability practice activity for PV leaders at the Ningjin base.



10.26-27

From October 26 to 27, JA Solar was invited to participate in the 2023 International Cooperation Conference on Sustainable Development as a representative enterprise, where we delivered a keynote speech on JA Solar's sustainability efforts during the enterprise exchange session.



11 NOVEMBER

In November, JA Solar's n-type module was certified with the Green Leaf Mark by the international authoritative organization Intertek Group.



11.02

On November 2, JA Solar was invited to the Fortune ESG Summit where we participated in a roundtable meeting and shared about JA Solar's ESG practices.



11.02

On November 2, JA Solar's multiple series of products underwent the Environmental Product Declaration (EPD) assessments for Norway and Italy through the French authoritative organization Kapstan.



11.30

On November 30, JA Solar was invited to the 2023 Forbes China ESG Innovative Enterprise Selection and shared its insights during the roundtable meeting session themed "ESG New Technologies · Innovation Opportunities".



12.01

On December 1, JA Solar participated in multiple events at the 28th United Nations Climate Change Conference (COP28) and held a press conference as part of the "Pathway to Net Zero and JA Solar Sustainability Development Project Launch Event".



SUSTAINABILITY MANAGEMENT

The global sustainable business ecosystem is undergoing a profound transformation. As a pioneer in this field, JA Solar has established a systematic framework for sustainability management comprising a three-level sustainability governance structure and formulated clear and transparent ESG policies to ensure efficient ESG practices. JA Solar actively integrates ESG principles into its business strategies and fully integrates them into business practices, thus forming a unique sustainable business model. With its constant and effective promotion of sustainability, JA Solar continuously expands its positive influence on the economy, environment, and society, so as to contribute to the creation of a more inclusive and sustainable community while creating shared value.

G2G SUSTAINABILITY CONCEPT

JA Solar has proposed the G2G sustainability concept, strategy, and vision of "Green to Green, Green to Grow, Green to Great" centering on the sustainable development goals of the United Nations.



Green to green

SUSTAINABILITY CONCEPT

Building a Green
Cycle Together

JA Solar has implemented the sustainability concept of "building green factories, manufacturing green products, generating green energy, and jointly creating a green planet" in its operations. The Company advocates the adoption of the green and low-carbon concept as a guide, reshaping the business model of the enterprise, and advancing the green cycle across the entire industry chain. On the one hand, the Company comprehensively implements the requirements of energy conservation, environmental protection, pollution reduction, and carbon reduction while fostering a green manufacturing system. At the same time, the Company promotes the recycling of resources in all aspects of production. Through the application of digital technologies such as 5G technology and big data, we have created an intelligent green factory, thereby driving the realization of a green cycle in the PV industry chain.



Green to grow

SUSTAINABILITY STRATEGY

Pursuing Green
Development Together

Adhering to the business philosophy of robust growth for sustained profitability, JA Solar actively cooperates with upstream and downstream partners to build a "zero-carbon" ecosystem. By driving the technological development of PV products, expanding the scale of PV power plants, and exploring energy storage technologies with various innovations, the Company is committed to working with value chain partners to boost the widespread application of clean energy in various industries while contributing to global green development.



Green to great

SUSTAINABILITY VISION

Creating a Green
Future Together

With a mission of "developing solar power to benefit the planet," JA Solar is committed to becoming a great enterprise. Over the years of operation, JA Solar has not only provided the world with green power generation products but has also been ardently practicing social responsibility. The Company brings benefits to all parties in China and abroad through various forms such as charity donations, disaster relief, and education assistance. Through this, we can achieve a mutually beneficial situation for the economy, society, and environment. Together with the rest of the world, JA Solar contributes to the creation of a green and beautiful future for humanity.

2050

- ∞ Become a global leader in sustainable development
- 0 Achieve net zero emissions

2030

- 42% reduction in total GHG emissions (Scope 1 + Scope 2) compared to 2023
- 🌱 Create full-life-cycle green products
- ★ 100% sustainability-related certification of mainstream suppliers
- Establishment of a diversity, equity and inclusion management system
- 🔄 Support sustainable investment and financing

Environmental Initiatives

Social Initiatives

Under this vision, JA Solar was driven by the theme of "Together Towards Tomorrow", firmly collaborated with partners, and took multifaceted actions in 2023 to jointly address uncertainties and challenges in ESG aspects, aiming to create a better sustainable future together.

SUSTAINABILITY STRATEGIC GOALS AND ACTIONS



To drive the sustainable development of the Company, JA Solar has joined the "Forward Faster" initiative of the United Nations Global Compact (UNGC) and is committed to actively investing corporate resources in multiple aspects such as climate action, gender equality, living wage security, financing and investments in sustainable development goals. The Company has formulated a strategic target for sustainability that covers the entire value chain according to the content of the initiative. We have also developed a practical and efficient ESG action plan targeting key issues, so as to further achieve multi-dimensional goals such as risk management and control, model innovation, and value creation.

Taking into account importance, urgency, and feasibility, JA Solar has planned a phased and modular ESG action path, defined key milestones and outlined a blueprint for accelerating the creation of a greener, better, and sustainable future.

Sustainability Theme of JA Solar in 2023:

TOGETHER TOWARDS TOMORROW



TOGETHER

"Together" is JA Solar's active response to the call for the entire human race to join forces to battle climate change. JA Solar encourages its value chain partners to unite, keep pace with the trends of the times, transcend geographical and professional boundaries, and jointly promote sustainability through collective efforts. Our ultimate goal is to contribute to the global transition towards a future of low-carbon energy and provide solutions for sustainable and clean energy.

TOWARDS

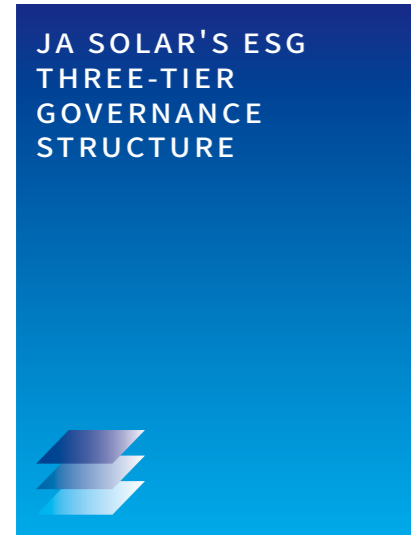
"Towards" is a positive idea of JA Solar's pursuit of a better community. In our journey of pursuing dreams, we break conventions, innovate and improve while collaborating with all stakeholders to fulfill our social responsibilities. Through practical actions, we jointly build a harmonious and prosperous home for sustainability, making sure that no one is left behind.

TOMORROW

"Tomorrow" represents JA Solar's commitment and dedication to improving governance and cultivating a long-standing enterprise foundation. We integrate the concept of sustainability into the heart of our operations, leveraging internal strengths and projecting a positive image externally. By doing so, we align our responsibilities with our aspirations and collectively embrace a bright and promising future filled with boundless opportunities.

SUSTAINABILITY GOVERNANCE

Sustainability Governance Framework



To comprehensively strengthen the systematization, professionalization, and standardization of sustainability management, JA Solar adopts a balanced approach that integrates theory and practice. With due diligence, we review and refine multiple dimensions, encompassing governance framework, work processes, and information disclosure. By seamlessly integrating the principles of sustainability into our corporate governance and across all business segments, we are committed to continuously enhancing our sustainability governance capacity and performance. Our ultimate goal is to achieve coordinated development in various aspects such as company growth, industry transition, and social value creation.

To cater to the Company's strategy and sustainability needs as well as strengthen our sustainability governance capacity, JA Solar has established a three-tier sustainability governance framework covering the decision-making, management, and executive layer. We continue to optimize the team structure and boost the development of professional capacity. In 2023, the Company officially renamed the former "Carbon Management and Sustainability Department" under the "ESG and Sustainability Committee" as the "ESG Management and Sustainability Department" to promote coordination, communication, and implementation of the Company's work in ESG, climate change, and other areas.



Decision-making Level

The Board of Directors has set up a "Strategy and Sustainable Development Committee" responsible for leading and supervising the Company's sustainability work. The Board of Directors has formulated the *Working Rules of Strategy and Sustainable Development Committee of Board of Directors*. The Board of Directors provides guidelines and issues approval for the Company's climate and ESG strategies and goals, with regular monitoring and reviews of the progress of the goals.

Management Leadership

The management has established an "ESG and Sustainability Management Committee", which is responsible for formulating the Company's sustainability strategies and goals as well as implementing strategic deployments from the decision-making level. The management has formulated the *Regulations of procedure for ESG and Sustainability Management Committee* to facilitate ESG matters and conduct regular reviews of the progress of ESG goals.

Executive Leadership

The Executive Leadership includes an "ESG Management and Sustainability Department", which has formed a linked working group with the main relevant departments. It undertakes all decisions related to ESG/climate/sustainability and promotes the implementation of relevant measures. The Department also liaises with the relevant personnel of various departments and bases to form a coordinated and united mechanism in work.

Expertise of Board of Directors in Climate Change

The Board members of JA Solar demonstrate exceptional expertise and a high level of participation in combating climate change. The following Board members, with their professional backgrounds, endow JA Solar with profound expertise in addressing complex ESG topics and ensure that the Company can take proactive measures in the global battle against climate change.



Independent Director
Zhao Yuwen

From 2017 to the present, he has served as the Honorary Director of the Solar Photovoltaic Committee of China Renewable Energy Society, participating in the Company's energy development planning and strategic research.



Independent Director
Qin Xiaolu

As a senior accountant, continuously monitors the Company's disclosure within the Task Force on Climate-Related Financial Disclosures (TCFD) and provides specific guidance on matters related to climate change.



Independent Director
Zhang Miao

She served as a prosecutor and director of the Public Prosecution Department of Dongcheng District People's Procuratorate in Beijing. She is currently a senior partner of Hylands Law Firm. She comprehensively promotes JA Solar's compliance with laws and regulations in climate change and ESG from a legal perspective.

Remuneration Linkage

In 2023, we continued to enhance the engagement and understanding of Board members and senior executives in ESG topics, incorporated sustainability indicators as a core component of KPIs for senior executives and linked them to remuneration and incentive schemes. This not only demonstrates our unwavering commitment to enhancing sustainability development management but also guarantees the efficient execution of ESG and strategic goals for sustainability.

Specialist Advisor

We actively engage external experts like Dr. Mohan Munasinghe, former Vice Chair of the UN Intergovernmental Panel on Climate Change (IPCC), co-recipient of the Nobel Peace Prize in 2007, and winner of the 2021 "Blue Planet Prize",¹ whom we have appointed as our inaugural sustainability advisor. Dr. Munasinghe's addition to our team brings invaluable expertise and experience that will greatly enhance our efforts in driving sustainability and strengthening international collaborations.

MOHAN MUNASINGHE



¹ The Blue Planet Prize, an internationally authoritative award in the field of environmental protection, is known as the "Nobel Prize in Environmental Industry".



Stakeholder Engagement

JA Solar recognizes the significant impact of stakeholder opinions on ESG efforts, proactively listens to the voices of stakeholders, and understands their demands. We have established various forms of open and effective communication channels with the objective of actively responding to the concerns and expectations of our stakeholders through practical actions.

Key Stakeholders	Concerns and Expectations	Communication Channels	Feedback and Practice
Customers	High-performance products, high-quality service, and information security	New product launches, networking meetings, customer appreciation meetings, exhibitions, customer service, product exchange conventions, etc.	Ensure product quality and promote product innovation Pay close attention to customer demands and provide timely feedback Carry out satisfaction surveys and ensure security of customer information
Shareholders and Investors	High returns on investment, robust financial health as well as accurate and timely information disclosure	Shareholders' meetings, online performance briefings, roadshows, on-site reception, investor communication activities, telephone calls, online messages, e-mail, and other methods	The regular release of ESG and sustainability reports, financial reports, and other announcements Timely reminders for shareholders to check and collect information related to sustainability and company operations Set up an "Investor Relations" column on the Company's official website 100% reply rate on the Shenzhen Stock Exchange interaction platform
Employee	Clear career development channels, comfortable working environment, and diversified development opportunities	Employee training and communication, employee development and group building activities, etc.	Establish a scientific human resource management system and promotion mechanism Listen to and collect employee suggestions Strengthen occupational health and safety management Provide career development channels for employees Regularly organize team building or cultural and sports activities
Suppliers and Partners	Stable supply and long-term fair cooperation	Supplier exchange meetings, daily supplier management, etc.	Improve the supplier management system Conduct training for suppliers as well as environmental and social assessments Perform dynamic evaluation and review of suppliers Create a list of excellent suppliers Conduct transparent procurement
Government and regulatory authorities	Employment opportunities, operational compliance of the Company, environmental protection, and safe production	Government-related meetings, websites, policy advice channels, etc.	Implement the code of business conduct Optimize internal control and compliance management system Improve our anti-fraud management Strengthen advocacy on corporate integrity and anti-corruption Strengthen production safety management Improve the environmental management system
Community	Environmental safety, improvement of people's livelihood, community development, public relations, and cultural life	Public welfare activities, organization of relief efforts, environmental protection activities, etc.	Organization of charity activities, volunteer work, rendering aid, and making donations Allocation of resources to support community construction
NGOs	Focus on environmental protection, promote industrial development, and proactively assume social responsibility	Join associations, participate in initiatives, conduct public welfare donations, etc.	Strengthen cooperation with nongovernmental organizations and actively provide assistance Strengthen the environmental management system Carry out public welfare activities



Materiality Analysis

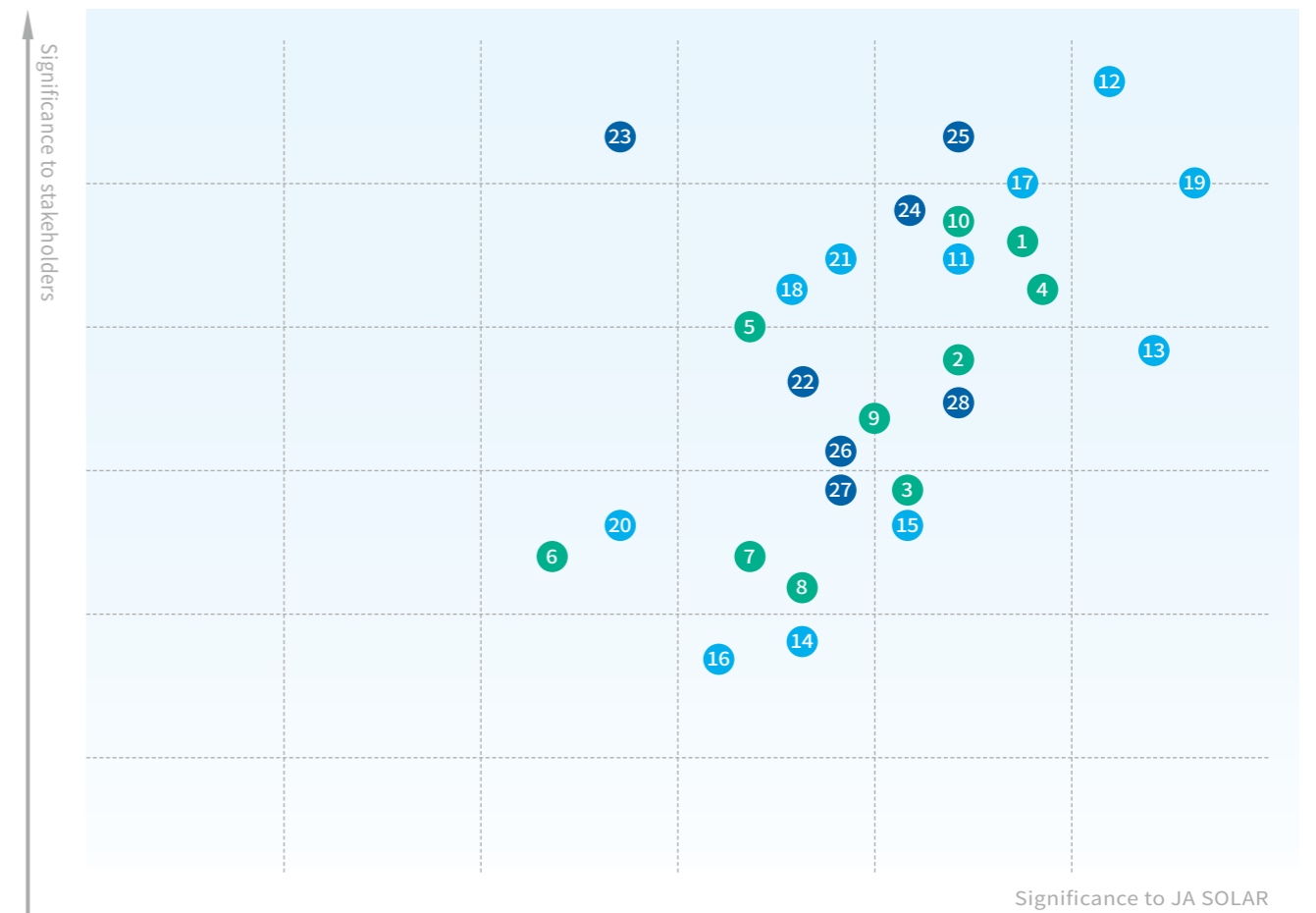
Sustainability is a strategic choice for JA Solar and we have integrated our long-term corporate development strategy with our sustainability concept to a rather large extent. In order to respond to the expectations and demands of stakeholders more effectively and establish a systematic management approach, JA Solar identified and analyzed ESG-related material topics in 2023 through various measures such as policy analysis, extensive internal and external stakeholder research, and others. These efforts serve as a foundational reference for the Company to make systematic progress in its ESG efforts and disclose pertinent information.

Materiality Analysis Process of JA Solar in 2023

1 Identification of Material Topics	With reference to the international authoritative reporting guidelines issued by organizations such as the Global Reporting Initiative (GRI) and the International Sustainability Standards Board (ISSB) as well as the latest Chinese and international policies and industry standards, JA Solar sorts out and identifies the material topics related to sustainability.
2 Stakeholder Communication	The Company communicated with key internal and external stakeholder groups through various methods including questionnaires, interviews, and others to fully understand their expectations and opinions on JA Solar's sustainability efforts.
3 Evaluation and Analysis	Based on questionnaire surveys, interview communications, and multiple factors such as the Company's development strategy, the Company evaluated the importance of 28 material topics and formulated a Matrix of Material Topics for this year accordingly.
4 Confirmation and Review	After undergoing the process of review and approval by the management, the final JA Solar 2023 Matrix of Material Topics was formed, comprising the confirmed list of material topics and analysis results.

List of Topics and Matrix of Material Topics of JA Solar

E Environmental	No. 1	Environmental Management System	No. 6	Biodiversity
	No. 2	Energy Management	No. 7	Clean Technology Opportunities
	No. 3	Water Resources Use and Management	No. 8	Product Life Cycle Management
	No. 4	Effluents and Waste Management	No. 9	Developing Circular Economy
	No. 5	Combating Climate Change	No. 10	Building a Green Supply Chain
S Social	No. 11	R&D Innovation and Protection of IPRs	No. 17	Protection of Employees' Rights & Interests
	No. 12	Product Quality and Safety	No. 18	Human Capital Development
	No. 13	Protection of Customers' Rights & Interests	No. 19	Occupational Health and Safety
	No. 14	Driving Industrial Development	No. 20	Diversity and Equal Opportunities
	No. 15	Supply Chain Management	No. 21	Responsible Procurement
	No. 16	Community Impact and Development		
	No. 22	Anti-corruption and Business Ethics	No. 26	Anti-unfair Competition
G Governance	No. 23	Corporate Governance	No. 27	Market Performance
	No. 24	Compliance and Risk Management	No. 28	Product Life Cycle Management
	No. 25	Information Security and Privacy Protection		



ASSISTING IN ACHIEVING THE UN SDGs



UN SDGs



No Poverty
End poverty in all its forms everywhere.



Good Health and Well-being
Ensure healthy lives and promote well-being for all at all ages.



Quality Education
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.



Gender Equality
Achieve gender equality and empower all women and girls.



Clean Water and Sanitation
Ensure availability and sustainable management of water and sanitation for all.



Affordable and Clean Energy
Ensure access to affordable, reliable, sustainable, and modern energy for all.



Decent Work and Economic Growth
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Integrating the United Nations Sustainable Development Goals (UN SDGs) into its strategy and operations, JA Solar identifies SDGs related to the Company and value chain, and actively takes actions to accelerate the progress of SDGs.

JA Solar's Corresponding Actions

JA Solar fully mobilizes resources to support social welfare undertakings such as community construction, rural community development, and disaster relief. The Company continues to promote PV construction plans in multiple areas, drive local economic development, contribute tax revenue to local governments, assist local people in finding employment, and bring land-based income to local people.

JA Solar is also foster occupational health and safety in various manufacturing bases to ensure the basic rights and interests of employees are safeguarded. JA Solar has supported the "Brightness Project for Poor Cataract Patients" for many consecutive years and incorporated it into the Company's Three Major Projects for the Benefit of the People, helping cataract patients regain their vision.

JA Solar attaches great importance to the development of education and has been continuously supporting regional education equity through JA Solar's Sunshine Charity Fund and projects such as the "100 Hope Primary Schools Donation Project" and the "10,000 Needy Students Financial Support Project" for over a decade. The Company attaches great importance to talent cultivation and development. Through regulations such as the *Training Management System*, it has established a comprehensive talent training system and regularly facilitates in-depth university-enterprise cooperation to provide professional talents for the industry.

JA Solar places great emphasis on gender equality and equal pay for equal work, thereby fully safeguarding the special rights and interests of female employees while creating an equal workplace environment.

JA Solar attaches great importance to water resource management, with comprehensive control over the discharge of wastewater generated during production, which is discharged only after meeting the standards. The Company continuously explores measures for water resource treatment and recycling to improve the efficiency of water resource utilization.

Through technological innovation, JA Solar improves product efficiency, enhances the accessibility of clean energy, and drives the transformation of clean energy. The Company facilitates PV grid connection at a fair price, playing a part in ensuring fairness and justice in the global energy transformation.

JA Solar offers our employees a competitive remuneration and welfare system, providing equal, safe, and decent working conditions. We strive to create clear, transparent, and diversified career development pathways to enhance employees' sense of belonging. While creating a sustainable supply chain, the Company creates employment opportunities and drives the development of the industry.



UN SDGs



Industry, Innovation, and Infrastructure
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.



Reduced Inequalities
Reduce inequality within and among countries.



Sustainable Cities and Communities
Make cities and human settlements inclusive, safe, resilient, and sustainable.



Responsible Consumption and Production
Ensure sustainable consumption and production patterns.



Climate Action
Take urgent action to combat climate change and its impact.



Life on Land
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.



Peace, Justice, and Strong Institutions
Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.



Partnerships for the Goals
Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

JA Solar's Corresponding Actions

JA Solar remains focused on technological innovation, with the continuous launch of safe and reliable products as well as efficient solutions. We prioritize enhancing the adaptability of our products under extreme conditions and driving the innovation and upgrade of our industrial offerings. Meanwhile, the Company has implemented projects such as "grid parity" for photovoltaic, making contributions to ensure fairness and justice in the global energy transition.

JA Solar adheres to the principles of fair and equitable employment while upholding the concept of diversified talents and inclusive development. Respecting and safeguarding human rights, we firmly oppose all forms of workplace discrimination and strive to provide a fair and diverse workplace environment for employees of different genders, ages, ethnicities, regions, and religious backgrounds.

With the mission of "developing solar power to benefit the planet", JA Solar continuously creates BIPV products that meet building safety, aesthetics, and design specifications, with the combination of building materials and PV properties, contributing to the creation of zero-carbon and resilient future cities.

JA Solar promotes the management of their products across the entire life cycle, creating a "zero-carbon factory" while disassembling and recycling discarded PV modules. It promotes the establishment and improvement of a PV recycling and utilization system. The Company continues to enhance supply chain responsibility management, advocating the low-carbon concept alongside responsible production and consumption.

JA Solar actively responds to climate change, carries out climate risk identification, and takes corresponding measures. The Company also adopts various measures such as green production, green logistics and packaging, green factories, green product technology, and green offices to enhance green development from multiple aspects.

JA Solar remains steadfast in its commitment to harmonious coexistence between human beings and nature. We strictly adhere to national ecological red lines while actively exploring and creating biodiversity parks to provide new solutions for ecological governance and harmonious symbiosis.

JA Solar prohibits the employment of child labor and forced labor and has established a raw material traceability mechanism. At the same time, it carries out the management of critical minerals and supply chain labor. The Company continues to strengthen the business ethics management of employees and suppliers. We have established the "JA Solar Integrity Platform", adhere to compliant and legal operations, and eliminate corruption.

JA Solar actively collaborates with global partners, engaging in profound cooperation with organizations such as the United Nations Global Compact, the World Wildlife Fund, and international renewable energy solution platforms. Together, we strive for mutual success and contribute to the achievement of SDGs.



TOPIC 1

PROMOTING SUSTAINABLE DEVELOPMENT OF THE VALUE CHAIN VIA GREEN TRANSITION

Benefiting mankind with green inheritance. Propelling forward toward sustainability in the great era.

Amid the global tide of energy transformation and climate change response, PV enterprises are not only significant providers of green energy but also practitioners and leaders of sustainability. JA Solar adheres to the sustainability philosophy of "Green to Green", guided by green and low-carbon principles to drive the green transition of critical components ranging from product design, supplier management, raw material procurement, and manufacturing, to warehousing and logistics. We explore the path of green cycling and sustainability throughout the entire industry chain and lifecycle.

UPSTREAM

SUPPLIER MANAGEMENT



We have established a "Supplier Social Responsibility and Sustainability Evaluation" system that covers multiple aspects including product quality and safety, community communication, environmental management, and business ethics. We incorporate carbon disclosure, carbon footprint, and green power utilization into our supplier evaluation and scoring rubrics. This approach helps our value chain partners enhance their awareness of sustainability, unleash greater potential, explore pathways for sustainability, and empower them to improve their sustainability management capacity.

Contents of evaluation system:
18 topics and 105 indicators

Percentage of suppliers
committed to improvement
after evaluation

100%

RAW MATERIAL PROCUREMENT



We have formulated the *JA Solar Responsible Procurement Policy*, implemented carbon footprint certification for raw materials, and strictly monitored the sustainability of raw materials. We vigorously drive localization and low-carbon procurement to minimize the negative impact on the environment during the procurement process.

Increase in procurement
proportion of local silicon
material suppliers

2022 5.6% → 2023 8%

Year-on-year growth in procurement of low-carbon
particulate silicon

244%

R&D, PRODUCTION, AND LOGISTICS

R&D



In terms of product design, we take into account green and low-carbon concepts, as well as their impact on the environment. In addition to introducing low-carbon new materials during the design phase, we continuously strengthen our innovation and R&D capacity, improve product conversion efficiency and module power, and reduce carbon emissions per unit of power generation.

All Company's mainstream products have passed the French
Certisolis carbon footprint certification.



JA Solar's p-type series products and n-type DeepBlue 4.0 Pro series
products have passed the Norwegian and Italian UL EPD (Environment
Product Declaration) evaluations.

EPD

Multiple products have been selected into the first batch of "Green Design
Products" for PV cell modules by the Ministry of Industry and Information
Technology of the People's Republic of China



In 2023, the conversion efficiency of n-type Bycium+ solar
cells in mass production reached up to 26.3%, ranking
among the world's leading levels.

26.3%

PRODUCE



We employ innovative means such as industrial robots, the Internet of Things (IoT), and AI to create digital and intelligent factories. By employing advanced production techniques and equipment, we enhance energy utilization efficiency, reduce energy consumption and carbon emissions during production, and improve the recycling rates of waste and water resources. This approach allows us to fully implement green and intelligent manufacturing.

Six manufacturing bases under
JA Solar have been listed as
"National Green Factories"

6

Two bases have been shortlisted
for the List of Green Factories in
Jiangsu Province

2

Total water resources recycling
Unit: m³

162,141,605.34

Total waste recycling
Unit: tonne

171,700.77

PACKAGE



We follow a circular packaging scheme, optimize cross-packing, reduce unnecessary packaging, and continuously improve packaging and loading efficiency. We also carry out verifications on the removal of wooden frames from domestic shipping packaging and actively explore carbon reduction solutions throughout the full life cycle.

WAREHOUSE



The green and intelligent stereoscopic warehouses we have created enable real-time analysis and intelligent management of inbound and outbound inventory, storage, and inventory information, thus creating a highly automated, digitalized, and intelligent warehousing center.

Our intelligent stereoscopic warehouse project in the
Yangzhou Base provides over 3,400 cargo spaces, an increase
of about 2.55 times compared to ordinary warehouses,
which is equivalent to a reduction of land use by 10,850m².

3,400⁺

LOGISTICS



We adopt more green and low-carbon transportation modes such as road-railway combined transportation and water-land combined transportation, and explore the use of clean energy like biomass fuels and methanol. During on-site transportation, we actively promote the forklift "oil to electricity" project to reduce carbon footprint, thus achieving coordinated development between logistics cost reduction and green logistics promotion.

We provide customized road-railway combined
transportation solutions based on project conditions.
In 2023, JA Solar arranged for a total of about 377MW of
shipments via road-railway combined transportation.

377MW

DOWNSTREAM

RECYCLE



We have jointly established the "Photovoltaic Recycling Industry Development Cooperation Center" with industry partners to actively explore recycling solutions for modules and packaging. We have developed management standards for the recycling of used packaging materials and implemented specialized recycling at our bases, thereby minimizing the use of packaging materials and reducing energy consumption during packaging production.

JA Solar has built a strategic partnership with PV CYCLE to promote global recycling of discarded PV modules.

All modules exported to the European Union comply with the WEEE directive. ¹

In 2023, the Yangzhou Base recycled nearly 400,000 sets of cell cartons and approximately 160,000 pallets and 170,000 junction box totes.

In 2023, the Ningjin Base recycled nearly 930,000 sets of packaging materials and over 45,000 pallets.


¹ In 2002, the EU formally promulgated the Waste Electrical and Electronic Equipment Directive (WEEE Directive), which provides guidelines for environmental protection in the field of waste electrical and electronic products.

UPSTREAM

1 SUPPLIER
MANAGEMENT 

2 RAW MATERIAL
PROCUREMENT 

R&D, PRODUCTION AND LOGISTIC

3 R&D 

4 PRODUCE 

5 PACKAGE 

6 WAREHOUSE 

7 LOGISTICS 

DOWNSTREAM

8 RECYCLE 



TOPIC 2

ACCELERATING TOWARDS A ZERO-CARBON FUTURE VIA CLIMATE ACTION

Tackling climate change has become a global consensus. Acknowledging the importance of climate change to the sustainability of enterprises, JA Solar actively identifies climate-related risks and opportunities, integrating climate change strategies into business development and ESG goals. We continuously promote green and low-carbon manufacturing to create benchmark examples of zero-carbon practices. We have newly established over 50 carbon management positions within the Company, which will be responsible for monitoring and managing our carbon emissions. Externally, they actively participate in external climate change-related activities in China and abroad as well as internal promotion. They will also exchange innovative and practical experiences in climate action, serving as trendsetters and advocates for climate action.

We ceaselessly move forward on the path of combating climate change and join forces with more stakeholders to contribute to the global climate governance goals while accelerating our journey towards a zero-carbon and better future as a collective.

Leading Low-Carbon Development via Green Practices

Creating Benchmark Cases of Low-Carbon Smart Parks

Yiwu Base Low-Carbon Park Project: "Source-Grid-Load-Storage" Low-Carbon System Solution

JA Solar takes the lead in implementing low-carbon practices and actively explores green technological innovation and low-carbon park construction. In 2023, JA Solar and the World Wildlife Fund (WWF) jointly developed the *Zero-Carbon Factory Construction Guidance for PV Cell and Module Manufacturers*, providing a reference for green manufacturing and intelligent manufacturing in the industry.

In 2023, JA Solar completed its first low-carbon park project, the Yiwu Base Low-Carbon Park Project, officially marking JA Solar's entry into the era of "zero-carbon parks" and "intelligent energy".

Focusing on park resources and needs, JA Solar's Intelligent Energy tailored a systematic low-carbon solution centered on "Source-Grid-Load-Storage". Starting from the four aspects of "zero-carbon from the source, carbon reduction on the grid side, low carbon load, and carbon savings through response", we comprehensively reduce the energy consumption and GHG emissions of the park from construction to operation. We aim to create a low-carbon park that forms an industry benchmark in terms of flexible management of comprehensive park energy, operational carbon reduction, and environmental protection development, providing innovative models and model cases for the industry.

The project is expected to generate 28.76 million kWh of PV green power a year, reduce CO₂ emissions by about 16,000 tonne, achieve an energy-saving rate of over 10% for the power station, and reach a flexible resource adjustment rate exceeding 15%.

Expected annual generation of PV green power of **28.76** million kWh

Reduce CO₂ emissions by about **16,000** tonne



Dongtai Base Low-Carbon Park Project: Digital Solution Based on Multi-Scenario BIPV

Expected annual generation of PV green power of **45.85** million kWh

Reduce CO₂ emissions by about **26,000** tonne

Expansion of PV construction space by more than **15%**

Selected into *China's Typical Cases of Synergy and Efficiency in Reducing Pollution and Carbon Emissions in 2023* by the Ministry of Ecology and Environment

Exploring Sustainability Paths and Creating a Low-carbon Green Campus

The PV construction of the Institute totals **1MW**

The renewable energy for the efficient heating and cooling system account for about **70%**

Expected to reduce annual CO₂ emissions by about **390** tonne

In 2023, the construction of JA Solar's Dongtai Base Low-Carbon Park commenced. Positioned as a world-class lighthouse factory, the park is equipped with a comprehensive "intelligent manufacturing + digitization + 5G operation system". Using distributed roof PV, new energy storage, integrated PV, storage and charging, and air conditioning energy storage, BIPV applications can be implemented successfully in multiple scenarios covering planes and facades, including rain shelters, car sheds, glass curtain walls, and corridors, providing an innovative way to expand green power production. Digital and intelligent means have been employed to create a zero-carbon intelligent energy management platform for overall regulation and control, which provides the foundation for the low-carbon development of the park. Adaptability and sustainability are further enhanced by having these resources that can be flexibly adjusted and optimized to meet project needs.

The project is expected to generate 45.85 million kWh of PV green power annually, reduce CO₂ emissions by about 26,000 tonne, and achieve an expansion of PV construction space by more than 15% as well as a flexible and adjustable resource proportion of over 15%.



In 2023, the Center for Environmental Education and Communications of the Ministry of Ecology and Environment, PRC released *China's Typical Cases of Synergy and Efficiency in Reducing Pollution and Carbon Emissions in 2023* in a thematic side event "Achieving Multi-wins in Environment, Climate and Economy through Synergy Co-control of Air Pollution and Climate Change at the 28th United Nations Climate Change Conference (COP28)". The "Efficient PECVD Ammonia-containing Tail Gas Treatment Project" and the "Air Compressor Renovation Project" at the Ningjin Base of JA Solar were selected into the list of typical cases.

As the first successful case study in the PV industry, the "Efficient PECVD Ammonia-containing Tail Gas Treatment Project" can be flexibly modified according to changes in exhaust gas volume, environmental policies, regulations, and regulatory trends after completion, thus fully meeting production and policy requirements. It provides a replicable solution for low-carbon production in the industry and tackling climate change.

To carry out in-depth sustainability practices to a greater extent, JA Solar has integrated the green and low-carbon concept into the construction of Xingtai Polytechnic Institute of New Energy. The Institute not only focuses on sustainability and ecological education in course design but also actively develops a low-carbon campus in practice. The PV construction of the Institute totals 1MW. By integrating green technologies related to soil and air sources, it creates an efficient heating and cooling system, with renewable energy accounting for about 70%. Through the construction of an integrated "wind-PV-storage" system, the Institute is expected to reduce CO₂ emissions by about 390 tonne per year. The establishment of the Xingtai Polytechnic Institute of New Energy serves as an example for the green and low-carbon development of the industry, demonstrating JA Solar's exploration in the field of sustainability and its pursuit of a sustainable future.



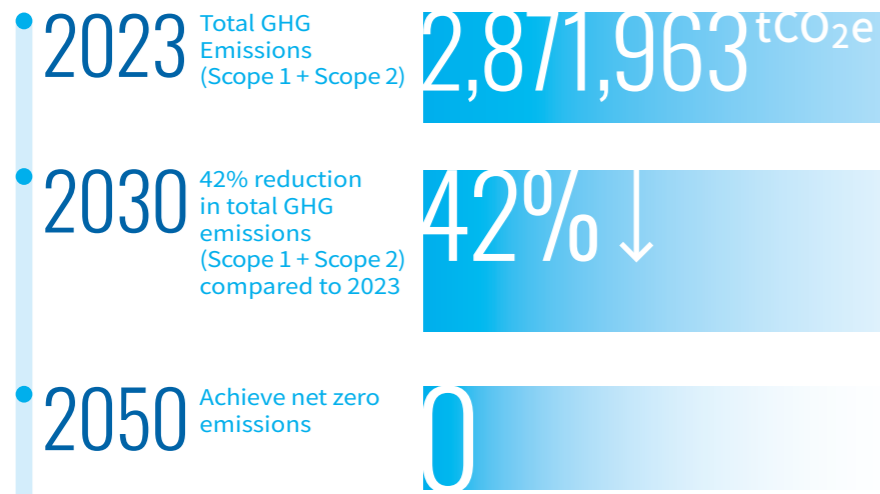
Furthering Exchange and Jointly Building Climate Ambition

While the global battle against climate change has embarked on a new journey, more innovative forces are urgently needed for climate governance. JA Solar actively participates in various climate change exchange activities in China and all around the world, demonstrating the green actions of Chinese enterprises and providing new ideas for global climate governance.



Climate Goal: Promote the Establishment of Science Based Targets

Actively responding to the national strategy of "carbon peaking and carbon neutrality" while taking the initiative to respond to climate change, JA Solar contributes to the achievement of the long-term goal under the *Paris Agreement* to "limit the temperature increase to 1.5° C above pre-industrial levels". The Company officially joined the Science Based Targets initiative (SBTi) in 2022 and is formulating GHG emission reduction targets and action plans based on scientific methods —We are committed to reducing operation-wide total GHG emissions (Scope 1 + Scope 2) by 42% in 2030 compared to 2023 and achieving net-zero GHG emissions no later than 2050.



Bringing Chinese Voice to Climate Governance

While strengthening international cooperation and making a stand, JA Solar continuously demonstrates through practical actions to the world that we will always be active participants, contributors, and advocates of global environmental governance, hence bringing a Chinese voice to the sphere of climate governance.

Working Together to draw a Sustainability Blueprint

In June 2023, JA Solar joined China's "Green Electricity 100%" (GE100%) Initiative as one of its first initiative supporters.



Leading the Transition, JA Solar Contributes to Sustainability

JA Solar Attended the Global Conference on Environment and Sustainable Development

In September 2023, JA Solar joined the 2023 Climate Ambition Accelerator (CAA) program of the United Nations Global Compact (UNGC).



In September 2023, JA Solar participated in the main forum of the Global Conference of Environmental Scientists and the Second Authors Meeting for the Seventh Global Environment Outlook (GEO-7) organized by the United Nations Environment Programme (UNEP). We discussed sustainable environmental development, global energy transition, and green development with representatives from over 30 countries and regions, thus helping accelerate the global green, low-carbon, and sustainable development process.



Profoundly Involved
in COP28, JA Solar Is
Taking Action

The 28th United Nations Climate Change Conference (COP28) stands as one of the most important climate change conferences worldwide and carries the hopes of achieving global climate goals as well as the challenges that come with it. JA Solar is deeply involved in the related meetings and activities of COP28, demonstrating to the world its determination and strength in pursuing global climate goals.



12.01

The 2023 Pathway to Net Zero and JA Solar Sustainable Development Event Launch Conference was held at the Dubai China Pavilion, where JA Solar released its short-, medium-, and long-term sustainable development strategies and "Every Corner" Sustainable Development Project. At the Launch Conference, we appointed Dr. Mohan Munasinghe, former Vice Chairman of the UN Intergovernmental Panel on Climate Change (IPCC), co-recipient of the Nobel Peace Prize in 2007, and winner of the 2021 "Blue Planet Prize", as our sustainability advisor, who will guide and support JA Solar in sustainability.



12.01

JA Solar participated in the Dialogue on Sustainability for Renowned Chinese and Foreign Entrepreneurs with the theme of "Sustainability Strategy for Global Carbon Neutrality Enterprises"



12.03

JA Solar co-organized the thematic side event "Achieving Multi-wins in Environment, Climate and Economy through Synergy Co-control of Air Pollution and Climate Change"
JA Solar participated in the thematic side event "Women for Climate: Making the World Beautiful"

12.04

JA Solar participated in the thematic side event "Academic Forum on Climate Governance"
JA Solar participated in the thematic side event "Role of Reports and Their Impact on Achieving Environmental Goals"

12.05

JA Solar co-organized the thematic side event "Technology & Innovation Driving Green Supply Chain"
JA Solar participated in the sharing and exchange conference on "Empowerment for Accelerating Carbon Reduction in Enterprise Supply Chain"



12.06

JA Solar participated in the thematic side event "Focusing on Technological Investment Development and Achieving a Zero-Carbon Energy System"

12.08

JA Solar participated in the thematic side event "From Ambition to Action: RE Power the Future"
JA Solar released the *Zero-Carbon Factory Construction Guidance for PV Cell and Module Manufacturers* with the Beijing Representative Office of the World Wildlife Fund (WWF)
JA Solar participated in the thematic side event "South-South Cooperation Enterprises of Renewable Energy Forum"



12.09

JA Solar participated in the thematic side event "Stronger International Cooperation in the Photovoltaic Industry to Accelerate Global Energy Transition"

12.11

The Air Compressor Renovation Project at the Ningjin Base was nominated for the *2023 Business Climate Action Cases* released at the side event of "Zero Carbon Acceleration - Chinese Practice and Global Outlook" on the Enterprise Day in China Pavilion

TOPIC
3

WE CARE EVERY CORNER OF THE WORLD

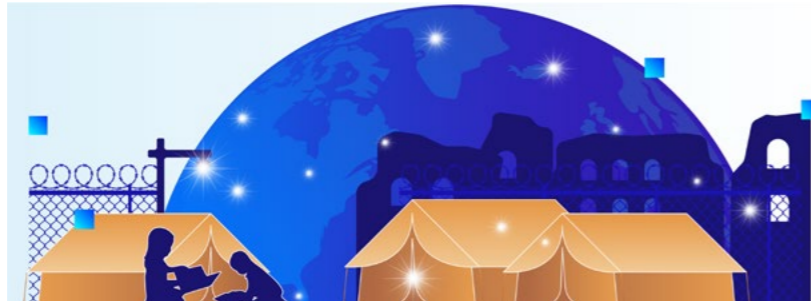
Around the world, the great changes unseen in a century are accelerating. Today, our world, our times, and history are changing in ways like never before. JA Solar officially launched the "Every Corner" Sustainable Development Project during the 28th United Nations Climate Change Conference (COP28), committing to long-term investment in biodiversity, zero-carbon factories, ecological governance, and humanitarianism. With the sights set before and the heart attached to them, JA Solar protects and cares about every corner of the world with love and responsibility in every choice and step forward.

EVERY PERSON

JA SOLAR X UNHCR

JA Solar signs a donation agreement with the United Nations High Commissioner for Refugees (UNHCR)

More than 20 million people are displaced annually due to climate change. JA Solar has signed a donation agreement with the UNHCR to provide necessary light sources for living and learning to displaced families in need, bringing light and hope to forcibly displaced persons worldwide through clean energy.

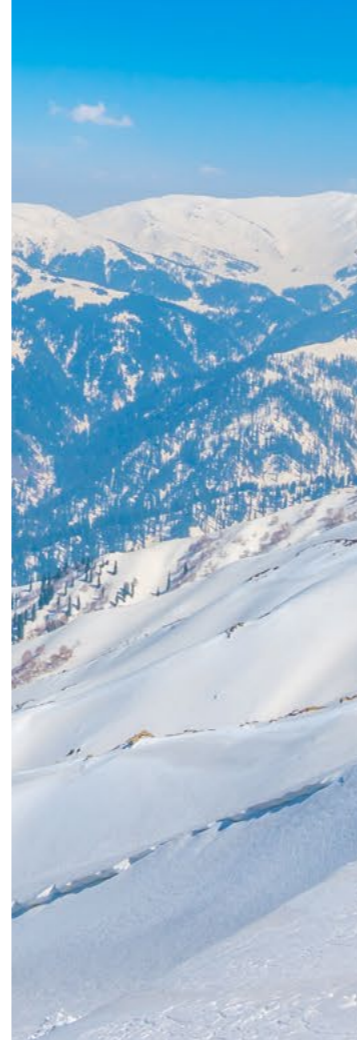
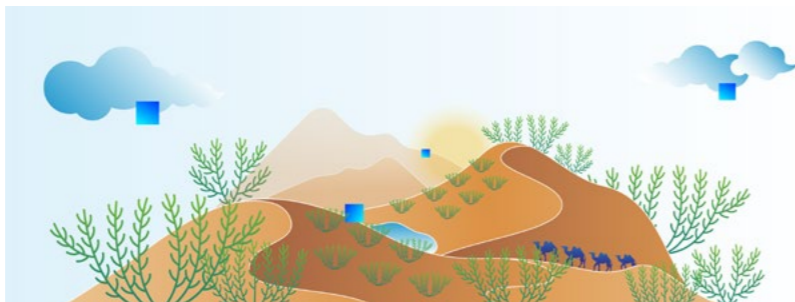


EVERY DESERT

JA SOLAR X SEE

JA Solar joins the desertification prevention and control project "100 Million Haloxylon Ammodendron"

In 2023, JA Solar joined the desertification prevention and control project "100 Million Haloxylon Ammodendron" initiated by the Alxa Society of Entrepreneurs and Ecology (SEE). The project is planned to plant 30,000 Haloxylon ammodendron, Caragana microphylla, Salix mongolica, and other symbolic plants in Alxa League, Inner Mongolia. We also take measures such as cleaning, irrigation, and weeding for nurturing, promote carbon emission reduction to improve the local ecological environment, and leverage the derived economic value of Haloxylon ammodendron to enhance the living standards of herdsmen.



EVERY CREATURE

JA SOLAR QIJING BASE X WWF

JA Solar collaborates with WWF to create a biodiversity park

JA Solar partners with the World Wildlife Fund (WWF) to create a biodiversity park at the Qijing Base, combines the 24 solar terms and local planting characteristics to create small wetland landscapes, and advocates for biodiversity protection.

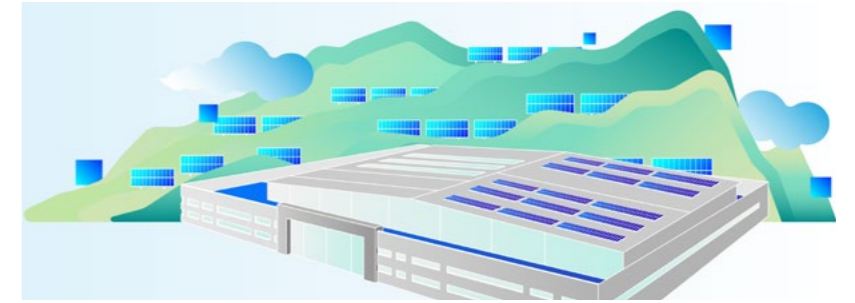


EVERY CENTIGRADE

JA SOLAR ZERO CARBON FACTORY X WWF

Building zero-carbon factories to provide zero-carbon guidance for the industry

JA Solar and the World Wildlife Fund (WWF) jointly developed the *Zero-Carbon Factory Construction Guidance for PV Cell and Module Manufacturers*, providing zero-carbon guidance. We also actively create benchmark cases for Qijing JA Solar Phase III Zero-carbon Factory and Yangzhou Jingshan Park Zero-carbon Factory.

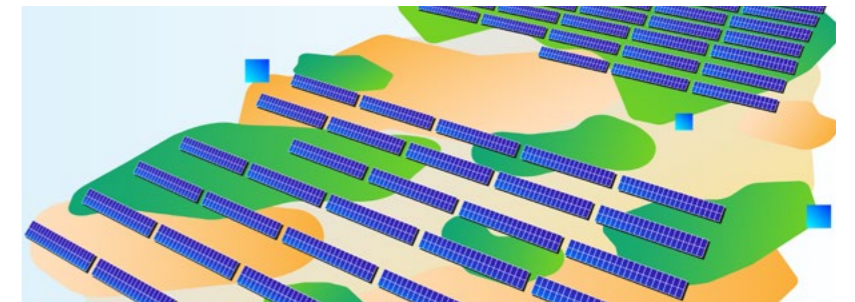


EVERY OASIS

LAND MANAGEMENT & PV ENERGY STORAGE GENERATION

Creating an innovative solution combining ecological governance and industrial development

JA Solar actively explores an innovative solution combining ecological governance and industrial development. The Tuquan Xinsheng Land Management and PV Energy Storage and Power Generation Project can effectively achieve desert greening. PV oases are built on the Gobi desert, achieving dual benefits of ecological governance and green development. The project can save about 120,000 tonnes of coal equivalent (tce) annually and reduce carbon dioxide emissions by about 300,000 tonnes.





ENVIRONMENT



TOGETHER

GROWING TOGETHER ON A GREEN JOURNEY TO ACHIEVE CARBON NEUTRALITY 1.0

As a leading global provider of new energy power generation solutions, JA Solar continues to optimize environmental management and promote clean energy development. Amid the growing trend towards greening and reducing carbon emissions worldwide, we join hands with partners across the value chain to embark on a low-carbon and green journey, create lifecycle green parks, and contribute to the global transition to a lower carbon economy.

037	STRENGTHENING ENVIRONMENTAL MANAGEMENT	1.1
049	FULL-LIFE-CYCLE SUSTAINABILITY	1.2
054	COMBATING CLIMATE CHANGE	1.3
058	PROMOTING LOW-CARBON INITIATIVE AND LIFESTYLE	1.4



1.1 STRENGTHENING ENVIRONMENTAL MANAGEMENT

JA Solar constantly improves environmental management, enhances the efficiency of energy and resource use, and reduces waste emissions in its production, operation, and business activities. The Company attaches great importance to the environmental impact of its operations, creates green parks, and strives to play a leading role in green development.

1.1.1 ENVIRONMENTAL MANAGEMENT SYSTEM

JA Solar complies with industry standards as well as national and local laws and regulations, guided by the *Environmental Protection Law of the People's Republic of China*, the *Environmental Impact Assessment Law of the People's Republic of China*, the *Management Measures for Legal Disclosure of Enterprise Environmental Information*, the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution*, the *Law of the People's Republic of China on Prevention and Control of Water Pollution*, the *Soil Pollution Prevention and Control Law of the People's Republic of China*, the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste*, the *Law of the People's Republic of China on Promotion of Cleaner Production*, and the *Law of the People's Republic of China on Energy Conservation*. We also strictly comply with all applicable laws and regulations in the overseas manufacturing bases' regions. The Company further boosts energy efficiency and resource utilization while continuously refining and improving the ISO14001 environmental management system. We have formulated multiple internal management policies to foster clean production, promote the creation of green factories, and drive the Company's green development. During the reporting period, all manufacturing bases that had officially been put into operation by JA Solar had passed the ISO14001 environmental management system certification.^①

All manufacturing bases that had officially been put into operation by JA Solar had passed the ISO14001 environmental management system certification

ISO14001

In accordance with ISO14001 and other international standards, we have formulated policy documents that comply with our sustainable development goals, including the *EHS Management System Manual*, the *Guidelines for EHS Management of JA Solar*, the *Environmental Protection Management Procedures*, and the *Environmental Factor Identification and Evaluation Procedures*. These documents specify the environmental management framework and responsibilities. We have established an environmental management system that provides a standardized and systematic basis for identifying and reducing environmental risks in production processes and operations. In addition, all manufacturing bases take active steps to improve environmental emergency response plans, with the facilitation of regular environmental emergency management training and drills. At the same time, they strive to minimize and mitigate the potential adverse impacts of environmental accidents.

Apart from continuously improving our environmental management system, we have also established a comprehensive environmental management process that encompasses environmental objectives, management plans, green production, and waste disposal, and environmental monitoring.



Environmental Management Process

Definition of
Quantifiable
Environmental
Objectives

Development of
Environmental
Management Plans

Compliant Disposal and
Green Production

Daily Environmental
Monitoring

Specific Measures

Determine the environmental protection objectives and quantifiable indicators for each department, ensuring that all employees can contribute to environmental protection efforts.

According to the established environmental targets and indicators, each PV manufacturing base shall develop clear and characteristic environmental target management plans based on relevant national and local laws regulations and other applicable provisions.

Regularly dispose of exhaust gas and solid waste generated in the production process, establish and improve various environmental management records, and ensure the normal operation of environmental protection facilities.

Implement an environmental monitoring plan to supervise and manage everyday environmental protection and governance facilities daily; regularly commission qualified third-party organizations to conduct environmental testing; master the operation of environmental protection work and environmental management system; identify loopholes in environmental protection and management for immediate remediation, to ensure that sewage, exhaust gas, and noise are discharged per the standards.

JA Solar constantly provides framework and talent support for environmental management. JA Solar has established the EHS Management Department at its Headquarters to supervise and control the environmental management of all bases. Each PV manufacturing base has established an EHS functional department to report on its management work to the Headquarters. We have established a performance appraisal system, with the Headquarters conducting annual performance appraisals of each manufacturing base and linking the appraisal results to the annual evaluations of senior executives of the bases and the Company. In 2023, the Company's Headquarters and manufacturing bases steadily fostered environmental management efforts and there were no penalties arising from violating any environmental laws and regulations.

We also vigorously support the training of environmental management talents, offering professional strength for the Company's environmental management. To further encourage the growth of EHS professionals, the Company introduced the Reward Management Measures for Employees Obtaining EHS Vocational Qualification Certificates at All Levels in 2023. These measures offer comprehensive examination support and certification incentives to employees who have secured environmental protection qualification certificates, thereby successfully fostering their initiative to independently delve into EHS management.

① The new Shijiazhuang Base that has been put into production is planning to apply for certification.

1.1.2 BUILDING GREEN PARKS

Create Full-Life-Cycle Green Parks



JA Solar actively promotes the construction of green parks, considering ESG factors in multiple stages such as preliminary assessment, project site selection, project initiation and review, post-investment evaluation, and park operation. We align our Company's investment and operation with Sustainable Development Goals and are committed to creating benchmark cases of full life cycle green and low-carbon parks.

Through collecting information on environmental capacity and local environmental planning, we comprehensively assess the potential impact of the project on the region after its implementation and actively assess the local green power supply.

We consider multiple ESG factors such as the project site's environment, green power, water resources use, and local employment, implement sustainable site selection, actively identify related risks, and, if necessary, engage third parties for due diligence.

In the project investment feasibility study report, ESG and sustainable development factors such as the use of green electricity will be included in the review criteria.

We require the base and the invested project to evaluate their sustainability performance to ensure that the project achieves sustainability in technical, economic, and environmental dimensions.

Based on rating criteria such as the *General Rules for Evaluation of Green Factories*, we conduct a comprehensive green upgrade, further increase the number of national and provincial green factory applications, and create green benchmark cases.



We strive to build a leading green manufacturing system in the industry and contribute to the global sustainable development goal process with our green strength. JA Solar maintains consistently high standards in environmental management across our various manufacturing bases. At the end of 2023, six of our manufacturing bases - Qujing, Ningjin, Hefei, Xingtai, Shanghai Fengxian, and Baotou - have been awarded the prestigious title of "National Green Factory" by the Ministry of Industry and Information Technology. On the other hand, JA Solar Technology Yangzhou Co., Ltd. and JA Solar New Energy Yangzhou Co., Ltd. have been shortlisted for the List of "Green Factories in Jiangsu Province" while Yiwu JA Solar Technology Co., Ltd. has been awarded the title of Green Factory in Jinhua City.

Six JA Solar manufacturing bases have been listed as "National Green Factories"

6



Creating Wuxi JA Solar Deep Blue Base into a Green Park

CASE

The estimated annual power generation capacity is about

3.8 million kWh

JA Solar actively explores high-quality park models and incorporates more cutting-edge green design concepts into new parks. We have integrated green park standards with sponge city design concepts at the new Wuxi JA Solar Deep Blue Base. By implementing measures such as installing permeable pavers in parking areas and establishing rainwater collection facilities including rainwater drainage networks and rainwater detention basins within the park, we have significantly enhanced the park's capacity for water storage, infiltration, and conservation. These initiatives contribute to the formation of a sustainable water cycle system.

Furthermore, the park drives the momentum of green development through the dual dimensions of "demand side + supply side". On the demand side, we have strengthened intelligent management of energy resources and actively adopted energy-saving equipment. This includes promoting green lighting products such as high-efficiency, long-lasting, and excellent color-rendering light sources and fixtures. We have optimized and enhanced the efficiency of our lighting systems through the centralized control of public lighting and local control of office lighting. On the supply side, we constantly explore more innovative clean power application scenarios through various forms, including integrated PV buildings, PV car sheds, etc. We will install solar PV power generation systems on the roofs of factories, warehouses, and fire water tanks, with an estimated annual power generation capacity of about 3.8 million kWh.



Ordos Low-Carbon Industrial Park Project

CASE

JA Solar actively responds to the national new energy strategy, devoting itself to the construction of low-carbon parks with a high sense of responsibility and mission. In 2023, the Company collaborated with the Ordos Municipal People's Government to initiate a full-industry-chain PV industrial park project with a low-carbon footprint. This initiative seamlessly integrates ESG considerations, encompassing biodiversity preservation, water conservation facilities, and green power utilization into the site selection process, to foster a harmonious balance between economic growth and environmental sustainability. The completion of this park marks another solid step forward for JA Solar in the creation of a green energy ecosystem and the promotion of regional sustainability.

1.1.3 ENERGY MANAGEMENT

With a strong emphasis on energy management, JA Solar has formulated applicable policy documents such as the *Energy Resource Management Policy* and Energy Management Manual according to the applicable laws and standards, including the *Law of the People's Republic of China on Energy Conservation*, the *Law of the People's Republic of China on Renewable Energy*, the *Law of the People's Republic of China on Promotion of Cleaner Production*. JA Solar has established and enforced an efficient energy management system to control, optimize, and intelligently manage energy data throughout the product life cycle through industrial Internet technology. During the reporting period, 7 PV manufacturing bases of JA Solar passed the ISO 50001 energy management system certification, covering nearly 50% of all its bases.

In addition to daily energy management supervision and energy management in production workshops at each base, the Company also conducts multi-dimensional management and guidance with respect to energy and water resources management at all bases through the Project Management Department, with timely rectifications of the identified energy management problems, to reduce unnecessary energy consumption. We have established a top-down energy management framework covering all bases, and implemented the three-level "company, workshop and team" energy incentive and assessment mechanism for the quantitative and systematic energy management, so as to continuously improve energy-saving awareness and optimize energy use efficiency.

We also constantly improve the level of energy management through digital means. As a result of constructing a digital management system and enterprise energy management system, we can improve energy management accuracy to the equipment's side, take into account the use of energy and resources, pollutant discharges, and management of pollutants throughout the product's life cycle, and quantitatively assess the carbon footprint based on energy consumption for intelligent carbon management.

Real-time Monitoring of High Energy Consumption Equipment in Yangzhou Base

CASE

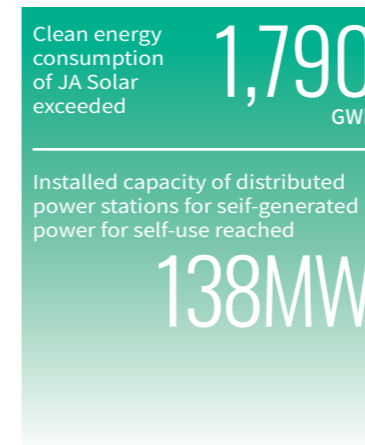
To better monitor energy efficiency and identify energy-saving potential, JA Yangzhou Base collected real-time power data of key high-energy-consuming equipment with power exceeding 100 kW, covering the ice machine system, air conditioning system, air compressor, workshop coating and diffusion furnace and other high energy-consuming equipment and systems. The real-time monitoring of operation of production equipment can result in more timely identification and elimination of abnormal equipment operation, so as to avoid potential energy waste. Through an in-depth analysis of the energy usage of the equipment, we can systematically identify the potential for energy-saving optimization, to continuously improve energy efficiency in production.



Comprehensive Energy-saving Technical Renovation in Baotou Base

CASE

To further reduce energy consumption and GHG emissions during production, JA Solar's Baotou Base has carried out comprehensive energy-saving technology optimization and renovation of existing equipment. The energy-saving renovation covers the air energy heating system, the water source heat pump unit heating system, the argon recovery process, and many others. The energy savings are expected to exceed about 4,700 tce every year. The central heating renovation of air energy systems of the apartment buildings in the dormitory areas can effectively achieve the efficient use of energy, resulting in annual electricity savings of about 740,000 kWh.



JA Solar has always believed that we are not only a provider of clean energy, but also a user and advocate of clean energy. In 2023, we actively promoted the use of clean energy in various manufacturing bases, and comprehensively reduced energy consumption and GHG emissions through self-generated power for self-use distributed PV power generation and green power procurement. As one of the first support units of China's "Green Electricity 100%" initiative (GE100%), we actively explore green power procurement in the pilot base while actively promoting and participating in the consumption of renewable power in China. When evaluating potential office locations or manufacturing bases, we also consider the local green electricity supply capacity, usage ratio and relevant policy support etc. to promote the Company's use of green energy, reduce carbon emissions and make positive contributions to environmental protection.

In 2023, the clean energy consumption of JA Solar exceeded 1,790 GWh while the installed capacity of distributed power stations for self-generated power for self-use reached 138 MW.

Key Performance



Comprehensive energy consumption

Unit: tce

799,359

Comprehensive energy consumption density

Unit: tce/RMB 100 million operating revenues

980.13

Qujing Base Actively Uses Clean Electricity

CASE

In June 2023, JA Solar's Qujing Phase II 30MW Rooftop Distributed Power Station Project was successfully connected to the grid for power generation and subsequently put into operation. The Project is designed to adopt the mode of "self-generated power for self use and surplus electricity connected to the grid". Through block power generation, decentralized inverting and centralized grid connection as well as other measures, the average annual utilization of the Project can exceed 1,300 hours while the average annual power generation will exceed 39 million kWh, equivalent to savings of about 4,700 tce every year. The clean electricity generated by the Project can basically be consumed locally, thus effectively reducing the cost of electricity consumption and decreasing pollutant emissions. Moreover, the JA Qujing Base is located in Yunnan, where it is rich in water resources and the proportion of clean energy (chiefly hydropower) used in the operation process exceeds 85%. By adopting hydropower and PV power generation, the Project can greatly reduce the Qujing Base's dependence on conventional electricity and GHG emissions.

Project's average annual utilization can exceed **1,300** hours

Annual power generation will exceed **39** million kWh

Equivalent to an annual savings of **4,700** tce

The proportion of clean energy (chiefly hydropower) exceeds **85%**



1.1.4 WATER RESOURCES MANAGEMENT

The increasing pressure on water resources is a common challenge the world faces. JA Solar also uses a large amount of water in its production process to meet the requirements for the production of crystalline silicon, equipment cooling, etc. As water resources become increasingly scarce and the ability to use water sustainably is under pressure, we prioritize the management and protection of water resources. The *Water Law of the People's Republic of China* and other relevant laws are strictly adhered to, and internal management documents such as the *Energy Resources Management System* and the *Wastewater Discharge Control Procedure* regulate water resources management, wastewater discharge, and treatment. Aside from including water consumption targets in environmental management indicators, our Bases refine water use management, evaluate water use risks and pressure, and continuously reduce total water consumption and water consumption intensity, so that water use is scientific and sustainable. The ESG and Sustainability Management Committee of the Company is responsible for ESG performance management, including several ESG project teams, among which the senior management is responsible for managing and supervising the implementation of the water resources management team.

JA Solar's Water Targets and Completion Status

Mid-term water consumption target: From 2022 to 2025, the water consumption intensity per unit output will decrease by no less than 0.8% year-on-year. **0.8%**

Target in 2023: The water consumption intensity per unit output will decrease by no less than 1% year-on-year. **1%**

In 2023, the water consumption intensity per unit output of JA Solar for power operation decreased by more than 3% year-on-year. **>3%**

- Factory Construction
- Water Intake Site Selection
- Production and Operation

JA Solar has always regarded water conservation as a top priority in its production and operation processes, and actively engages in a number of water-saving measures to improve the efficiency of water use and recycling, as well as investigating wastewater treatment and reclaimed water recycling. Through factory construction, water intake site selection, and water-efficient renovation of key water-consuming components in the production and operation process, we will conserve water throughout the life cycle of products.

Additionally, we strive to conserve water throughout the supply chain, assist suppliers in the management of water resources, and manage water footprints throughout all stages of product life cycles. Furthermore, we monitor and measure the use of water resources in the operating areas (factories, office areas) on a regular basis, and actively explore water-saving projects, encourage employees to conserve water, and improve the utilization of reclaimed water in order to improve the efficiency of water resources.

Key Performance



Total water consumption **7.31**
Unit: million m³

Amount of recycled water resources **162.14**
Unit: million m³

Utilization rate of recycled water **84%**

Key Water Saving Measures of JA Solar

Installing Water Saving Equipment

1

Use water-saving appliances, such as installing water-saving faucets with automatic control, delayed self-closing, self-closing upon water-stopping, etc.
Equip building toilets with water-efficient delayed self-closing flushing valves.

Optimizing Water Saving Network

2

Enhance management of the water supply pipeline network, with strict monitoring and timely elimination of leakages in the pipeline network in order to reduce waste.
Use the inductive outlet valve device and water-efficient equipment.

Increasing Recycled and Repeated Use

3

Increasing the reuse of water, reducing sewage discharge and providing sustainable water sources for the preparation of pure water is achieved by treating and recycling the water used in the production processes of the manufacturing bases, and by building the reclaimed water recycling system in the wastewater station.
Build rainwater recycling facilities in the factory area, and use the recycled rainwater as greening and landscape water.

Pure Water and Reclaimed Water Reuse System in Yangzhou Base

CASE

To improve the utilization rate of water resources, JA Solar's Yangzhou Base has built a pure water and reclaimed water recycling system that recycles concentrated water produced in the RO section of pure water to the front-end water tank before continuing to use it for pure water preparation. We have also implemented the reclaimed water recycling system in F2 wastewater station, which recycles dilute acid and alkali wastewater before returning to the tap water pool and continuing to use it for pure water preparation.



Baotou Base Enhances Cyclic Utilization of Water Resources

CASE

In JA Solar's Baotou Base, the cooling water for the process equipment, air compressor of the power station and other equipment is recycled for other uses. These include the reuse of reclaimed water, recovery of pure water, concentrated water and large circulating water systems for slicing, etc., so as to increase the recycled use level of water resources while significantly reducing the consumption of fresh water.



1.1.5 POLLUTANT DISCHARGE MANAGEMENT

Air Pollutants

Pollutant discharge management is an important component of green production and environmental management. JA Solar strictly abides by the relevant laws and regulations and formulates corresponding systems for strict control of discharge of air pollutants, wastewater and wastes, to minimize the potential impact of production and operation on the environment.

We actively control the emission of air pollutants and reduce our negative impact on the environment so as to safeguard the health of the ecological environment around the Bases. We strictly comply with the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution* and other laws and regulations. At each base, classified monitoring is conducted with online monitoring equipment alongside strict treatment of all kinds of waste gases produced in each production process. The main types of air pollutants generated during our production processes include acid waste gas, particulate matter, ammonia gas, non-methane hydrocarbon, and so on. According to the production process and actual conditions, each base has set up waste gas collection devices in the waste gas generation component, and installed over-standard alarm equipment for real-time control, so as to ensure that all waste gases are discharged according to the standards through the exhaust pipe after unified collection and treatment. For example, the organic waste gases generated in the production process of the cell quality inspection laboratory in the battery workshop and the module workshop are treated through the bag dust collector, activated carbon adsorption, and so on before being discharged through the 25-meter-high exhaust pipe after meeting the standard, thereby ensuring 100% compliance.

To ensure the long-term stable operation of the equipment, we have established the patrol inspection system for environmental protection equipment, appointed designated maintenance patrol inspectors, and entrusted third-party monitoring institutions with professional qualifications to carry out regular waste gas monitoring and environmental quality monitoring on the Bases. This allows us to ensure that all emission steps meet the standards. In 2023, we achieved 100% discharge compliant with standards.

For better management of the emission of waste gases and volatile organic compounds (VOCs), JA Solar's Xingtai Base has optimized the air pollutant management system from multiple dimensions with accordance to the principle of "source control, efficient collection and scientific treatment", so as to improve the environmental management level.

Air pollutants compliant with discharge standards

100%

Xingtai Base Optimized Management of Volatile Organic Compounds (VOCs)

CASE

- Source Control
- Efficient Collection
- Scientific Treatment
- Adopting Clean Equipment

Cooperate with raw and supplementing material manufacturers involving VOCs to find cleaner formula alternatives through various technical means, so as to comprehensively reduce the proportion of VOCs materials.

For primary pollution-producing processes such as welding and lamination, we adopt the "Closed+negative pressure" collection method to effectively reduce the escape of pollutants.

Adopt three-level activated carbon for waste gas treatment devices in each workshop to improve the efficiency and quality of waste gas treatment.

Dismantle the heating boiler for winter in the second park of the Xingtai Base, and adopt cleaner air-cooled heat pump equipment and waste heat recovery in the laminated area for heating in winter, so as to eliminate the emission of nitrogen oxides and sulfur oxides from the source of the equipment.



Wastewater Management

Overall wastewater compliant with discharge standards

100%

Qujing Base Optimized Wastewater Management and Recovery

CASE

Wastewater reuse rate of monocrystalline silicon processing workshop

90%

Wastewater reuse rate of slicing workshop

70%

Ningjin Base Kickstarted Comprehensive Wastewater Treatment Project

CASE

Wastewater reuse rate of the overall project system

80%

According to the *Law of the People's Republic of China on Prevention and Control of Water Pollution*, the *Action Plan for Prevention and Control of Water Pollution*, the *Emission Standard of Pollutants for Battery Industry*, the *Integrated Wastewater Discharge Standard (GB8978-1996)* and other relevant laws, regulations and standards, JA Solar constantly explores various solutions for wastewater management and fully utilizing all recyclable wastewater generated during production. At the same time, we ensure that non-recyclable wastewater that is discharged after treatment meets the standards. The Bases have set the respective management objectives for wastewater, and continuously optimize wastewater reuse based on their own process requirements. In 2023, JA Solar achieved an overall wastewater compliant discharge rate of 100%, with continuous improvements made to the reclaimed water reuse rate in the main water use processes.

To improve the utilization rate of water resources in the production process, the reclaimed water reuse project was implemented in the Qujing Base. We pay close attention to and monitor key pollutants such as chemical oxygen demand (CODcr), fluoride, ammonia nitrogen, etc., to ensure that the wastewater produced in the production process can meet the discharge standards, and be reused in the production process after treatment through the reclaimed water recovery system of the Base. This allows us to minimize wastewater discharge and realize the cyclic use of water resources. Wastewater generated in the monocrystalline silicon processing workshop and the slicing workshop is treated through the concentrated water recycling pump, reuse water tank, multi-media and PP filtration, and then returned to the workshop for use in production. This allows the degree of water recycling to be maximized and reduces the consumption of water resources.

In 2023, the wastewater reuse rate of the monocrystalline silicon processing workshop and the slicing workshop in the Qujing Base reached nearly 90% and 70% respectively.



In August 2023, the 20,000 m3/d Comprehensive Wastewater Treatment Project commenced at JA Solar's Ningjin Base. As part of the project, a variety of wastewater treatment and reuse systems were put into operation for deep treatment and efficient reuse of production wastewater and living sewage, such as battery wastewater and acid mist tower wastewater. The wastewater reuse rate of the whole system reached 80%, thus significantly improving the water balance of the whole plant. The Project resulted in the reduction of discharge of wastewater pollutants and effective improvement in the recycling efficiency of water resources, allowing JA Solar to make positive contributions to building a green ecology and promoting the sustainable development of water resources.



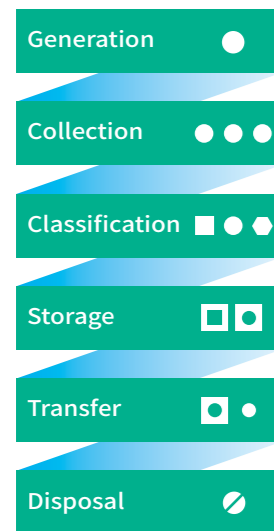
Yiwu Base Optimized Treatment of Dilute Acid and Dilute Alkali Slow Lifting Wastewater

CASE

The wastewater treatment system is actively optimized at JA Solar's Yiwu Base, where the quartz sand filter, ultrafiltration device, RO device, pH adjustment device and other supporting facilities are implemented for separate collection of slow-lifting drainage, dilute alkali wastewater and dilute acid wastewater generated by the workshop. Independent recycling is also carried out with two sets of reclaimed water recycling equipment as well as strict control of backwashing, cleaning, dosing and wastewater discharge, so as to ensure the quality of wastewater discharge and maximize the proportion of wastewater recovery.



Waste Management



We implement strict classified management of wastes and actively explore the construction of a "waste-free factory" according to the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Wastes*, the *Measures for the Transfer of Hazardous Wastes* and other regulations. We have formulated a series of management systems including the *Environmental Management System*, the *Solid Waste Environmental Management System*, the *Wastewater, Waste Gas and Solid Waste and Noise Management Procedures*, and the *Waste Materials Management System*, which are targeted at regulating the management and disposal of different types of wastes, thereby achieving the management of waste generation, collection, classification, storage, transfer and disposal across the entire life cycle.

During the reporting period, we actively carried out waste identification and recycling. The hazardous wastes primarily consist of waste-activated carbon, waste flux, waste packaging barrels, waste acid-base garbage, etc. Non-hazardous wastes mainly include sludge, used paper boxes and domestic garbage generated by employees. For hazardous wastes, we reduce the generation from the source and prepare a list of hazardous wastes, with clear records of the relevant sources, treatment units and treatment methods. Meanwhile, we have established a monitoring system covering the entire process across the entire chain, to achieve effective supervision of the key points such as waste producing locations, transportation routes, hazardous waste warehouse, intelligent weighing, etc., so as to ensure the process of hazardous waste disposal is standardized and transparent throughout. On the other hand, we commission professional third-party agencies for the disposal of non-hazardous wastes while also actively exploring various recycling methods. At the same time, we are on a constant pursuit of cooperation opportunities to improve the recovery and cyclic use of cartons, plastics, sludge and other materials in the manufacturing bases.

Key Performance



Total amount of hazardous wastes produced	2,194.84
Unit: tonne	
Total amount of non-hazardous wastes produced	236,509.31
Unit: tonne	
Waste recycling	171,700.77
Unit: tonne	
Waste recycling amount increased by 216% year-on-year	216%



1.1.6 BIODIVERSITY PROTECTION

As a leader in the PV industry, JA Solar has also been paying close attention to the protection of the surrounding ecology in its own development process. With adherence to the *Environmental Protection Law of the People's Republic of China*, the *Law of the People's Republic of China on Environmental Impact Assessment* and other relevant laws and regulations, we stipulate in the internal document of the *Environmental Protection Management Procedures* that the negative impact on the ecological environment should be minimized during project development, construction, production and operation. At the same time, the requirements for biodiversity protection should be followed in order to achieve the harmonious coexistence with nature.

On the one hand, we continuously expand the possible scenarios of PV application and explore innovative modes of clean energy solutions and ecological restoration and protection through organic combination of natural ecological resources with PV projects. We have developed green ecological development modes such as "on-panel power generation, under-panel planting and inter-panel breeding", thereby becoming the benchmark cases of complementary integration of ecological governance and industrial development. On the other hand, we actively develop biodiversity parks and other projects, as so to provide new solutions for ecological governance and harmonious symbiosis.



JA Solar and World Wildlife Fund (WWF) Jointly Develop Biodiversity Park

CASE

In 2023, JA Solar cooperated with the World Wildlife Fund (WWF) to build a biodiversity park in JA Solar's Qujing Base. We have since carried out detailed design of the production area greening and road greening in the factory. With adherence to the principle of suitable greening and taking into account biodiversity protection during selection of plants in the factory, we gave priority to planting local nectar source and flower and fruit plants, to increase the diversity of nectar-source insects and birds. Plants with low maintenance, strong adsorption and strong resistance were also preferred, allowing us to build a green and friendly ecological environment in the Base.



1.2 FULL-LIFE-CYCLE SUSTAINABILITY

Adhering to the concept of the whole life cycle in the process of product production, we optimized and established the green product management system from all aspects covering raw material acquisition, manufacturing, packaging and transportation, product use and maintenance, and recycling, so as to minimize the consumption of resources and energy, reduce the impact on the ecological environment to the minimum, and drive the high-quality development of the circular economy.



1.2.1 Environmental Friendly Raw Materials

Based on the international trend and requirements for environmental protection, JA Solar adheres to the principle of environmental protection in the selection of production materials, and is committed to promoting the use of green raw materials. In the process of product design and production, it gives priority to recyclable, low-carbon and environmentally friendly materials, and takes many measures to reduce the carbon footprint and environmental impact.

Green Product Design

We use renewable resources and recycled materials to reduce dependence on limited natural resources. In addition to using lead-free solder strip, fluorine-free backsheets, dealcoholized silica gel, low-acid adhesive film and other green materials, we have also introduced new composite glass fiber reinforced polyurethane frame material. Compared to conventional aluminum alloy materials, it produces lower carbon emissions in the manufacturing process and reduces the adverse impact on the climate. We also ensure that the product design and manufacturing process are conducive to the disassembly, recycling and treatment of waste products while actively promoting the R&D and industrial application of waste PV module recycling technologies, to reduce the exploitation of primary resources and energy consumption of resource refining.

Green Control Requirements

We take into complete consideration the environmental protection requirements of various materials and exercise strict control over toxic and harmful substances involved in the whole life cycle of raw materials, such as lead, mercury, cadmium, hexavalent chromium, poly (brominated diphenyl ether), poly (brominated diphenyl ether) and others. Before any of the materials for production are used, the hazardous substance compliance and third-party chemical tests shall be performed in order to ensure that all raw and auxiliary materials and consumables are green products.

Collaboration with Suppliers

JA Solar gives priority to suppliers of environmental protection and low-carbon raw materials and establishes a long-term partnership with them to ensure the stability and sustainability of raw material sources. We also pay close attention to the carbon footprint management of raw materials, actively explore low-carbon material solutions with outstanding enterprises in the value chain, and help suppliers carry out carbon footprint certification of raw materials for the production of green products.

1.2.2 GREEN LOGISTICS AND PACKAGING

We are fully aware that transportation and storage are important components of the green value chain, so we continuously explore innovative solutions to reduce carbon emissions during transportation. During on-site transportation, we actively promote the forklift "oil to electricity" project to reduce the carbon footprint of on-site transportation, so as to facilitate the construction of zero-carbon green factories. Now that 96% of the on-site transport vehicles such as forklifts, loaders and stackers have been replaced with their electric counterparts, diesel consumption and GHG emissions have been effectively reduced. As for off-site transportation, we explore fast, stable and safe green transportation modes such as sea-rail combined transportation and barge transportation, with the vigorous promotion of the use of clean energy such as biomass fuel and methanol. At the same time, we actively explore the three-dimensional warehousing and multimodal modes of transport to improve warehousing and logistics efficiency. In addition, we actively build the local supply chain and promote localized procurement to further reduce carbon emissions generated during the transportation process.

96% of on-site transport vehicles have been electrified

96%

We also actively explore solutions for green packaging and recycling packaging materials. In 2023, our manufacturing bases have continued to promote the recycling of used paper pulp for carton production and joined hands with suppliers to actively explore the recycling of packaging material through the use of silicon pallet crates instead of the original packaging. This allows us to achieve the recycling of silicon packaging.

Hefei Base Explore Green Logistics

CASE

Located in an inland city, JA Solar's Hefei Base adheres to the concept of "Originating from water and prospering from water". With the optimization of opportunities arising from the "Water Diverting from the Yangtze River to Huaihe River" Project, JA Solar actively cooperates with Hefei Economic Development Zone to develop international and domestic logistics, warehousing, distribution and other businesses by leveraging the strategic location of the Paihe Port Jianghuai Intermodal Hub while relying on the logistics park port, railway logistics base and public logistics center, with the road, railway, waterway and other transportation modes. By improving transportation timeliness and reducing logistics costs, we can effectively reduce carbon emissions in logistics.

Baotou Base Promotes Green Warehousing

CASE

JA Solar's Baotou Base has taken a series of measures to promote green warehousing, including the recycling of packaging materials, improving the utilization rate of warehouse capacity, improving the efficiency of warehousing operations, improving the accuracy of warehousing operations, etc. These enable us to achieve energy saving, low carbon and emission reduction, thus effectively reducing the operating costs of the Company and promoting the healthy development of the warehousing and distribution industry.



Donghai Base Increased Recycling of Packaging Materials

CASE

In 2023, JA Solar's Donghai Base cooperated with stakeholders to recycle 1.39 million sets of silicon wafer foam boxes, with a recovery rate of up to 99%; 1.33 million sets of PE foam and cartons, with a recovery rate of over 60%; and nearly 10,000 wooden pallets, with a recovery rate of 88%.

Silicon wafer foam boxes recycled in 2023

1.39 million sets

PE foam and cartons recycled in 2023

1.33 million sets



1.2.3 Product Disassembly and Recycling



JA Solar disassembles and recycles waste PV modules with a commitment to establishing a robust product recycling and treatment system, to ensure that PV products can be properly disposed of after the end of their service life. We also provide innovative solutions to help cover "the last mile" of the PV green chain.

In terms of recycling, we adopt classified treatment and resource utilization to facilitate effective recycling of metal, glass and other recyclable materials, so as to reduce the negative impact on the environment. For recycling of waste PV modules, JA Solar strictly abides by the *EU Directive on Waste Electrical and Electronic Equipment (WEEE Directive)* and *Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS Directive)*. At the same time, we operate the recycling and cyclic use mechanism of PV modules in Europe in full compliance with the law.

JA Solar has established a long-term strategic partnership with PV CYCLE, a world-renowned PV module recycling agency. As a global member of PV CYCLE, we actively fulfill our responsibilities through the "Compliance and Take Back Scheme" which ensures that all modules exported to the EU comply with WEEE Directives and corresponding national electronic waste disposal specifications and requirements. At the same time, we actively deliver end-of-life solutions for non-EU customers in order to support the global sales and recycling of our PV modules. In 2023, together with PV CYCLE, JA Solar formulated the *Procedures and General Guidelines for Collection and Recycling of PV Modules*, the *Guidelines for Recycling, Packaging and Transportation of PV Modules* and other industry guidelines, along with the submission of our ecological design plan to the French government. We also established a WEEE working group for PV module recycling, and arranged for nearly 200 overseas employees to participate in the WEEE training. We also worked with third-party partners and stakeholders to establish a long-term cooperation system for covering the "last mile" of green and low carbon throughout the entire life cycle of the PV industry and realizing the closed loop of the industrial chain.

Key Performance WEEE

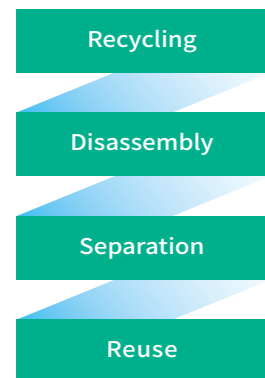
JA Solar has registered WEEE compliance in 17 European countries and assumed the responsibility of extended producer responsibility (EPR).

In 2023, JA Solar reported the following performance to WEEE:

Total Watt **6GW⁺** Total Weight Unit: tonne **330,000⁺**

For the disassembly and reuse of modules, we actively promote cooperation with scientific research and academic institutions, undertake several national science and technology projects, and speed up the survey and application of new technologies and equipment. We have been investing in the construction of the demonstration line project of comprehensive utilization of waste PV modules and conducting the trial production verification test for efficient disassembly of PV modules. The Project will enable the entire industry to achieve the goals of recycling, disassembly, separation and reuse of waste PV modules.

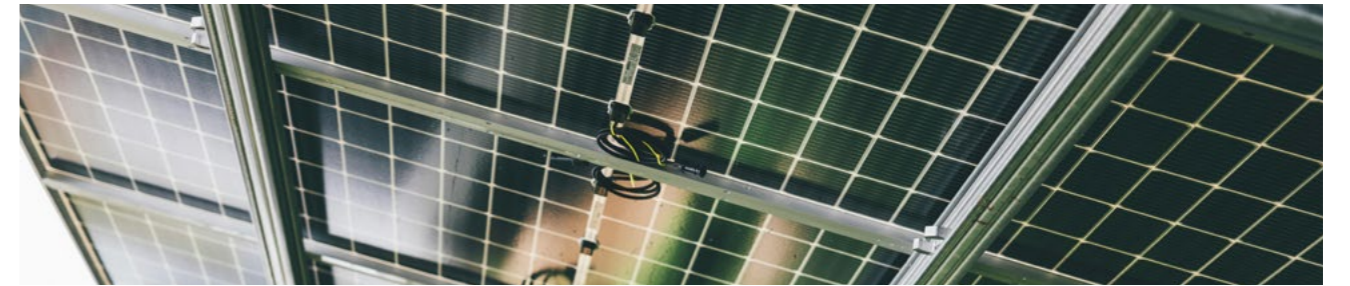
To further boost the sustainable development of the PV industry, JA Solar works with the PV Committee of the China Green Supply Chain Alliance, as well as various enterprises, universities, scientific research institutions, financial institutions, and industry organizations engaged in PV recycling, to jointly initiate the establishment of Photovoltaic Recycling Industry Development Cooperation Center. JA Solar fully utilizes its expertise and advantages to actively promote the establishment and improvement of systems in the field of PV recycling as well as the formulation and popularization of policy standards, technology research and innovation, for covering the final and key link of the entire PV industry chain with our unremitting efforts.



Promoting High Quality Recycling of Decommissioned PV Modules

CASE

JA Solar, in collaboration with several renowned universities and enterprises, has successfully applied for the important project of the national key R&D plan in 2023, "Integrated Technology and Demonstration of Efficient Dissociation and Recycling (Wet Method) of Decommissioned PV Laminates". The Project aims to achieve the efficient dissociation and clean regeneration of decommissioned crystalline silicon PV laminates through wet technology, which will facilitate the high-quality recycling of PV modules and high-quality development of the circular economy.



Exploring the Future Path of Ultra-high Efficiency Batteries and Modules

CASE

JA Solar, together with several well-known universities and enterprises, has successfully applied for the important project of the national key R&D plan in 2023, "R&D of Complete Technologies and Key Equipment for Fully Passivated Contact High Efficiency Batteries and Modules of Thin Crystal Silicon Wafers". The Project aims to achieve the efficient dissociation and clean regeneration of decommissioned crystalline silicon PV laminates through wet technology, which will facilitate the high-quality recycling of PV modules and high-quality development of the circular economy.



Promoting High Quality Green Development of PV Industry

CASE

JA Solar, together with several well-known universities and enterprises, has successfully applied for a project of the national key R&D plan in 2023, the "Digital Ecological Design Technology and Application of PV Modules", a key project in "Key Technologies and Equipment of Circular Economy". The Project aims to meet the requirements of reducing pollution and carbon, easy recycling of PV modules, etc., the study of the ecological design strategy of PV modules, development of the intelligent online assessment technology of environmental load, study of reduced raw material consumption, module recycling and the design of product available for disassembly and easy for recycling. At the same time, it also resolves the problems of high consumption of crystalline silicon, high energy consumption, difficult recycling, inaccurate life prediction of PV modules, etc. while providing technical support for high-quality green development of the PV industry.



1.3 COMBATING CLIMATE CHANGE



As an important topic of global sustainability, climate change is a major challenge faced by mankind, and its impact encompasses all aspects of social development. In the tide of global energy transformation and coping with climate change, the innovative development of the renewable energy industry represented by PV has become an important approach of coping with climate change.

In the face of the increasingly prominent impacts and challenges posed by climate risks on enterprises and capitals, JA Solar supports the establishment of market infrastructures while adhering to the framework recommendations of the Task Force on Climate-related Financial Information Disclosures (TCFD). We also promote the use of ISSB climate standards as the global climate benchmark, so as to ensure the consistent and comparable climate-related disclosure in the world. We evaluate climate-related risks and opportunities as well as their impact on financial performance, etc. with respect to the four dimensions of governance, strategy, risk management, indicators and objectives. At the same time, we continuously improve our ability to cope with climate risks by identifying key strategies for climate action.



Governance

As an active promoter and leader in the field of climate action, JA Solar carries out systematic work on climate change control and discloses the Company's governance on climate-related risks and opportunities. The Board of Directors of JA Solar actively participates in the decision-making and supervision of identifying climate-related risks and opportunities. In February 2023, JA Solar renamed the Strategy Committee under the Board of Directors as the Strategy and Sustainable Development Committee, which is responsible for leading, supervising and approving the formulation and process of the climate-related and ESG strategies and goals while evaluating the short-term and long-term business strategies of the Company. We also actively build the capacity of the Board of Directors, and regularly participate in the training and forums related to climate and sustainable development arranged by international authoritative rating agencies, so as to comprehensively improve the advanced concepts and cognition in climate governance.

Strategy

Based on our overall sustainable development strategy, we actively identify climate-related risks and opportunities (short-term, medium-term and long-term) as well as their impacts on the organization. At the same time, we develop climate action strategies to enhance our adaptability to climate change, especially in the climate scenarios of temperature changes at 2°C or lower (1.5°C). We joined the Science Based Targets initiative (SBTi) in November 2022. Based on the internationally recognized scientific methodologies, the actual operation of the Company and future development anticipation, we made the commitment to reduce total GHG Emissions (Scope 1 + Scope 2) by 42% in 2030 compared with 2023 and achieve zero net GHG emissions no later than 2050. We actively joined the Carbon Disclosure Project (CDP) supply chain project to continuously improve the performance of supply chain emission reductions and enhance the ability of suppliers in coping with climate change risks.

Risk Management

JA Solar continuously pays attention to issues related to climate change, strengthens the identification, assessment and management of climate-related risks, assesses the potential impact of climate change on the business of the Company and its customers, incorporates climate-related risk management into the overall risk management. At the same time, we actively take relevant actions and adopt countermeasures.

We comprehensively sort out, identify and evaluate climate-related risks before managing them. We also fully incorporate them into the overall risk management process of the Company. The main steps include:

- 1 Identify risk management processes and policies for climate-related risks
- 2 Review the implemented risk control system
- 3 Review the climate-related risk management process and policy evaluation
- 4 Define the sustainability/key risk indicators of the climate-related risk management process of the Company
- 5 Review the internal reporting system of the climate-related risk management process of the Company
- 6 Review the integration of climate risks in the overall risk management framework

Important Climate-related Risk Categories, Potential Impacts and Response

Risk Category

Physical Risks Extreme Weather



Potential Impacts

On the one hand, extreme weather events such as rainstorm, flood, typhoon, and drought caused by climate change may threaten the equipment and infrastructure of various production and operation bases of JA Solar, as well as PV power plants and other facilities owned by the Company, resulting in a series of direct or indirect economic losses such as asset damage, maintenance costs and insurance costs.

On the other hand, extreme natural disasters in the short term may cause the Company's raw material supply and product logistics to be blocked or interrupted, as well as delays in construction in progress, resulting in a decline in the Company's contractual ability while affecting the supply and sales of products and services.

Physical Risks Long-term Natural Risks



Chronic risks caused by climate change include persistently high temperatures, drought, and rising sea levels. Such risks may affect the production and operation bases, PV power plants, and other infrastructure belonging to JA Solar located in climate sensitive areas, water-resource-sensitive areas or low altitude areas, resulting in increased operating costs (such as increased water and electricity costs, increased cooling and heating expenses, and increased equipment losses), compromising the stability of the Company's operations and causing sustained economic losses.

Transition Risks Policy and Legal Risks



With the introduction of stricter environmental protection and safety regulations such as the *Industrial Green Development Plan (2016-2020)*, the *Green Manufacturing Engineering Implementation Guideline (2016-2020)*, and the *14th Five-Year Plan on Industrial Green Development Plan*, higher requirements have been put forward for enterprises to practice green production, build green factories, and reduce their carbon footprint.

In the future, as various overseas countries and regions have successively announced carbon neutrality goals and action plans (such as the signing of the *European Green Deal* by EU countries to achieve carbon neutrality by 2050, and the introduction of a series of important policies such as the *European Climate Law*), JA Solar will also face more stringent regulations and requirements for addressing climate change overseas.

In China, with the introduction of relevant systems such as the *Working Guidance For Carbon Dioxide Peaking And Carbon Neutrality In Full And Faithful Implementation Of The New Development Philosophy* and the *Action Plan for Carbon Dioxide Peaking Before 2030*, the country and the regions may implement stricter climate-related policies (such as the carbon price mechanism, which requires a higher proportion of the use of renewable energy). With the establishment and continuous improvement of China's carbon market, more key industries with high energy consumption are expected to gradually be included in the carbon market management. This may put greater pressure on JA Solar's supply chain, further affecting its production and sales.

Transition Risks Technical Risks



In the short term, with the rapid expansion of the new energy industry globally, users have put forward higher requirements for the efficiency and stability of PV module power generation. At the same time, with the market continuously paying more attention to the carbon footprint of products in the future, the carbon footprint management of the entire life cycle of products is still a pressing topic that needs to be addressed urgently.

Transition Risks Market Risks



With the continuous increase in carbon prices in domestic and foreign markets as well as the continuous expansion of the coverage of emission control industries, higher requirements have been raised for the carbon footprint management of JA Solar's product life cycle in the long run. Furthermore, in the context of supply chain globalization, the relevant risks faced by suppliers may also be transferred to JA Solar through the supply chain, thus further increasing our costs. With the continuous reduction of subsidies for new energy, the market heat may decrease in the short term, with the risk of increased costs.

Transition Risks Reputational Risks



Climate change actions continue to boost the global enthusiasm for clean energy investment whereas countries while countries consistently strengthen the protection of local enterprises, thus potentially increasing the costs for JA Solar.

With the increasing public awareness on addressing climate change, higher requirements have been put forward for enterprises to practice social responsibility and carry out information disclosure.

Relevant Actions and Response

Quantitative analysis of physical risks JA Solar evaluates the climate-related physical risks based on its data as well as the related models and analysis, taking it as a key component of TCFD strategic pillars.

Evaluation and screening of climate-related risks JA Solar continues to pay attention to topics related to addressing climate change, strengthening the assessment of the potential impact of climate change on the Company's and its customers' business based on the TCFD framework, and acquires property insurance as appropriate to balance the financial risks.

Increasing climate resilience JA Solar integrates climate change risk management concepts into the entire life cycle of the location, planning, design, construction, and operation of infrastructure as well as operating facilities such as manufacturing bases and PV power stations, to maximize its climate resilience, while strengthening the R&D of related technologies.

Improving emergency management ability In terms of operations, JA Solar comprehensively assesses the impact of climate-related risks on business continuity, improves its emergency response capacity, and develops emergency plans and conducts drills.

JA Solar complies with the climate-related laws and standards of the country or region where it operates in order to ensure that its business activities meet the requirements of laws and regulations.

Quantitative analysis of transition risk JA Solar evaluates the climate-related physical risks based on its data and related models and analysis, taking it as a key component of TCFD strategic pillars.

Monitoring and evaluation Regularly monitor and evaluate the impact of climate laws and regulations on the Company's business, with timely adjustments made to the business strategies and measures to cope with such changes.

Information disclosure Timely and transparent disclosure of the Company's climate-related information, including GHG emission data, climate risk assessment and response measures, so as to increase the transparency and trust of the Company.

Risk management Establish a sound climate risk management system, including evaluations of the possible risks caused by climate change and formulating corresponding countermeasures.

Technical innovation Reduce the Company's GHG emissions through technical innovation, and improve the efficiency of resource utilization, so as to adapt to the possibly stricter climate regulations in the future.

Compliance training Provide employees with compliance training on climate laws and regulations, so as to improve their knowledge and understanding of climate change-related laws and regulations while ensuring that the Company's business activities meet legal requirements.

Technical innovation and R&D JA Solar continuously promotes innovation and R&D in PV technologies, increases investment in R&D, and has established a systematic technical talent training system, with positive promotion of industry exchanges to improve its competitiveness in the fiercely competitive market.

Product life cycle management JA Solar actively joins industry organizations in participating in various initiatives as well as in the preparation of standards. Furthermore, we work with partners on the value chain to promote the carbon footprint management of products in the entire life cycle for manufacturing green and low-carbon products.

Improving industrial deployment JA Solar takes the main industrial chain of "Silicon Wafer-Battery -Module" as the main component, supplemented by supplementary PV materials, equipment and PV+application scenario solutions, with a focus on developing the strength and manufacturing excellent products of the main industrial chain, and simultaneously increases the R&D of auxiliary materials and investment in power stations.

Exploring diversified markets JA Solar actively explores the international market and reduces its dependence on specific products and markets, thus effectively dispersing potential risks, promoting the overall business resilience and facilitating the long-term sustainable development of the industrial chain.

Transparency and communication JA Solar actively improves the transparency of information, with regular disclosure of information related to climate change and environmental protection. At the same time, it also continuously improves the quality of information disclosure while maintaining communication and interaction with stakeholders to establish a good relationship with them.

Actively practicing social responsibility JA Solar pays close attention to social responsibility, and actively participates in social welfare undertakings and environmental protection activities in order to demonstrate the Company's concern and contribution to society and the environment.

Brand building JA Solar pays due attention to brand building and establishes a good corporate image through continuous improvement of product quality and service, to enhance the trust and recognition of consumers and the market.

Indicators and Targets

Scope 1: Direct GHG Emissions

Unit: tCO₂e

Scope 2: Indirect GHG Emissions

Unit: tCO₂e

Scope 3: Other Indirect GHG Emissions

Unit: tCO₂e

GHG Emissions Intensity (Scope 1 + Scope 2)

Unit: tCO₂e / RMB 100 million

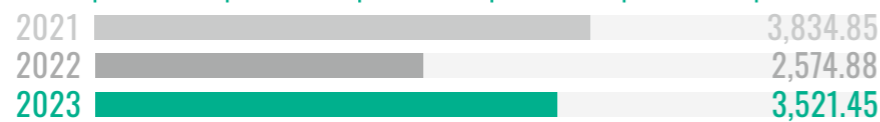
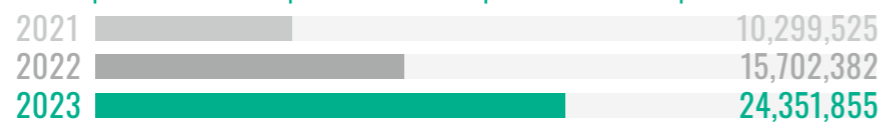
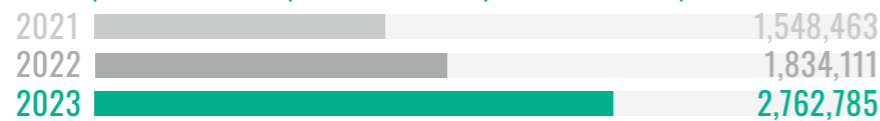
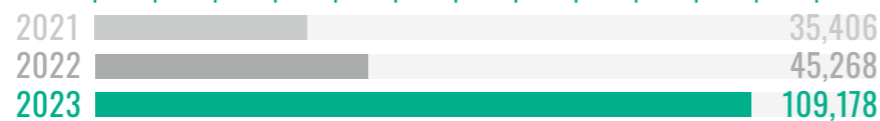
Key Performance



① In the calculation of avoided emissions, it is assumed that the power generation hour of JA Solar's PV modules is 1,300 hours per year. We adopted the emission factors released by the European Commission and the US Environmental Protection Agency (US EPA) in January 2024 for power grids in major overseas sales regions. As for other sales regions, we used the emission factors released by the Ministry of Ecology and Environment of the People's Republic of China in April 2024.

Guided by the Company's philosophy of G2G sustainable development, JA Solar continuously promotes the formulation of climate-related strategies and targets and strengthens the disclosure of climate-related indicators (Scope 1, 2 and 3) and targets used to measure performance, including identification and sorting of key indicators, followed by the determination of the targets for measuring performance. We comprehensively perform intelligent carbon management through carbon emission planning, budget, forecast, analysis and control, and actively promote the process of carbon footprint verification. All of our manufacturing bases have carried out GHG inventory according to the ISO 14064-1: 2018 standard and GHG Protocol and obtained third-party verification statements. In 2023, JA Solar released the *GHG Emissions Reporting*, providing a transparent and scientific data basis for green and low-carbon development.

In the future, we will continue to commit efforts to promoting the achievement of carbon reduction targets, lead the global transformation of energy, and help fulfill the targets of the *Paris Agreement*, making more contributions to the construction of global ecological civilization and sustainable development.



As a world leading manufacturer of photovoltaic products, JA Solar focuses on developing and manufacturing solar products that convert solar energy into electrical energy used for residential and commercial power generation systems as well as power stations. Based on the shipment of solar cell modules in 2023, it is estimated that the output of clean electricity can be more than 75 billion kWh every year, avoiding the emissions of more than 37 million tCO₂e.①

GHG Emissions Intensity (Scope 1 + Scope 2)
Unit: tCO₂e / RMB 100 million **3,521.45**

Proportion of green electricity use **28%**

Proportion of self-generated power for self-use distributed electricity **1.03%**

Self-generated power for self-use distributed installed capacity **138MW**

Avoided emissions
Unit: million tCO₂e **37⁺**

1.4 PROMOTING LOW-CARBON INITIATIVE AND LIFESTYLE

JA Solar has always adhered to the principle of green development and advocated the concept of low carbon. While actively exploring green manufacturing and building green factories, we also actively advocate green culture, promote the implementation of green offices, energy conservation and emission reduction and efficient green development in operation, and constantly enhance the employees' green awareness, making "low-carbon life" an excellent business card for sustainable development of the Company.

To promote the implementation of green offices, we have formulated a series of internal systems, such as the *Management System for Office and Logistic Supplies*, the *Lighting Safety Management System*, and the *Water Conservation Management System*, advocating power saving, paper saving and green travel, to create a low-carbon and environmentally-friendly green office atmosphere. In 2023, we advocated the principle of "Save one degree of electricity, save one drop of water, and it is everyone's responsibility to save energy and reduce consumption", to integrate low-carbon measures into daily work.



Green Office Initiatives

Saving Energy Resources

Use energy-saving and environment-friendly lighting, air-conditioning and water-saving equipment as well as require that the air-conditioning temperature should be set appropriately while computers, monitors, and other electronic equipment should be turned off timely after work.

Paperless Office

Encourage double-sided printing and collecting office supplies on demand to reduce consumption.

Work Online

Reduce large-scale in-person meetings, improve the utilization efficiency of digital telecommuting tools such as video conferencing, and decrease the environmental impact caused by unnecessary travel.

Shared Resources

Place shared umbrellas and bicycles in the factory areas, and encourage employees to reduce the use of private vehicles and opt for shared resources or low-carbon transport options instead.

Switching to New Energy Vehicles

Set the target of using new energy vehicles, actively purchase and promote the use of new energy official vehicles, and advocate green business travel.

434 environmental protection training sessions organized in 2023 **434**

45,402 employees attendance **45,402**

To increase employees' environmental awareness, pursue green and low-carbon production and lifestyle, and jointly contribute to energy conservation and consumption reduction, we actively participate in international initiatives and organize various green cultural activities, such as holding environmental protection knowledge contests, and regularly carrying out environmental publicity and education activities. In 2023, we organized 434 environmental protection training sessions, with the total number of attendance of 45,402.

Knowledge Propagation and Advocacy Activities

"JA Solar and I" Climate Ambition Accelerator (CAA) Initiative

CASE

In 2023, JA Solar officially joined the Climate Ambition Accelerator (CAA) initiative of the United Nations Global Compact (UNGC) and held a CAA Climate Ambition activity and award selection called "JA Solar and I" within the Company, to actively explore the best practice of low-carbon emission reduction and green living. After the activity began, employees of all Bases actively participated in environmental protection knowledge contests, environmental protection speeches, environmental protection blind box and other activities aimed at enhancing the awareness of environmental protection among employees, and fully implement the concept of sustainable development.

We also established an online learning platform of the United Nations Global Compact Institute for all employees. The employees can participate in all courses related to environmental protection and sustainable development for free and obtain certificates after completing their course of study. These programs are meant to comprehensively enhance employees' awareness and knowledge of environmental protection, keep pace with the international community, and continuously cultivate green talents equipped with the knowledge and professional skills needed to cope with climate change.

Dongtai Base Arranged Varied Environmental Protection Theme Activities

CASE

To enhance the awareness of environmental protection, JA Solar's Dongtai Base organized a variety of activities themed around environmental protection, so as to advocate the green concept through various forms such as quizzes, knowledge lectures, walking activities and creative painting. Q&A activities for knowledge propagation covered topics such as emission classification, pollution factors, emergency response, low-carbon life and other aspects, so as to comprehensively improve employees' ability to take green activities. The Base also invited environmental experts from the Environmental Monitoring Station of Dongtai Ecology and Environment Bureau to give detailed explanations on national environmental protection strategy, laws and regulations, enterprise environmental management and other issues, providing the employees with environmental awareness and knowledge popularization from macro to micro aspects, and calling on employees to implement environmental protection practices in their daily production and life. The Base also organized a "zero waste" walking activity based on the garbage cleaning in the factory area, and held a creative painting activity with the theme of "low carbon" for all employees.

Donghai Base Held "Environmental Protection Awareness Raising" Activities

CASE

Donghai Base held the "Improving Environmental Protection Raising" activity, including watching environmental protection documentaries, environmental protection blind box answers and other varied interactive forms in order to demonstrate the importance and urgency of environmental responsibility and help employees further deepen their understanding of environmental protection concepts.



Online Tree Planting Activity in Qujing Base

CASE

Qujing Base actively carried out the "Ant Forest" tree planting activities, to explore the "Carbon Inclusion" carbon reduction vigorously promoted by the government. During the activity, several online planting groups were set up, and the employees participated in online payment of water and electricity charges, online ticket purchase, ETC payment, coffee capsule recycling and other green actions. In total, 16 spruce trees, 8 Pinus armandii trees, 9 Pinus sylvestris var. mongolica trees and 7 Pinus tabulaeformis trees were planted.



Employee Tree Planting Activity

Employee Tree Planting Activity in Yangzhou Base

CASE

JA Solar's Yangzhou Base actively arranges for employees to participate in Arbor Day activities together with local communities and schools. Such actions not only deeply ingrain the concept of green development in people's hearts, but also bring more vitality and joy to our lives. Respect and care for the environment are reflections of the sustainable development advocated by JA Solar.

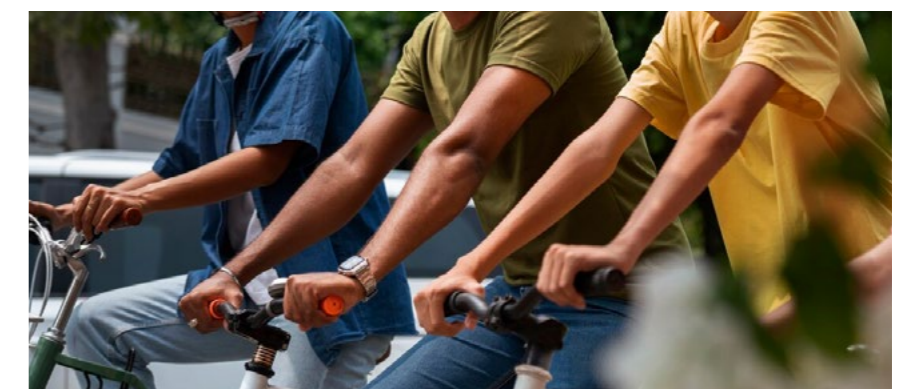


Advocating Green Travel

Hefei Base Advocates Green Travel

CASE

To encourage employees to adopt greener modes of commute, JA Solar's Hefei Base introduced shared bikes in the employee dormitory area to provide employees with a green and low-carbon mode of travel. In November 2023, the Base organized a "Happy Riding" green cycling activity, advocating a low-carbon, environmental-friendly and healthy mode of travel. The Base also actively responded to the call of local government to carry out the 2023 Inclusive Green Travel and encouraged employees to opt for public transport for low-carbon travel by providing public transport subsidies.



S



SOCIETY



TOWARDS

PURSuing THE DREAM TOWARDS A BETTER SOCIETY 2.0

With the positive idea of building a better society, we actively forge ahead, lead the development of technologies, cherish talents, regard employees as high-quality and reliable growth partners, work with partners to promote the high-quality development of the industry, and participate in community activities, to jointly build a better home. As JA Solar continues advancing forward, we work with partners to build a harmonious and prosperous home for sustainable development through practical actions.

063	INTELLIGENT MANUFACTURER MODEL	2.1
074	CREATING SHARED VALUE WITH PARTNERS	2.2
078	BUILDING A VIBRANT WORKPLACE	2.3
090	RESPONSIBLE AND HAPPY SOCIETY	2.4



2.1 INTELLIGENT MANUFACTURER MODEL

The continuous innovation of products and technology is the core driving force for high-quality development of the Company. JA Solar actively creates a collaborative innovation mechanism with internal and external stakeholders with market demand as the guide. At the same time, we promote the iterative updating of technology and consolidate the R&D system in order to continuously boost the development of the green energy industry and the innovation of intelligent manufacturing.

2.1.1 STIMULATING INNOVATION VITALITY

JA Solar adheres to the concept of innovation-driven development, and incorporates innovation in the whole product research and development process. With the aim to "inject infinite vitality into global renewable energy", we provide customers with more efficient and reliable new energy solutions.



Deepening Technical Innovations

In order to ensure the independent innovation ability of the Company, JA Solar has established a complete R&D management system, management standards and intellectual property protection as well as an internal incentive system, thereby creating a good atmosphere for technological innovation and promoting the intelligence upgrading of products.

JA Solar adheres to the R&D strategy of "one generation for production, one generation under R&D, and one generation for reservation" in order to inject vitality into the independent innovation capability of the Company. We have established independent R&D centers in Xingtai, Hebei Province; Yangzhou, Jiangsu Province; and Chengdu, Sichuan Province; and built a professional research team composed of professional scientists and personnel with doctoral and master's degrees conferred by renowned universities locally and abroad. They are responsible for the research and development of crystal pulling, slicing, batteries and modules, energy storage technology, new materials and new processes. Based on technical R&D, with process innovation as the starting point and market demand as the guidance, we have established a vertically integrated R&D system, covering silicon rods (ingots), silicon wafers, batteries, PV modules and intelligent systems; and strengthened technological innovation and provided systematic products, thereby laying a solid foundation for maintaining the global leading advantages in product technology.

We continuously increased investment in R&D, introduced innovative talents, and regulated the intellectual property protection and incentive system. In 2023, JA Solar's R&D investment reached RMB 4.446 billion, which accounted for about 5.45% of the Company's overall revenue. By December 31, 2023, JA Solar has obtained 1,263 granted patents. We gradually increased the deployment of overseas patent applications, including Europe, the United States, Japan, South Korea, Malaysia, India and other countries and regions.

To continuously improve its R&D capability and competitiveness, JA Solar attaches great importance to the R&D cooperation with third parties, and has established close R&D cooperation relations with many universities and well-known research institutions at home and abroad. By sharing resources and complementing each other's advantages, it constantly promotes the "enterprise, university and institute" integrated R&D model while spearheading the technological progress.

In 2023, JA Solar's R&D investment reached RMB **4.446** billion

About 5.45% of the Company's overall revenue **5.45%**

Accelerating Intelligent Manufacturing

■ For Silicon Wafers

■ For Batteries

■ For Modules

JA Solar continues to build strength and lay a solid foundation for manufacturing. We keep pace with the global trend of intelligent manufacturing, build smart factories, improve the deployment of industrial chains, and take intelligence as an "accelerator" for transformation and upgrading, so as to constantly promote high-end and intelligent manufacturing capabilities.

The production analysis system has been established in our bases for 24-hour uninterrupted monitoring and automatic early warning of production data with the aim to realize fine control of silicon wafer product quality with digital intelligent means.

Our manufacturing bases have established the product quality analysis system in order to form a comprehensive quality management system and realize quality standardization control by summarizing the quality and process data in the production process. To improve the quality management of battery production equipment, the manufacturing bases are equipped with world-class highly-automated equipment such as monocrystalline silicon tank texturing equipment, low-voltage soft landing diffusion system and fully automatic color EL (Electroluminescence) detection, etc., to realize intelligent control and monitoring throughout the process.

All the manufacturing bases adopt advanced equipment such as automatic double-track high-speed serial welding machines, integrated double-cavity laminators and automatic framing machines, automatic typesetting machines equipped with industrial computer intelligent control multi-dimensional manipulators, and so on. On this basis, our module production line is highly adaptable. It is capable of realizing intelligent linkage throughout the whole production process and completing product specification switches with just one click, thus providing intellectual strength for accelerating intelligent.



JA Solar was selected as a national-level "Intelligent Manufacturing Demonstration Factories" and "Excellent Intelligent Manufacturing Scenarios"

CASE

In 2023, three bases of JA Solar were included in the "2023 Candidates for Intelligent Manufacturing Demonstration Factories" issued by the Ministry of Industry and Information Technology, including JA Solar Energy Co., Ltd., Shanghai JA Solar Energy Technology Co., Ltd. and JA Solar (Yangzhou) Solar Energy Technology Co., Ltd. In addition, Yiwu JA Solar Technology Co., Ltd. was successfully included in "Excellent Intelligent Manufacturing Scenarios in 2023". This accolade is an affirmation of JA Solar's intelligent and digital manufacturing capability in recent years, as well as a recognition of our outstanding and leading technical expertise. JA Solar will continue to play a leading role in the PV intelligent manufacturing industry.





Innovation Achievements and Popularization

Through continuous R&D, innovation and technical upgrading, JA Solar provides leading PV power generation solutions to the world, injecting long-term impetus for the high-quality development of the industry while promoting energy transformation.

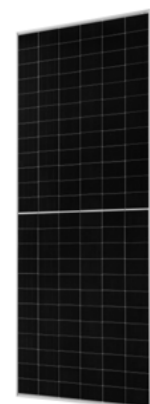
JA Solar continues to place a strong emphasis on R&D and innovation and remains as a leading provider of battery and module technologies. JA Solar continuously increases its investment in solar cell technology and has achieved fruitful results in the industrial application of laser-assisted sintering (LECO) technology and double-sided microcrystalline technology. On the basis of LECO technology, the R&D team of JA Solar has incorporated two new technologies, namely thinning with back doped polysilicon and optimizing the back film structure in order to achieve an increase in TOPCon solar cell efficiency of about 0.4%. The latest n-type Bycium+ batteries developed by JA Solar after many years of research have been put in mass production. Up to now, the highest conversion efficiency totals up to 26.3%, a clear demonstration of JA Solar's competitive edge in the global market. We continuously refine the process and achieved the successful reduction of silicon wafer thickness to 130 microns. This enables us to reduce production costs and improve the cost performance and conversion rate of battery products.

The latest n-type Bycium+ batteries have been put in mass production

Bycium+

In 2023, a new-generation n-type high-efficiency PV module has been launched

DEEP BLUE 4.0 Pro



In terms of high-efficiency PV modules, we have launched a new-generation n-type high-efficiency PV module-DeepBlue 4.0 Pro in 2023 by leveraging our strong R&D capabilities and vertically integrated industrial chain deployment. As for products, we adopted a more inclusive silicon wafer size of 182mm*199mm for the first time, which is a silicon wafer suitable for preparation of four mainstream modules in the industry at the same time and is applicable for different application scenarios. As certified by authoritative third-party organizations at home and abroad, DeepBlue 4.0 Pro modules have passed salt spray, ammonia gas, and dust tests as well as various other testing scenarios. Its power generation performance, safety and reliability in various application scenarios have also been fully recognized. In comparison to p-type modules and original n-type modules, DeepBlue 4.0 Pro series products have a lower cost of PV Balance-of-System (BOS) and Levelized Cost of Energy (LCOE) while the comprehensive gain of weak light power generation is about 0.2%, thus providing customers with higher value.

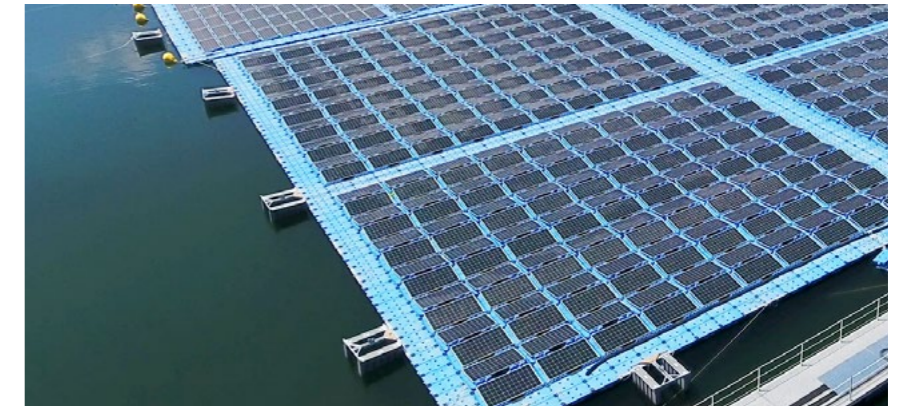
We continue to enhance the advantages of innovative technology and brand influence, actively deploy energy storage technologies, and create integrated energy solutions for PV power generation and energy storage. Our self-developed 1500V liquid cooling platform technology can be applied to multi-scenario solutions such as industry and commerce, source network side, etc., to meet customized requirements. For household users, we have also actively launched a series of products such as household battery system, optical storage systems and energy storage systems in order to meet the various energy storage needs of different types of users.

JA Solar Recognized as "Overall Highest Achievers" by RETC for the 4th Year

CASE



The 2023 PV Module Index Report (2023 PVMI) issued by the Renewable Energy Test Center (RETC), an authoritative testing organization in the United States, provides a summary of the test results of PV modules in actual application scenarios for more than 12 months. In the end, JA Solar's modules demonstrated outstanding performance in quality, performance and reliability, and were once again awarded the "Overall Highest Achievers", a testament of the competitive edge of our industry-leading high-efficiency modules.



JA Solar Rated again as the PVEL "Best Performance" Module Supplier

CASE



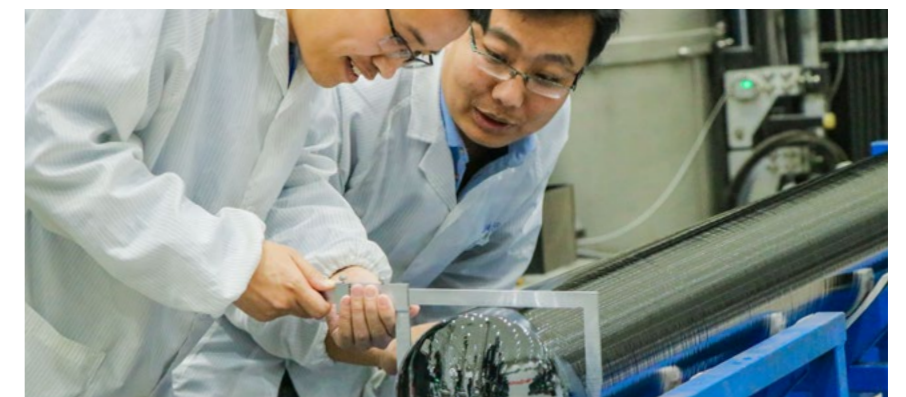
In 2023, JA Solar was successfully listed in the 2023 PV module reliability scorecard released by PVEL, an independent PV testing laboratory, and was rated as one of the companies with the best performance of PV products in the test. This is the eighth time that JA Solar has been rated the "Top Performer" module supplier by PVEL.



JA Solar's Project was Shortlisted in Innovation Competition

CASE

In the first Energy Electronics Industry Innovation Competition jointly organized by the Industrial Development Promotion Center of the Ministry of Industry and Information Technology and the Yibin Municipal People's Government, JA Solar stood out among 174 projects and won the Excellence Award.



2.1.2 GREEN SOLUTIONS

Carbon Footprint and Green Product Certificate

While continuously improving the technical conversion rate of PV products, JA Solar actively fulfills its social responsibilities and provides clean energy solutions for global energy transformation through the creation of green low-carbon products, the strengthening of green manufacturing, and the exploration of zero-carbon and green energy application scenarios. By the end of 2023, our battery modules have been shipped to 165 countries and regions.

Based on the concept of green design and the requirements of green product standards in China and abroad, we continue to increase the development of green certified products, the proportion of production and sales, and enhance the management of carbon footprint so as to provide cleaner products for the market. We assign experts responsible for the research and management of product carbon footprint in the product technology R&D department to actively evaluate carbon footprint and certification according to the international market trends and requirements. To date, all our mainstream products have passed the Certisolis carbon footprint certification in France, with the p-type products and n-type DeepBlue 4.0 Pro products successfully passing the EPD evaluation in Norway and Italy. In 2023, the Ministry of Industry and Information Technology released the fifth batch of "Green design demonstration enterprises for industrial products", and JA Solar was successfully included in the List.



Green Manufacturing

JA Solar will continue to improve the green manufacturing system, increase the use of green electricity, speed up the deployment of medium and long-term technical reserves for energy storage, and strive to construct more green factories while promoting green management. We attach great importance to the coordination of the whole industrial chain, strive to build resource-saving and environment-friendly enterprises, promote the green and low-carbon transformation of conventional manufacturing industries, promote the overall improvement of green development of industries, and endeavor to build a high-end, intelligent and green high-quality development model.



Low-carbon Green Solution

With a focus on battery and PV module products, we continuously meet the needs of customers in various application scenarios by providing them with customized and integrated green and smart solutions to support the green and low-carbon transformation of industrial chains and regional development. In addition, we have also formed a zero-carbon business team, established a zero-carbon technology system and completed the innovative application of low-carbon parks, low-carbon campuses, low-carbon hospitals and other scenarios.

By the end of 2023, the scale of JA Solar's self-held power stations has reached 2,165 MW, with an annual power generation of over 2 billion kWh. We also facilitate PV grid connection with fair prices, so as to contribute to fairness and justice in the global energy transformation.

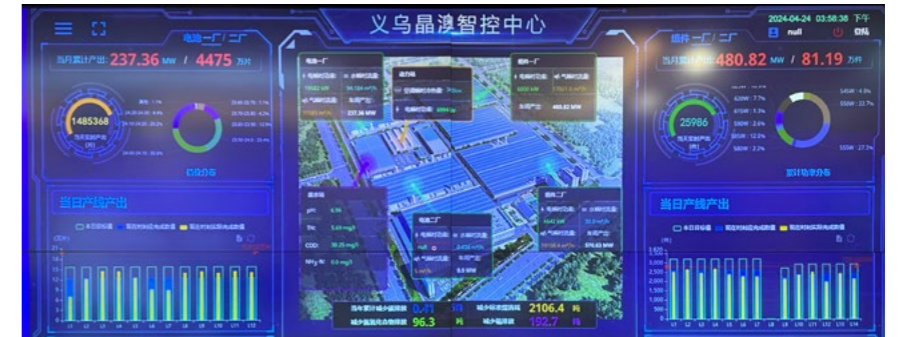
JA Solar's self-held power stations scale

2,165MW

JA Solar Established Digital Zero-carbon Smart Energy Management Platform

CASE

In 2023, JA Solar developed the "Zero-carbon Smart Energy Management Platform" to facilitate the integrated management of energy consumption and data related to carbon emissions through intelligent means. At the same time, it allows us to provide differentiated and digital smart energy and low-carbon management solutions based on different application scenarios. Based on the energy consumption characteristics of the bases and the regional resource conditions, JA Solar Smart Energy can not only build renewable energy power generation systems for projects, but also achieve up to 5MW/10MWh of electrochemical energy storage and green transportation charging facilities, etc., so as to enable a collaborative synergy between the source, grid, load and storage. Meanwhile, it allows us to reduce transmission loss and promote local consumption of green power and low-carbon development of the park. The digital zero-carbon smart energy management platform provides smart and green solutions for exploring green power production space and realizing digital energy management.



JA Solar was selected in the 5th Batch of "Green Design Demonstration Enterprises for Industrial Products" by the Ministry of Industry and Information Technology

CASE

In 2023, JA Solar was successfully included in the list of the fifth batch of "Green Design Demonstration Enterprises for Industrial Products" issued by the Ministry of Industry and Information Technology. This is another national green honor of JA Solar after Green Factory and Green Design Products, which demonstrates JA Solar's leadership status in innovative design of green products, manufacturing level of green products, green management of product life cycle, brand and market influence.

The color steel tile BIPV product awarded with "China Green Building Material Product Certificate"

CASE

In December 2023, JA Solar smart energy's colored steel tile BIPV products were awarded the "China Green Building Material Product Certificate" issued by the China Testing & Certification International Group. This is the first BIPV product certification obtained by JA Solar, contributing to the high-quality development and low-carbon transformation of the building material industry. At present, the color steel tile BIPV products have been put into use at JA Solar's Yangzhou Base, Fengxian Base and Dongtai Base, thus providing innovative solutions for diversified market demands and customer application scenarios while contributing to the realization of social green and sustainable development.

"Whole Industrial Chain+Application Scenario" Solution Helps to Build "World Green Silicon City"

CASE

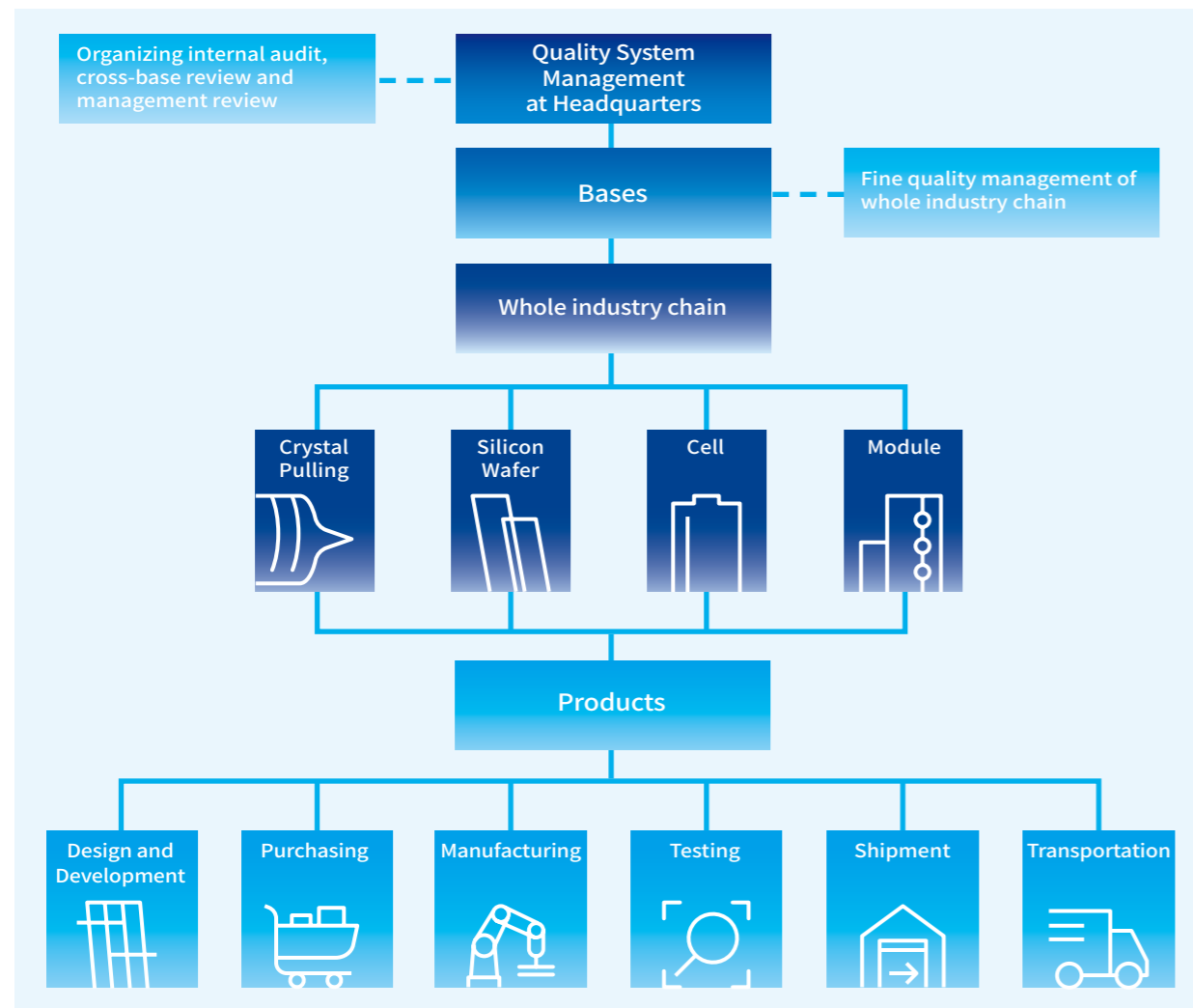
In order to continuously expand green solutions, JA Solar vigorously develops its distributed commercial PV business. In 2023, JA Solar Smart Energy provided professional procurement and construction services for the system and has since achieved a grid-connected power generation of 18MW distributed commercial PV at its Baotou Base. The Project is expected to be completed in June 2024, with a total of 50MW grid-connected power generation after the construction is completed entirely.

The Project helped Qingshan District, Baotou become the first flag/county/district to realize the "Full industrial chain+application scenario" of crystalline silicon industry, thus positively contributing to the construction of a "World Green Silicon City" in Baotou. The Project is also of great significance in optimizing the regional energy consumption structure, promoting energy conservation and emission reduction while achieving the goal of "carbon peaking and carbon neutrality." At the same time, it will also contribute to the low-carbon industrial transformation and regional high-quality development.

2.1.3 QUALITY MANAGEMENT

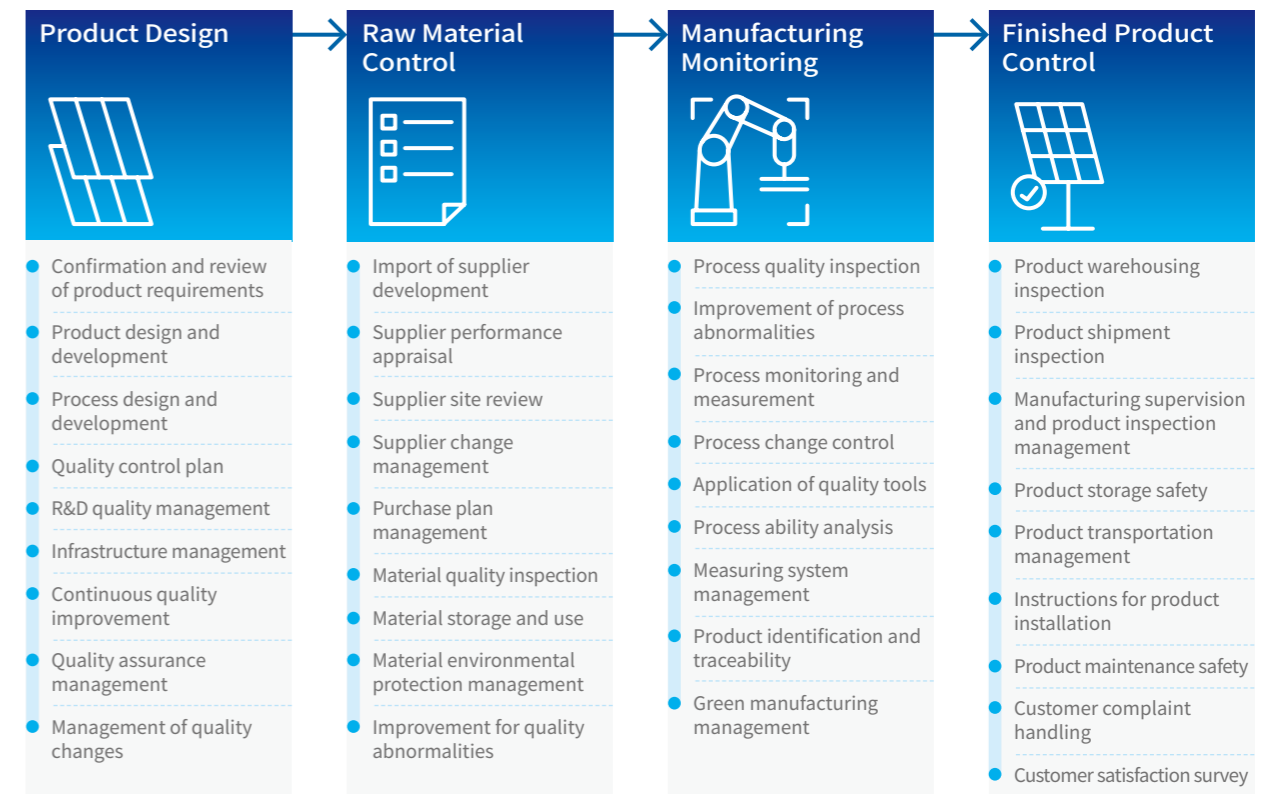
JA Solar has always prioritized product quality control as a core component. Relying on the comprehensive quality management system of the entire value chain, we exercise strict control over product quality so as to provide customers with high-quality, safe and reliable products, and demonstrate our "high-quality" strength in the world. JA Solar strictly abides by the *Product Quality Law of the People's Republic of China*, the *Standardization Law of the People's Republic of China* and other quality-related laws and regulations and has established a robust quality management system. Adhering to the product quality management concepts of "Quality-oriented, Excellence and Creating Value," we have developed a multi-dimensional and all-rounded quality responsibility mechanism encompassing aspects such as quality management policy, system, supervision mechanism and inspection.

JA Solar attaches great importance to the construction of the quality management system and ensures product quality and safety through a number of measures, thus achieving the transformation of management mode from "product safety" quality to "enterprise safety" quality. We constantly innovate management concepts and models and have established a clear product quality supervision mechanism. We also make it a point to clarify the quality responsibilities and authorities at all levels, providing a solid framework for building a quality ecology. In addition, we actively analyze and resolve the existing quality problems by applying quality management tools, conducting quality management month and regular meetings, and continuously improving product quality in order to ensure product quality and safety with a standard system.



JA Solar Quality and Safety Management System

Based on the vertically integrated industrial chain deployment, we actively identify and monitor the factors that may affect product quality and safety. We have also established a lean quality management system from product design, raw material control, production monitoring to finished product quality control. We have built the Characterization Laboratory with an international leading technology level for systematic analysis of the product quality, thus providing excellent quality assurance for customers while creating higher product value.



We also accelerate digital transformation and promote "quality" manufacture upgrading with intelligent manufacturing, so as to continuously improve the quality management capabilities. Through big data and intelligent management, we successfully achieve intelligent control of the entire process of product quality, integrating cost control, lean management, zero defect management and benchmarking management, to provide the digital foundation for technical innovation, product development and process improvement.

In addition, JA Solar also actively organizes training on quality management in order to improve the safety and quality awareness of R&D personnel as well as their ability to use quality methods and tools while advocating and developing the culture of zero-defect quality. We are committed to solving the potential defects of products from the design end, thereby ensuring the quality and performance safety of products right from the source.

Key Performance

JA Solar has been certified with the ISO9001:2015 quality management system and IEC62941 PV module manufacturing quality system

ISO9001:2015

The products have passed the product safety certification of several countries and regions, such as CE (EU), ETL (US), MCS (UK), etc., including PID, salt spray, nitrogen certification, etc.





2.1.4 LEADING INDUSTRY PROGRESS



JA Solar actively collaborates with numerous enterprises and institutions around the world, taking its own responsibility to lead the development of the industry as it actively participates in international initiatives and communication with the industry. These include the preparation of standards and technical exchange, working together to promote healthy competition and the high-quality development of the solar PV industry.

To promote the development of clean energy, drive progress towards a green economy across the globe, and enable all parties to share the fruits of the Fourth Industrial Revolution, JA Solar continuously reinforces exchanges and cooperation in technical upgrading and digital transformation. In 2023, JA Solar joined the "Fourth Industrial Revolution Industry Alliance of the United Nations Industrial Development Organization". We will carry out in-depth cooperation with internal and external partners of the United Nations Industrial Development Organization, promote sustainable industrial development through collective efforts, accelerate the industrialization process, and provide support for the Fourth Industrial Revolution Industry.

We also actively promote research on the development and application of photovoltaic technologies and products. At present, we have sponsored seminars on n-type high-efficiency technology in Southeast Asia, the Middle East, Africa, America, Europe and other regions and countries with the goal of drawing the blueprint for the future development of new energy in the regions together with our partners.

JA Solar took the initiative to host the 2023 Global PV Summit. Under the theme of "Trends and Analysis of Global Renewable Energy Industry", the Summit brought together industrial leaders and experts of the global energy industry for discussions on the future development direction of the photovoltaic market, thus supporting the high-quality and sustainable development of the PV industry.



JA Solar Hosted "2023 Global PV Summit"

CASE

Fostering Industry Standardization

In recent years, China has seen rapid development in the PV industry and its market application has continued to expand. Social organizations are faced with the urgent need to independently develop advanced group standards, to provide development guidance for the PV industry, and to promote sustainable and healthy development.

JA Solar has been actively participating in the formulation and promotion of industrial standards. In 2023, JA Solar edited several group standards, including the *Measuring Method for Sheet Resistance of Diffusion Layer in PV Cells* and the *Standard for Grade of PV Module Recovery*. We also participated in the preparation of the *Specification of Crystalline Silicon Solar PV Module Dimensions*, the *Technical Specification for Performance Evaluation of Terrestrial Crystalline Silicon Double-Glass Modules* and other industry standards and group standards, thereby making more outstanding contributions to the formulation of relevant systems, technical process standards and implementation and operation specifications in the industry. This is a form of our support for the high-quality development of the PV industry.



JA Solar actively joins hands with industrial associations and alliances, and has established close ties with industrial partners, experts and scholars and government agencies to leverage forces by actively participating in exchanges and activities. We have established partnerships with China Chamber of International Commerce, China Photovoltaic Industry Association, China New Energy Chamber of Commerce, China Chamber of Commerce for Import and Export of Mechanical and Electrical Products, China Federation of Industrial Economics, China Council of Sustainable Market Initiative (SMI) and other industrial alliances, as well as International New Energy Solution (INES), International Investment Alliance for Renewable Energy (IIARE), etc., to facilitate negotiations and discussions on the future of the industry.

Proactive Communication and Exchange

JA Solar Attended the 4th China Industrial and Commercial PV Conference in 2023

CASE

In July 2023, JA Solar was invited to the 4th China Industrial and Commercial PV Conference, where we discussed with representatives and experts of the PV industry on ways to promote the high-quality development of the industrial and commercial PV industry under the vision of "Carbon peaking and carbon neutrality". We also delivered a presentation titled "DeepBlue 4.0 Pro Helps Cost Reduction and Efficiency Increase of Distributed PV, and Create More Values for Customers", providing innovative cases for the development of the industry.



JA Solar was Invited to 2023 Annual Conference of PV Industry

CASE

In December 2023, JA Solar was invited to the "2023 PV Industry Annual Conference" to discuss with industry authorities, organizations, renowned experts, and representatives of PV enterprises on a number of trending topics in the PV industry. We also facilitated in-depth exchanges and discussions on topics such as supporting the development of the PV supply chain, opportunities and challenges faced by the PV industry as well as the ecological innovation and development of PV applications.

2.1.5 EXCELLENT CUSTOMER SERVICE

Upholding the business philosophy of "born for customer value", JA Solar constantly refines the global service network with a commitment to provide customers with a high-quality, efficient, and caring service experience. Adhering to the service tenet of being "Customer-centered", we have established a complete customer service assurance system to ensure that our valued customers can feel JA Solar's commitment to the pursuit of excellence in the quality of products and services in every component before, during and after sale.

We have formulated a series of system documents, such as the *Customer Service Control Procedures*, the *Service Process in Sales of Headquarters*, the *Control Procedures for Customer Satisfaction Survey*, the *Customer Complaint Handling Procedures of Headquarters* and the *Procedures for Handling Customer Complaint and Feedback*, which outline the customer-centered service policy, along with explanations and regulations of the details of the certification and qualification of customer service personnel, business processes, customer feedback handling matters, etc. This allows us to continuously improve the standard and regular level of customer services.

JA Solar Global Customer Service System

Pre-sales Services 1

Establish a professional sales team with experienced and skilled staff to provide customers with comprehensive product information, solutions and customized services.

During-sales Service 2

In the process of module supply, we arrange for engineers to provide on-site service and professional technical support in addition to conducting comprehensive technical disclosure and training on module handling, storage, turnover, unpacking, installation and maintenance with accordance to technical documents. In 2023, we provided on-site services 278 times.

On-site services we provided in 2023

278
times

Power station testing we conducted in 2023

119
times

After-sales Service 3

24 hours

Implement factory inspection audits for customers (including quality management system, occupational health and safety management system, social responsibility related fields).

Provide customers with power station testing services. In 2023, we conducted a total of 119 rounds of power station testing, of which 68 were commissioned to third-party agencies and 51 were conducted by the Company.

Provide full disclosure and detailed communication on the safety risks existing in field operation (such as glass cut, frame scratch, module toppling and crushing, crushing and electrical injury, etc.).

Strictly select and train customer service personnel to ensure the professionalism of the customer service team.

Establish the "24-hour response mechanism" to resolve issues raised by customers more efficiently. After receiving feedback from customers, we will get in touch with them within 24 hours to find out more about the situation and provide emergency solutions. At the same time, we will delegate the problem to the relevant departments, set up an investigation team, complete the cause analysis, and determine the responsibility within 7 working days, before finally resolving the problem within 30 working days.

Conduct customer satisfaction surveys every year to continuously improve customer satisfaction.

JA Solar has always been committed to improving the customer service experience and customer satisfaction. In order to better meet the needs of customers, we have implemented on-site services in China to ensure rapid response and provide technical support. For overseas customers, we employ local after-sales support personnel to provide them with the necessary technical support. In order to listen to customers' feedback efficiently, JA Solar provides customers with diversified and multi-platform communication channels, and customers can obtain corresponding service support through JA Solar's official website, official WeChat account, JA Solar Headquarters telephone, customer service email, and other channels.

In addition, we continuously carry out customer satisfaction surveys as we strive to fully understand customers' feedback and demands on product performance and safety, product delivery, product price, customer service and new product demand, so as to continuously improve service quality. In 2023, we received a total of 2,573 customer complaints and feedback, including 641 product complaints. The average customer satisfaction score was 95.99 and we conducted 1 product recall.

Average customer satisfaction score

95.99

2.2 CREATING SHARED VALUE WITH PARTNERS

A healthy and stable supply chain is key for enterprises to achieve sustainable development. JA Solar integrates the concept of sustainable development into all key components of supply chain management with respect to supplier onboarding, management, evaluation, appraisal and supplier quality improvement. At the same time, we proactively engage in responsible procurement, reinforce the management of critical minerals, and work together with stakeholders to build a green and compliant responsible supply chain.

JA Solar is committed to building a competitive supply chain as we continuously improve the supply chain management system and refine the relevant documents. We have formulated and improved the *Supplier Code of Conduct*, the *Routine Management Rules for Suppliers*, the *Supplier Material Assessment Rules*, the *Management System for Development of New Suppliers and Adoption of New Materials*, the *Measures for Monitoring Key Characteristics of Raw Materials*, and so forth, providing more detailed standards in multiple dimensions, including supply chain risk management, response measures, supplier performance evaluation and assessment, and contractor safety and security management. This lays the groundwork for our systematic supply chain management.

2.2.1 STANDARDIZING SUPPLIER ONBOARDING

Main Contents of JA Solar Supplier Responsibility Management:

Suppliers' businesses and labor practices must comply with all applicable laws as well as the requirements and principles outlined in the *Code of Conduct for Suppliers*.

Suppliers shall not employ child labor, engage in any forced labor activities through slavery, imprisonment, contractual bondage, guarantees, or other means. They are also prohibited from exploiting workers through threats, duress, coercion, abduction, or fraud, restricting the personal freedom of employees, or engaging in any discriminatory behavior.

Suppliers must provide workers with a safe and healthy working environment.

Suppliers must promptly pay and provide workers with remuneration that at least complies with the applicable laws, including overtime pay and welfare.

Suppliers shall not require workers to work for any more than the maximum number of hours allowed by law.

Suppliers are required to abide by business ethics, anti-corruption, and prohibit any acts of bribery.

Suppliers shall respect the rights of employees to freely establish and participate in labor unions as well as collective bargaining.

To ensure that JA Solar does not use any conflict minerals, suppliers need to conduct due diligence on the corresponding mineral supply chain to create a "conflict-free" supply chain.

We have continuously optimized the supplier introduction process based on the needs and goals of technology upgrading as well as environmental protection. Our suppliers are required to sign the *Notification of Occupational Health and Environmental Responsibility to Supplier*, the *Supplier's Acknowledgment of Receipt for Social Responsibility Commitments*, and the *Change Management Notice* before coming onboard. This serves to ensure the completeness and legality of their introduction process as well as suppliers' compliance with our needs for technology upgrading, cost control, and green and environmental protection.

With regard to the purchase of raw materials, JA Solar has developed the *Measures for Monitoring Key Characteristics of Raw Materials*, the *JA Framework Agreement on Purchase of Solar-Related Goods and Services*, and other systems. We have also established a complete supply chain traceability map and applied internal systems like a traceability system and Manufacturing Execution System (MES) for data support, ensuring the traceability and controllability of the sources of raw materials.

JA Solar continues to place a strong emphasis on the sustainability management of suppliers while ensuring the quality of the supply chain. We have set up a "supplier social responsibility and sustainability assessment" process. It covers a total of 105 indicators on 18 major topics, such as product quality and safety, community communication, and business ethics. We have also formulated the *Scoring Sheet for Initial Qualification Investigation of New Supplier/ New Material*, with carbon-related scores added to access scoring considerations.

Up to 100% of main material suppliers have passed the certification of the ISO9001 quality management system **100%**

Up to 80% of main material suppliers have passed the certification of the ISO14001 environmental management system **80%**

Up to 80% of main material suppliers have passed the certification of the ISO45001 occupational health and safety management system **80%**

Signing rate of the *Supplier's Letter of Commitment on Environmental Health, Safety, and Social Responsibility* **100%**

JA Solar has developed the *Code of Conduct for Suppliers* based on the basic framework of internationally-recognized supplier social responsibility systems and standards, such as the Responsible Business Alliance (RBA) Code of Conduct, Joint Audit Cooperation (JAC) Supply Chain Sustainability Guidelines, and SA8000. Under these regulations, all suppliers are required to sign the *Supplier's Letter of Commitment on Environmental Health, Safety, and Social Responsibility*. The Code provides requirements in quality control, suppliers' labor rights, occupational health and safety, environmental management, business ethics, employment equality, and other aspects.

1 Social Accountability 8000 (SA8000) is the world's first international standard for code of ethics. It covers many issues such as child labor, forced labor, health and safety, freedom to organize trade unions, collective bargaining rights, and anti-discrimination. Its aim is to ensure that the products supplied by a company meet the requirements of social accountability standards.

2.2.2 IMPROVING SUPPLY CHAIN MANAGEMENT

Environmental and social evaluation covering 220 suppliers

220



ESG Audit of Silicon Suppliers



JA Solar's "Corrective Actions"

CASE

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a EU regulation for the precautionary management of all chemicals that will enter its market. It came into force on June 1, 2007.

For suppliers who meet the access standards, JA Solar establishes a supplier management file based on the *Code of Conduct for Suppliers* and conducts daily management and regular audits of suppliers. We have set up a trans-department audit team that includes multiple functional departments, such as SQE, procurement, product technology, and quality control. The team provides regular supplier audits and training sessions, effectively identifies and evaluates supply risks and weaknesses, defines the objectives and management measures in the supply process, and contributes to the supply chain sustainability.

In order to fully improve the comprehensive level of suppliers, JA Solar has developed the *Supplier Material Assessment Rules* to evaluate suppliers across the entire production line and established a classified supplier management mode based on performance indicators, such as quality control, business cooperation, delivery management, and service delivery. We conduct monthly assessment and evaluation for suppliers. We classify suppliers into four levels: A (excellent), B (good), C (average), and D (needs to be improved), based on their quality and comprehensive level, and provide preferential conditions for Class A and Class B suppliers in terms of supply of materials, price, and service to encourage suppliers to pursue higher material quality and better services.

For the suppliers who have failed their respective audits and assessments are required to make timely rectifications within the specified date and undergo another audit. If the management team finds that there are serious violations of labor regulations and the SA8000 standard, such as forced labor and environmental pollution in the area where a supplier is located, we will set up a special department to conduct a written review of the supplier's social responsibility and sustainability performance before terminating the cooperation with non-compliant suppliers in order to ensure supply chain compliance.

In 2023, JA Solar conducted regular environmental and social evaluation covering 220 suppliers, through which there were no findings of any actual or potential significant negative environmental or social risks by suppliers. Our supplier audit will gradually expand into second- and third-tier suppliers in the future.

To prevent potential social and environmental risks in the supply chain and ensure compliance with supply chain responsibility regulations, such as the EU's Directive on Corporate Sustainability Due Diligence (Proposal), JA Solar implements ESG and traceability audits on suppliers. The audits combine assessment questionnaires and on-site audits, after which a sustainability audit report will be generated. We also subsequently develop a corrective action plan for suppliers who have failed the audits in order to help them improve their sustainability performance.

In order to ensure suppliers' compliance with the *Code of Conduct for Suppliers*, JA Solar conducts "corrective actions". We engage with third-party auditors to conduct audits on the work and accommodation facilities of suppliers through confidential communication with supplier-end workers. During the audits, suppliers are required to be honest and to allow auditors to access their facilities, records and workers. For those with issues, JA Solar requires them to provide a detailed remediation plan immediately, and to take corrective measures to rectify any deviation from the *Code of Conduct for Suppliers*. We track and confirm the suppliers' implementation of corrective actions. If a supplier is found to have violated the *Code of Conduct for Suppliers*, JA Solar will terminate its cooperation with them.

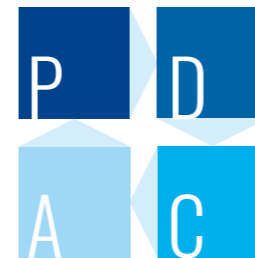
JA Solar advocates responsible procurement and has established the *JA Solar Responsible Sourcing Policy*. We make extensive efforts to implement localized and low-carbon procurement by actively promoting carbon footprint certification of raw materials and strictly monitoring the sustainability of raw materials, thus minimizing the environmental impact of the procurement process. In 2023, JA Solar conducted a RoHS or REACH investigation on the materials supplied by all main material suppliers. RoHS test reports from all main material suppliers met the requirements of the RoHS2.0 Directive.

2.2.3 IMPROVING AND PROMOTING PERFORMANCE

JA Solar attaches great importance to the compliance risk control and the improvement of capacity for sustainable development of suppliers, with continuous communication and regular empowerment carried out with suppliers to enhance the full-chain coordinated development.

We adopt the SQE teamwork mode, implement the project responsibility system for process control, and set up a special team to verify the quality issues of suppliers on the spot and to assist suppliers in the rectification of quality abnormalities during production. We also track quality complaints in a timely manner and organize regular quality analysis meetings. In addition to establishing the data and information sharing mechanism, we have also implemented a structured process for claims arising from quality problems, a supplier management cycle of plan, do, check, and act (PDCA), and thereby to improve the supplier performance.

PDCA



JA Solar attaches great importance to the sustainable development of suppliers. In accordance with the *Code of Conduct for Suppliers*, we have not only added topics like environmental management, health and safety, and business ethics to suppliers' internal management, but also require suppliers to present performance requirements of environmental responsibility, social responsibility and sustainability to their external supply chain (second-tier suppliers), thus promoting the coordinated development of the entire value chain.

In order to better enhance the sustainable development capacity of suppliers, we empower suppliers through regular communication, information sharing, special training, and other means, ensuring the long-term improvement of the performance and capability of the entire value chain.



Enhancing the Decarbonization Capacity of Supply Chain

CASE

In June 2023, JA Solar conducted online training for its polysilicon suppliers in the supply chain decarbonization project of the Carbon Disclosure Project (CDP), covering 69% of the procurement cost. JA Solar will assume the chain-master driven role, take the lead in the international industry, and work with supply chain partners to address the challenges brought by climate change.



2.2.4 MANAGING CRITICAL MINERALS



To prevent the situations where production and operation may involve the use of conflict minerals, we adhere to ethical procurement, commit ourselves to complying with the requirements of the Organization for Economic Cooperation and Development (OECD), avoid the use of conflict minerals, conduct due diligence on the mineral supply chains for which we are responsible, and ensure the traceability and controllability of minerals used in the supply chain.

To effectively enhance the management capability of critical minerals, JA Solar defines the provisions for "conflict minerals" audit in supplier onboarding and daily audit. The provisions explicitly require suppliers to complete the conflict mineral questionnaires and to verify the source of purchased materials and products. For suppliers who refuse to track and monitor the origin of conflict minerals or are unable to determine the nature of the conflict minerals, JA Solar will suspend its cooperative relationship with them. In 2023, JA Solar's coverage of supplier audit based on the provisions for "conflict minerals" audit was 100%, and all the first-, second-, and third-tier suppliers were covered.

Coverage of supplier audit based on the provisions for "conflict minerals" audit

100%



In 2023, JA Solar carried out mineral tracing on junction boxes and solder strips involving the use of conflict minerals (Tin) and disseminated conflict minerals questionnaires that were developed based on Conflict Minerals Reporting Template (CMRT) principles issued by Responsible Minerals Initiative (RMI) to all suppliers of metal raw materials of PV solder strips and solder wires, with a traceability ratio of 100%. The survey results showed that there is only one type of conflict mineral (Tin) sourced from JA Solar's suppliers, and no other conflict mineral materials involved. The metal "Tin" used by our suppliers was sourced from RMI-certified compliant Tin smelters list. JA Solar was not found to be using conflict minerals throughout its supply chain in 2023.

JA Solar plans to invite a third-party auditing institution to participate in product-related certification to ensure that our products are free of conflict minerals.

Traceability ratio of suppliers involved in conflict minerals

100%



2.3 BUILDING A VIBRANT WORKPLACE

JA Solar believes that talents are the cornerstone of our business and that the high-quality development of the PV industry requires the support of high-level talents. We adhere to the employment philosophy of "attracting talents externally and cultivating talents internally", implement the protection of employees' basic human rights and labor rights, provide all employees, including part-time and contractors with a remuneration and welfare system, including both statutory benefits and non-statutory benefits that could contribute and ensure the level of internal fairness and external competitiveness at the same time, meet the diverse needs of different employee groups, and create a vibrant workplace in multiple aspects including employee growth, occupational health and safety, democratic communication, and employee care.

2.3.1 ENSURING EMPLOYEES' RIGHTS AND INTERESTS

JA Solar adheres to the principles of open, fair, and just employment, with strict adherence to the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, the *Employment Promotion Law of the People's Republic of China*, the *Law of the People's Republic of China on the Protection of Women's Rights and Interests*, the *Provisions on Prohibition of Child Labor*, and other relevant international, national, and regional laws and regulations where JA Solar operates. We have established a robust internal management system in accordance with relevant international standards, including but not limit to the *International Bill of Human Rights*, *ILO Declaration on Fundamental Principles and Rights at Work*, *United Nations Guiding Principles on Business and Human Rights*, and *United Nations Global Compact*. JA Solar makes active efforts to obtain international authoritative certifications. At the same time, we actively refine our social responsibility and ethical performance on all fronts. In 2023, JA Solar headquarters, located in Beijing, obtained the SA8000 certificate.

To actively create a harmonious and diverse workplace while ensuring employees' rights and interests, JA Solar has formulated and put in place a range of internal rules and regulations covering all regular employees, such as the *Recruitment Management System*, the *Performance Appraisal Management System*, the *Employee Rewards and Punishments Management Measures*, and the *Code of Conduct for JA Solar's Employees*. These regulations provide detailed standards on employee recruitment and promotion, remuneration and welfare, equal employment and other issues. JA Solar states in the *Headquarters Recruitment Management System* that the Company prohibits all discriminatory acts against ethnic, racial, religious, gender, age, sexual orientation and other factors in the recruitment and employment process, and is committed to safeguarding the legitimate rights and benefits of all employees. We also respect the rights of all employees to freedom of association and collective bargaining, actively implement the human rights policy specified in the *Conventions of the International Labor Organization*, and formulate the *JA Solar Human Rights Policy*. We repeatedly verify and examine the age and employments of employees throughout the on-boarding process in order to resolutely prohibit child labor and forced labor. JA Solar was not found to have engaged in any employment discrimination, harassment, employment of child labor, forced labor, or other illegality events in 2023.

In November 2023, we invited third-party experts to conduct compliance training for employees of relevant departments in order to enhance employees' understanding of anti-forced labor and compliance awareness. The experts interpreted the relevant laws and regulations on anti-forced labor to employees, gave a vivid explanation based on actual cases, and interacted with employees, thus laying a solid foundation for the compliance development of our business.

Compliance Training in Anti-Forced Labor

CASE

Significant Honors

China Preferred Employer of the
Year 2023 (Hefei Base, Yiwu Base)
— Zhaopin

Top 100 Private Enterprises in
Employments in Anhui Province in
2023 (Hefei Base)
— Department of Human Resources
and Social Security of Anhui Province

As a leader in the PV industry, JA Solar has always been dedicated to leading the development of the industry and providing a platform for young people to display their abilities. In 2023, JA Solar actively carried out campus recruitment through online and in-person recruitment talks to attract high-potential talents to join us in an effort to reserve excellent backup talents.

"Spend Youth and Strive for Future in JA Solar" Online Recruitment Talk for Campus Recruitment

CASE

Total number of employees
Including labor dispatching employees and part-time employees

Total number of regular employees
Having signed full-time labor contracts

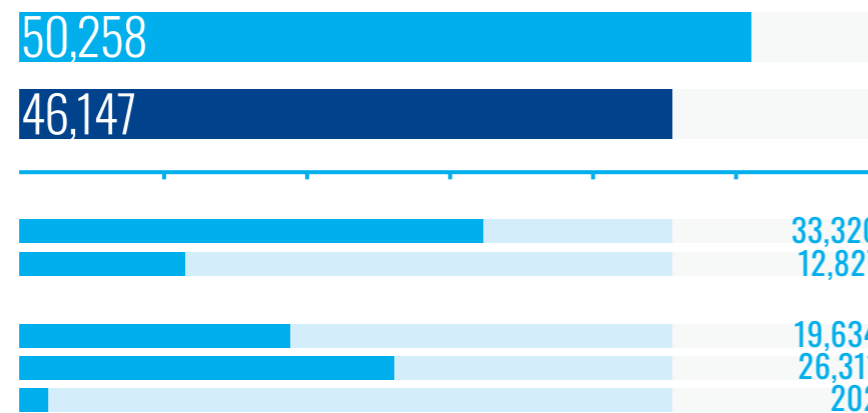
By gender(persons)

Number of male employees
Number of female employees

By age (persons)

Under 30 years old
30 to 50 years old
Over 50 years old

In October 2023, JA Solar successfully held the 2024 Global Campus Recruitment Online Recruitment Talk themed "Spread Youth and Strive for Future in JA Solar", during which our relevant officers and heads closely interacted with aspiring students seeking jobs. Furthermore, they shared on the latest trends and development status in the industry. The event conveyed our culture and values to students, introduced the platform for employee growth and development, and displayed our steadfast determination to attract and cultivate future talents in the PV industry.

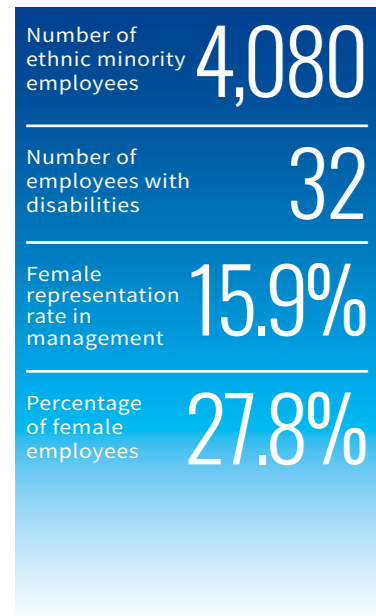


JA Solar had a total of 50,258 employees (including labor dispatching employees and part-time employees) during the reporting period. Among them, there were 46,147 regular employees that have signed full-time labor contracts, including 33,320 males and 12,827 females.

JA Solar resolutely implements the policy of gender equality and equal remuneration for all employees. We place a strong emphasis on protecting the labor rights and interests of female employees in the special physiological periods according to an array of national laws and regulations, such as the *Special Provisions on Labor Protection of Female Employees*. We attach great importance to the employment of disabled people and have onboarded employees with disabilities based on the actual situation of positions available in accordance with relevant national regulations and recommendations.

In order to ensure that each employee is fairly rewarded for his/her contributions with appropriate remuneration, JA Solar adopts flexible remuneration incentive strategies according to the changes of national policies and other macro factors as well as the development trend of the industry. We continuously optimize the remuneration structure and improve the remuneration management mechanism. To bring employees' initiative into full play, JA Solar has set a remuneration system of "fixed + floating performance". The performance-based part of employees' salary is paid based on the performance appraisal results of employees. JA Solar carries out regular performance appraisal feedback to enable employees to be more informed of their performance in a timely manner, with a feedback rate of 100%. In 2023, JA Solar's coverage ratio of regular performance appraisal and career development assessment was 100% for employees that have passed the probation evaluation.

We provide employees with remuneration and welfare of market competitiveness and incentive, and conduct regular surveys on the level and change frequency and amplitude of remuneration in the PV industry, analyze the remuneration situation of all positions within the Company, and improve the remuneration level difference and bandwidth of the positions in a scientific, reasonable and balanced manner.



2.3.2 PROMOTING TALENT DEVELOPMENT

JA Solar focuses on the strategic requirements of "globalization, digital intelligence and ecologicalization" while adhering to the talent strategy of "attracting talents externally and cultivating talents internally". We continuously optimize the employee training system and launch all-round and high-quality empowerment projects to promote the diversified development of employees and give impetus to the enhancement of personal value and the coordinated development of the Company strategy.

Talent is the foundation of enterprise establishment. As we continue to grow, there is an increasingly urgent need for talent, especially for industry technical experts and global elites. This is a global problem. Continuous efforts in recruitment, training, deployment and retention are a necessity for JA Solar to create a superiority of talent in the industry. To ensure that we have advantages in talent training, JA Solar plans the jobs and actively communicates with each department on market demand according to the market situation, predicts the direction of talents to be recruited in the future, and has built a talent database to satisfy our talent development needs.

With a focus on the introduction, retention, cultivation and development of talent, JA Solar has established a complete talent management system and management mechanism. We have been committed to nurturing professionals for the PV industry and have formulated the *Headquarters Recruitment Management System* to provide comprehensive guidance for talent introduction.

Diversified Career Development

JA Solar Talent Management Mechanism

Talent Planning 1

Talent Identification and Reserve 2

Talent Cultivation 3

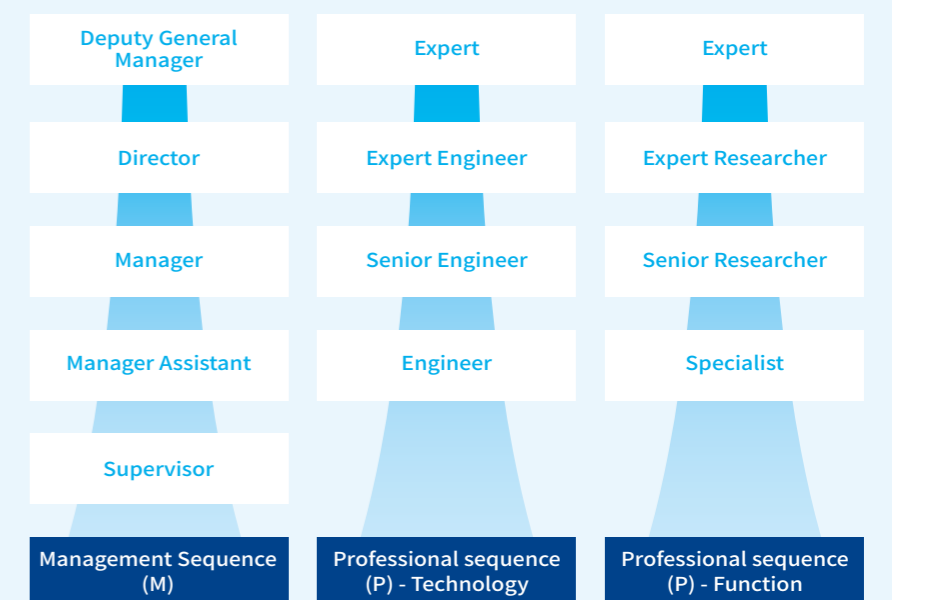
Tracking and Evaluation 4

Talent Promotion 5

- Develop a reasonable talent strategy based on the Company strategy
- Optimize the talent quality and ability training model and create a talent pool
- Unleash talent potential and carry out talent planning and positioning
- Determine the talent development plan and strategy
- Build a learning map
- Establish a mentoring mechanism
- Propose a development plan
- Regularly track and evaluate the talent development to grasp the development situation
- Actively perform two-way communication and optimize the standards based on the actual situation
- Make promotion decisions based on evaluation results
- Continuously optimize the Company's talent allocation

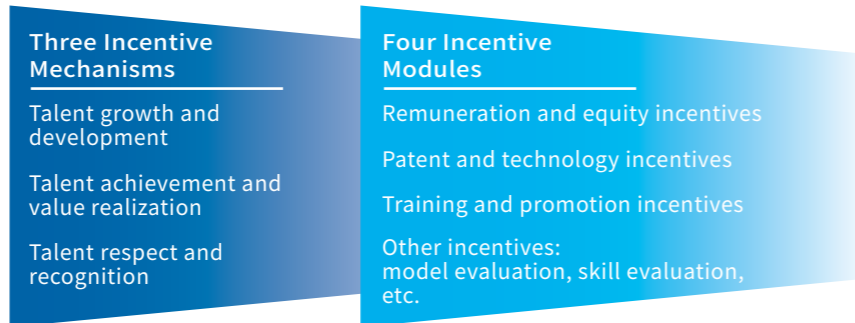
Diverse Promotion Channels

JA Solar continuously refines the employee ability training model and provides diverse career promotion channels. We have built a "Post Competency Evaluation Model" to empower and evaluate employees' performance in multiple aspects such as management, professional, executive and innovation capabilities, thus creating a constructively competitive atmosphere and encouraging employees to grow amid positive competition. We also provide each employee with a comprehensive growth system that is in line with the job requirements and career goal-based planning. We provide employees with diverse career development platforms and path choices based on the three-channel design of "management channel, technical channel and functional channel", and encourage employees to make multi-channel development to help realize their personal value.



Remuneration, Welfare and Incentive System

In 2023, we further improved the incentive and welfare system and launched nearly 30 comprehensive incentive welfare projects involving short-, medium- and long-term measures, such as academic advancement - JA Solar Talent Program and the remuneration package project. We also provide talent export incentives, subsidies for stable jobs, subsidies for skill upgrading projects, and other welfare to attract and retain outstanding management personnel as well as the core pillars of our business. At the same time, these initiatives also serve to support the career development of employees.



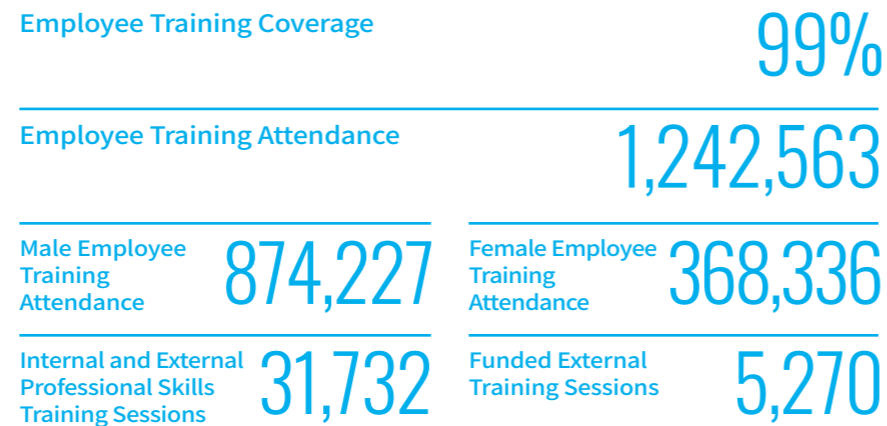
Employee Empowerment and Training

As a leading company in the international industry, JA Solar makes unremitting efforts to promote strategic development and organize talent cultivation. We expect that all of our employees, regardless of their ranks respective channels can fully release their potential, acquire the skills, knowledge and abilities they need in their career development paths, and continuously enhance their personal value and influence. Based on the *Training Management System*, JA Solar has created a multi-dimensional talent training system including training plans, professional skills and management ability of management trainees from the perspective of post characteristics, so as to provide targeted development plans and empowerment for employees at different stages of growth.

Training target	Talent training plan
Class 1 Critical Talents	Training Personnel Assistance Plan
Class 2 Core Talents	Management Trainees Launching Plan
	Senior Manager and Above Personnel JA Solar Plan
Class 3 Key Talents	Management Personnel Pilot Plan
	Technical Personnel Stabilization Plan
	Front-Line Personnel Protection Plan

We implement comprehensive management and supervision of the talent training plans to ensure professional and standardized talent training. In 2023, we increased staff training efforts to improve the professional ability and level of employees by combining both online and in-person forms of teaching as well as internal and external training. We have also set up a "Yidian Zhishi" online learning platform and established a diversified training system, thereby providing employees with a wide range of online training resources in a more efficient and convenient way.

JA Solar Employee Training Performance in 2023



Young Graduates

We provide traineeship and apprenticeship program for all young graduates who join JA Solar, and carry out training in general ability, business capability, professional skills and other dimensions to help management trainees grow rapidly, adapt to the Company's working environment, and find a suitable career development path. Each base has developed appropriate training programs and carries out training activities according to the respective conditions, thus helping the Company build a sustainable talent development echelon and vitalize talents.

JA Solar Management Trainee "Precision Plan" Training Course in Dongtai Base

CASE

The JA Solar management trainee "precision plan" training course in Dongtai Base was successfully held in August 2023, with more than 100 management trainees in the first batch. In order to improve the comprehensive ability and accomplishment of management trainees across the board, this training included diverse contents such as specialist leading, team expansion, and outdoor team building. The focus of the core contents includes role positioning, career planning, industry technology development trend, and tool methodology. We invited pillar lecturers to teach, thus enabling management trainees to gain knowledge and improve themselves through rich courses while maintaining stable and long-term development.

Strengthened the Development and Training of Trainees in Yangzhou Base

CASE

In order to improve the training mechanism of trainees, JA Solar's Yangzhou Base has established the *Yangzhou JA Solar Sailing Talent Training Program*, which specifies the training content, apprenticeship mechanism, and student assessment. The Yangzhou Base has carried out the "Yangzhou JA Launch Plan" MT231 training course to improve the teamwork and thinking innovation abilities of trainees through team development, group cooperation, results display and other activities, thus guaranteeing the supply of young talents for JA Solar's future development.

Management Team

We provide diverse training opportunities for our managers and c-suite executives to help them enhance leadership, management skills and professional knowledge, and equip them with better overall leadership skills and strategic thinking.

United States Module Base Training

CASE

Business training of the management and executive team from the Headquarter and the United States Module Base in November 2023.



Employees

To promote the growth of employees, we actively cooperate with local universities to carry out joint training programs with educational institutions for degree improvement and capability enhancement for all employees of JA Solar. We have formulated a range of systems, such as the *Management Regulations on Continual Education for Onboard Employees*, the *Incentive Measures for Further Strengthening On-the-job Learning for Employees*, and the *Management Rules on Rewarding Employee for Publications*, so as to encourage employees to receive lifelong education and improve their overall capability, thus providing professionals for the development of the PV industry.

"Sunshine JA Solar Talent" Degree and Capability Advancement Program

CASE

JA Solar encourages employees to participate in academic advancement programs in an effort to develop the Company into a multi-functional platform that integrates learning and work. In 2023, we continued to implement the "Sunshine JA Solar Talents" academic advancement program, thereby improving the overall capability of employees and boosting their sense of belonging to the Company. This helps to drive the continuous improvement of the Company and individuals and achieve the dual development of the Company and individuals.





Deepening University-Enterprise Cooperation

JA Solar is committed to exploring a new talent training model and scientific research model in the field of university-enterprise cooperation, with the objective of making the channels for communication and cooperation between the Company and universities smoother. This enables us to solve the technical problems of the Company and promote the transformation of scientific and technological achievements. We jointly work with universities to deliver joint training programs for the employees and thus to create an ecological chain of talents in the PV industry to contribute to the high-quality development of the industry.

Key Performance

2023 Provincial Specialty Building Site of Industry-Education Integration Brand

— Jiangsu Education Department

Building a "Production-Education Integration Community in PV Industry" and Cultivating Industry-Leading Talents

CASE

In order to promote the development of the new energy industry and nurture outstanding talents with high quality while providing all-round development for the PV industry, JA Solar actively fosters university-enterprise cooperation to build a "Production-Education Integration Community in PV Industry".

Xingtai Polytechnic Institute of New Energy, which was established and invested by JA Solar, takes talent training as the core and focuses on specialty development, further promoting the production-education integration and university-enterprise cooperation. As an orientation to the new energy industry, the College focuses on new energy materials and power, new energy intelligent manufacturing, new energy information technology, and new energy application technology, while actively adapting to future industrial developments in order to meet industry demands. There are several domestic and overseas manufacturing bases developed by JA Solar that have been used for training and practice at the College, achieving seamless connection between post-ability and teaching of the College and training outstanding industry talent to adapt to industry transformation and upgrade. Moreover, Xingtai Polytechnic Institute of New Energy had developed joint 2+1+1 bachelor degree program with the University of New South Wales (UNSW) prepared for students gaining more knowledge and global insights in a sense. Not only that, Xingtai Polytechnic Institute of New Energy has also reached cooperation with other universities for study abroad program, like Busan University of Foreign Studies, HOSEO University and so forth. In additions, Xingtai Polytechnic Institute of New Energy also provides a wide range of capability enhancement programs for the students, i.e. the US J-1 SWT/Internship Training Plan, Teaching Assistant USA Program, Japanese JITP Program, etc.

"2+2+2" Cooperative Training Program to Improve Professional Skills

CASE

JA Solar's Xingtai Base has built diverse recruitment channels for different posts and makes active efforts to a new university-enterprise cooperation model. In 2023, the Base reached an agreement with Xingtai Modern Occupation School (secondary vocational school) and Hebei Institute of Mechanical and Electrical Technology (higher vocational college) respectively. The cooperative colleges were required to develop teaching programs based on the Company's needs and provide skilled professionals for the Company.

University-Enterprise Cooperation Strengthening Internship and Employment

CASE

In 2023, the Vietnam Base launched university-enterprise cooperation with institutions such as Hanoi University of Science and Technology, Thai Nguyen Polytechnic University of Technology, and Bac Giang Vietnam-Korean Polytechnic College to provide internship and employment opportunities for students. The cooperation helps the Base define its positioning, enhance its competitive edge, and promote the transformation of scientific research achievements.

JA Solar Established the Education Research Center

CASE

In collaboration with Jiangsu University of Social Science, JA Solar established the JA Education Research Center in July 2023. The Center is committed to building a leading production-education platform in China with a strong focus on the development of PV talents. The Center gathers outstanding talents from universities, enterprises and scientific research institutions, and constantly deepens university-enterprise cooperation. The Center also strives to build an industry-university-research exchange platform to help Xingtai Polytechnic Institute of New Energy develop a robust curriculum system and practical training system.

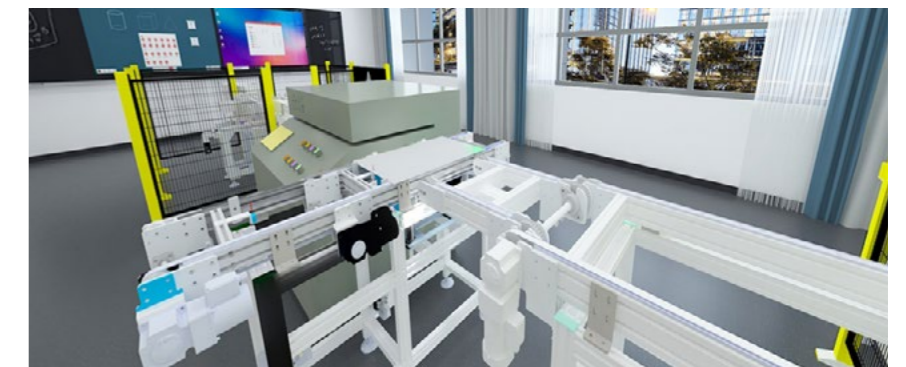
Externally, the Center has built a training base with Yangzhou Polytechnic College, and developed the module manufacturing teaching equipment program and curriculum program, focusing on and exploring the innovation of the production-education integration model. Internally, the Center conducted the "Skill JA Solar Action" to expand the career development channel for skilled talents. The Center has implemented the "Level 8 Employee" vocational skill level qualification in Hefei Base along with the establishment of unified ability standards, complete personnel evaluation tools, a systematic learning model, as well as a training and development system based on learning model. It has also built a mass training mechanism for internal skilled talents.



JA Solar Established the Modern Industry College of Intelligent Optoelectronics and Intelligent Manufacturing

CASE

JA Solar and Yangzhou Polytechnic College have jointly established the Modern Industry College of Intelligent Optoelectronics and Intelligent Manufacturing, which provides more high-quality talents for the development of the industry through continuous strengthening of practical education in the education system. The College provides existing students with richer vocational training and employment opportunities and delivers to the industry high-quality education content in line with market development and requirements by optimizing education courses.



2.3.3 PROMOTING TALENT DEVELOPMENT

JA Solar has always attached great importance to the occupational health and safety of employees as part of its adherence to the principle of "people-oriented and safety first". We continue to develop the long-term mechanism of work safety, comprehensively improve the management level of work safety, and advocate work safety culture to effectively safeguard the health and safety for employees.



Developing Safety Management System

JA Solar attaches great importance to the occupational health and safety of employees. To continuously improve the prevention and management capabilities of occupational health and safety issues while remaining in accordance with the laws and regulations, such as the *Law of the People's Republic of China on Prevention and Control of Occupational Diseases*, the *Law of the People's Republic of China on Work Safety*, the *Fire Protection Law of the People's Republic of China*, the *Special Equipment Safety Law of the Peoples Republic of China*, the *Basic Rules for Standardization of Enterprise Safety Production*, we have formulated the *EHS Management System Manual*, the *EHS Accident Management Procedures*, the *Occupational Health Management Procedures*, the *Hazard Identification and Evaluation Control Procedures*, and other procedures to ensure the management of occupational health and safety. JA Solar has built a risk management system with the ISO45001 occupational health and safety management system as the framework, and work safety standardization as the basis, which provides dual prevention and control including hierarchical risk control as well as potential risk identification and governance. In 2023, all bases under JA Solar have obtained the ISO45001 system certification.¹

In 2023, all bases under JA Solar have obtained the ISO45001 system certification

ISO45001

By the end of 2023, the PV Manufacturing Division has 145 full-time environmental health and safety employees

145

70% of employees with several years of professional EHS experience and relevant training qualifications

70%

To further promote the development of occupational health and safety management system, our headquarters and all of our manufacturing bases have established a Safety Committee with full-time safety management personnel and occupational health management personnel, who are fully responsible for the establishment, maintenance, and optimization of the occupational health and safety management system to ensure timely and effective control of occupational health and safety risks. By the end of 2023, the PV Manufacturing Division has 145 full-time environmental health and safety employees, more than 70% of whom hold several years of EHS professional work experience and have obtained relevant training qualification certificates. They effectively improve JA Solar's occupational health and safety management capabilities.

In addition, the EHS team of JA Solar headquarters and each base organizes occupational health and safety risk identification and assessment at least once a year. We comprehensively identify and detect occupational hazards in production processes, labor processes, and production environment. At the same time, we conduct risk assessment and grading in accordance with the *Fire Management Procedures*, the *Emergency Response Management Procedures* as well as other system documents and operating procedures. Based on the evaluation results, we list the identified "major risks" and "significant risks" as unacceptable risks and include them in the Company's *Unacceptable Risk List and Control Plan* for strict control and follow-up review. Those classified as "general risk" and "low risk" are included in the acceptable risk list, and subject to control measures to further reduce the risk value, whereas negligible risks are excluded.

¹ The new Shijiazhuang Base that has been put into production is planning to apply for this certificate.

Ensuring a Safe Production Environment

JA Solar has always adhered to the "people-oriented, prevention first, safe and healthy work" occupational health and safety principle. We adopt the plan-do-check-action (PDCA) model to establish a dynamic cycle of occupational health and safety management process to help achieve the goals of occupational safety and health.

JA Solar's Work Safety Management Procedure

Classification	Specific Measures
P Plan	<p>We establish and improve the <i>Procedures for Planning of Hazard Identification, Risk Evaluation and Risk Control</i> and the list of posts exposed to occupational disease hazards, and specify the details including workshop, area, post, occupational hazard factors, possible consequences, regular test results, engineering control and protection measures, administrative control measures and personal protective equipments.</p> <p>We establish the company-level emergency and contingency plan for safety accidents and organize maneuvers regularly.</p> <p>We have a reasonable plant structure layout, with partitions separating hazardous areas from the non-hazardous ones. We also take engineering and technical measures against various occupational hazard factors to eliminate hazardous substances to employees to the greatest extent.</p>
D Do	<p>We provide employees with labor protection equipments according to the relevant standards of the management system of labor protection equipments, and supervise the correct use of labor protection equipments by employees.</p> <p>We always attach great importance to the occupational health of employee and organize occupational health examinations for employees before, during and after work. Those found to have occupational contraindications will subsequently be transferred to other units.</p> <p>We set up facilities to defend against occupational hazards such as dust, gas, noise, high temperature and others, so as to ensure that the concentration and intensity of occupational disease hazard factors at the workplace meet the relevant national occupational health standards.</p> <p>We post a notice on occupational hazard factors.</p>
C Check	<p>We set up the Work Safety Committee, which holds a monthly safety meeting accordingly, which serves as a means to report and make decisions on the matters related to occupational health.</p> <p>We supervise all special equipment and organize training for special operation personnel and the annual inspection of special equipment.</p> <p>We organize regular testing of equipment and facilities related to health and safety, occupational health and environment monitoring, safety inspection, fire protection inspection, and other special inspections every year.</p>
A Act	<p>We collect feedback on environmental and occupational health and safety from stakeholders in order to create a better occupational environment based on such feedback.</p>

In 2023, JA Solar achieved

Number of employees suffering from occupational diseases **0**

Rate of work loss accidents per million working hours **0.29**

Percentage of employees covered by occupational health and safety management system **100%**

Developing Occupational Health Culture

Health and safety training sessions organized in 2023 **8,320**

179,187 employees attended **179,187**

To enhance the occupational health awareness and self-protection ability of employees while reducing the risk of workplace accidents, JA Solar has established a comprehensive occupational health and safety training system. Employees are required to experience training in three-level safety education and occupational health before entry, and can take the post only after passing the examination. After entering the Company, employees undergo regular and irregular on-the-job education and training in safety, occupational health and fire protection to constantly enhance their safety knowledge and skills, which will help ensure safety during responsible operation.

Adhering to the concept of "work safety and training first", JA Solar actively implements safety training and education, promoting the work safety awareness of all employees through holistic safety education. The Safety Committee holds regular meetings, carries out various forms of training activities based on different types and needs of personnel, including safety training, emergency exercise, occupational health training, safety month activities, occupational disease prevention and control publicity week, fire emergency competition, safety knowledge challenge as well as other diversified safety culture activities. We also actively participate in the external appraisal and exchanges related to safety culture construction. JA Solar has also released the *EHS Emergency Manual*, *Safety Instructions* and other emergency guidebooks via the existing online platforms such as DingTalk and "Yidian Zhishi" to improve the vividness and accessibility of training.

In addition to physical health, we also attach great importance to the psychological health of employees. In 2023, an individual at JA Solar's Yiwu Base was specially assigned to participate in psychological counseling training and has since obtained the certificate of psychological counseling engineer. A digital psychological counseling process has also been built. The counselor provides psychological health counseling for its employees every month to ensure their physical and psychological health.

Publicity Week Series of Law on Prevention and Control of Occupational Diseases in Xingtai Base

CASE

In April 2023, JA Xingtai Base organized the publicity week series of the *Law on Prevention and Control of Occupational Disease*. External senior doctors were invited to carry out training in occupational health related knowledge and on-site consultation on health issues as well as special training of position-specific occupational hazards notification aimed at improving employees' awareness and response ability of occupational health risks. The Base also carried out special inspections on occupational health, which focused on the operation of facilities for protection against occupational diseases, the intactness of relevant on-site warning signs, and the provision and use of personal labor protection articles.



"Ankang Cup" Safety Knowledge Competition in Ningjin Base

CASE

In 2023, JA Solar's Ningjin Base participated in the "Ankang Cup" Safety Knowledge Competition jointly organized by the Emergency Management Bureau, the Federation of Trade Unions, and the Convergence Media Center in Ningjin, and won the third prize.

"Occupational Health Expert" Excellent Organization

CASE

JA Solar's Baotou Base was Awarded as "Occupational Health Expert" Excellent Organization in Qingshan District in 2023.

2.3.4 CREATING A WARM ATMOSPHERE

In order to create a happy workplace and enable employees to realize their personal value in an equal, harmonious and warm working environment, JA Solar has established a comprehensive employee welfare security system and holds a series of activities to enhance the cohesiveness of employees and increase their well-being at work. We also provide multiple smooth channels to facilitate democratic communication of employees.

In terms of employees' physical and psychological health, we provide all employees, including part-time and contractors, with health insurance, psychological counseling services, regular health examination, and health lectures in order to protect their physical and psychological health in an all-rounded manner and improve their well-being and satisfaction at work. Regarding culture development, we advocate the culture of teamwork and culture sharing, and carry out various team-building activities, employee birthday parties and other activities to strengthen communication and exchange among employees, thereby creating a harmonious working atmosphere. In addition, JA Solar organizes regular activities such as holiday welfare visits to employees and their families, rendering of support and assistance for employees faced with difficulties, caring for employees' family life and work, and increasing their sense of belonging and cohesiveness. We also emphasize the care of female employees, providing all female employees with a batch of statutory and non-statutory benefit, like prenatal check-up leave, childcare leave, breastfeeding leave and various special allowances. Furthermore, we offer relevant benefits and organize appropriate entertainment activities on Women's Day.

JA Solar Delivers Holiday Blessings to Female Employees

CASE

In commemoration of International Women's Day and with the purpose of enriching the intellectual and cultural life of female employees as well as stimulate their passion for work and hustling, JA Solar's Labor Union launched the Women's Day Welfare Visit on March 8, 2023, during which female employees were thanked and commended for their pioneering efforts, united and harmonious, and vigorous spiritual outlook and for setting trends for the style of new women in the new era.



JA Solar's Labor Union Organized Sports Activities

CASE

To enrich and activate the Company's cultural life while promoting learning and exchanges among the bases, the Labor Union of JA Solar's headquarters held the "Leader Cup" Basketball, Table Tennis and Badminton League in the Yangzhou Base and Donghai Base in August 2023.



JA Solar Held Birthday Party for Employees

CASE

Dongtai JA Labor Union held the "Bright and Sunny Growth" Employee Birthday Party in August 2023. The recipients signed the prepared balloons, made their wishes, and conveyed their best wishes to each other. All employees sang the birthday song and had a whale of a time.



The Third Staff Sports Meeting in JA Solar's Vietnam Base

CASE



JA Solar has always been concerned about the wellbeing of needy employees and has continuously carried out relief activities for them to enhance their sense of gain, happiness and security. The Labor Union in each base has formulated and optimized the relevant systems to provide assistance, rights protection, and support for employees faced with various difficulties. In 2023, the support and assistance program for needy employees was kickstarted and implanted at all bases. We paid close attention to their safety, health and living conditions, and provided timely assistance for them.



In light of JA Solar's active efforts to build an open, transparent and democratic communication mechanism, each base has established a labor union committee, which has developed collective agreements and documents such as the *Collective Agreement*, the *Collective Agreement for the Protection of the Rights and Interests of Female Employees*, and the *Collective Negotiation Agreement on Salaries*. These agreements are updated every year to ensure that the rights and interests of employees are protected. The labor union regularly holds a staff representative meeting, in which employee representatives participate and make constructive comments and suggestions on behalf of employees to provide important reference for the Company's decision-making parties. In 2023, 100% of employees have been covered by JA Solar's labor union and are bound to collective agreements.

We collect feedback from employees through various forms by setting up diverse communication channels such as employee opinion exchange meeting, feedback mailbox, and telephone. We address the mindset counseling of employees, collect feedback or suggestions and handled them in a timely manner. In the event that there are any violations or actions that may damage employees' rights and interests, the employee may make consultation and lodge a report through the labor union complaint platform, "discussion" and other channels. Led by the employee relations coordination group, the entire process of recording, tracking, feedback and filing of the employee report is completed to ensure that the employee report is fully heard. This also helps to safeguard the legitimate rights and interests of employees as well as the exemplary discipline of the Company.

JA Solar annually conducts surveys on employee satisfaction and facilitates the collection, analysis, discussion and summary of the survey results before developing and implementing a targeted improvement plan in an effort to continuously improve employee satisfaction by covering all employees at JA Solar. For example, the satisfaction of employees in Baotou Base was 99% in 2023.



Employees covered by JA Solar's labor union **100%**

Employees covered by JA Solar's collective agreements **100%**

2.4 RESPONSIBLE AND HAPPY SOCIETY

2.4.1 EXPLORING INDUSTRIAL DEVELOPMENT

The year 2023 marks a key year of the 14th Five-Year Plan bridging the past and the future. With the mission and responsibility of "Developing solar power to benefit the planet", JA Solar extensively participates in industrial development, charity and public welfare activities, disaster relief and other activities while practicing corporate responsibility through concrete actions. At the same time, we exert the power of business for good, spreading sunshine and warmth to the world and building a better home.

In response to the national call, JA Solar, as a leading enterprise in the PV industry, leverages its industrial chain advantages and product technology advantages to make deep integration of PV with various industries based on the driving force of scientific and technological innovation.

JA Solar also contributes to rural community development through the means of paired-up assistance and special funds. The Company has established assistance agreements with Dagongchang Village in Yunnan Province and Gacha Village in Inner Mongolia to promote rural development. In 2023, we donated more than RMB 300,000 to rural community development and assistance projects.

As the Chinese saying goes, "Give a man a fish and he has fish for a day; teach him how to fish and he has fish for life". JA Solar has created multiple application scenarios such as animal husbandry PV, fishing PV, agrivoltaics, and PV mountain, and has explored the innovative rural community development model of "assistance fund + lease payment + job opportunities" based on the construction of PV projects. Through the "PV+" industry revitalization strategy, JA Solar not only provides high-quality clean energy for rural areas, but also provides more than 400 jobs to the surrounding areas within the vicinity of the PV projects every year, with the labor subsidies amounting to over RMB 1 million. This results in a rise in rural household income, thus boosting industrial upgrading and promoting rural community development.

With the further advancement of the rural community development strategy, the green energy industry is becoming a new engine for rural economic development. The "PV-charging parking shed project" in Longhua Town, Xianyou County was completed on December 6, 2023. The project boasts a total installed capacity of 36.3 kW and covers an area of 245 m². JA Solar donated all PV modules required for the project. After completion, the entire project was donated to the local town government, and its expected annual electricity production is about 40,000 kWh. The completion of the "PV-charging parking shed project" effectively alleviates the pressure on the power grid in the market town area and meets the electric vehicle charging needs of the people living in the vicinity.



The Successful Completion of the Distributed PV Project of Xianyou County, Fujian was Supported by JA Solar for Rural Community Development

CASE

2.4.2 CREATING "THREE MAJOR PROJECTS FOR THE BENEFIT OF THE PEOPLE"

Since 2007, JA Solar, together with Jinglong Group, has continued to conduct the "Three Major Projects for the Benefit of the People", that is, "100 Hope Primary Schools Donation Project", "10,000 Needy Students Financial Support Project", and "Brightness Project for Poor Cataract Patients". We have improved the teaching hardware facilities, provided learning tools and student subsidies, and carried out medical assistance, thereby promoting the development of rural education and medical causes.



Key Performance

In 2023, JA Solar invested RMB 1,785,600 in "Three Major Projects for the Benefit of the People"

1,785,600¹

The "10,000 Needy Students Financial Support Project" focuses on needy students and regularly provides learning tools and student subsidies for them. As part of the Project, more than RMB 430,000 was donated in 2023.

JA Solar's 2023 "Realizing Dreams of Needy Students" Scholarship Assistance Activity and Granting Ceremony of "Solar Scholarship"

CASE

JA Solar's "10,000 Needy Students Financial Support Project" aims to encourage outstanding students in need through various forms of funding in order to help them overcome financial difficulties and successfully complete their studies. In 2023, JA Solar's Ningjin Intelligent Manufacturing Base provided financial support for 34 students with excellency in character and academic performance. Each student has obtained the "Solar Subsidy" of RMB 5,000 every year, to support them successfully complete their university studies.



The "100 Hope Primary Schools Donation Project" aims to improve teaching facilities to promote educational equality. JA Solar's Solar Charity Fund signed an agreement with the Hebei Charity Federation to make donations amounting to RMB 900,000 for the construction of 4 primary schools in Hebei Province.

JA Solar launched the "Brightness Project for Poor Cataract Patients" aimed at carrying out medical assistance actions to promote the development of community health causes. In 2023, JA Solar's Ningjin Base continued to implement the "Brightness Project for Poor Cataract Patients" and donated more than RMB 190,000 in addition to providing medical assistance for 160 patients. The Donghai Base has completed Phase II and Phase III of the "Brightness Project for Poor Cataract Patients", with donations to a total of 454 persons.

¹ Including payments of Phases II and III of the "Brightness Project for Poor Cataract Patients" of Donghai Base in 2023.

2.4.3 DRIVING COMMUNITY DEVELOPMENT

In addition to the "Three Major Projects for the Benefit of the People", each manufacturing base of JA Solar also takes an active role in cooperating with local communities and charity foundations and carrying out diversified community welfare activities such as rendering aid to students and one-day donation drives for surrounding communities, so as to improve the education and economic levels of these communities while achieving harmony and integration between us and the communities.

In terms of education aid, our manufacturing bases proactively respond to the call of the headquarters and make vigorous efforts in supporting community education development by supporting poor students, rewarding exemplary teachers, enhancing teaching facilities, and other measures. In 2023, JA Solar's Solar Charity Fund implemented student aid projects for central primary schools in Xin County, Xinyang, Henan Province and Mutouchengzi Town, Chaoyang, Liaoning Province. We donated a total of RMB 180,000 in scholarships to help students who are outstanding in character and academic performance but are plagued with financial burdens successfully complete their studies and realize their dreams. These measures help improve the quality of local education and make education fair and inclusive.

In the field of community health, JA Solar's Solar Charity Fund donated 5 ambulances to the Health Bureau of Huize County, Yunnan Province to support the local medical rescue works. JA Solar's Baotou Base donated two automated external defibrillators (AEDs) to Baotou No. 36 Primary School through the Red Cross Society of Qingshan District, Baotou City, to improve the school's emergency medical assistance.

At the same time, JA Solar vigorously supports innovation. We proactively practice the national strategic layout of "innovation leads to development", which aims to support the training of innovative talents and recruit more talents in the clean energy industry by giving full play to our industrial and technological edge. Since 2011, JA Solar has provided PV modules free of charge to many famous Chinese universities, and also supported competition teams participating in the International Solar Decathlon Competitions.

Beijing Red Cross Society Fengsheng Education Fund co-founded by JA Solar

CASE

To better guarantee the collaborative cultivation of innovative talents in parks, enterprises and colleges, JA Solar has partnered with Beijing Red Cross Foundation, Beijing SHKB Pharmaceutical Co., Ltd., Beijing Zhidamai Technology Co., Ltd., and China Railway Electrification Engineering Group Co., Ltd. to jointly launch the "Beijing Red Cross Society Fengsheng Education Fund". The Fund aims to provide assistance for teachers, tutors and students in financial difficulties, and is also used for teaching and scientific research, academic exchanges, professional training as well as innovative talent cultivation and incentive.

Sustainability Practice Activity for PV Leaders Jointly Organized by JA Solar and Tsinghua

CASE

In October 2023, the sustainability practice activity for PV leaders jointly organized by JA Solar and Tsinghua University was successfully held at the Ningjin Base. Guided by the persons-in-charge from JA Solar, teachers and students from the School of Public Policy & Management, the delegation of Tsinghua University visited the Fengzhuang PV power station, and gained a deeper understanding of the working principle and operation of these stations, as well as the complementary and win-win model of agriculture and PV industry. After the visit, JA Solar also shared a lecture themed around sustainable development, PV applications, and the process flow of crystalline silicon PV cells with teachers and students from Tsinghua University. It helped the students gain a deeper insight into the PV industry and technology development. This activity also helped the two parties establish partnerships for sustainable development through cooperation and jointly push ahead China's sustainable development process.



2.4.4 SUPPORTING EMERGENCY DISASTER RELIEF

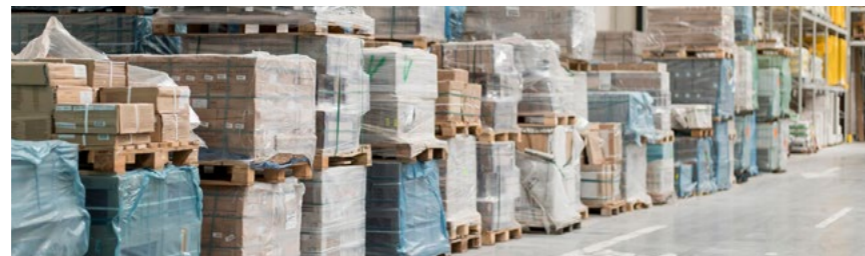
Disaster relief directly involves the safety of the lives and properties of people in disaster-stricken areas. Therefore, JA Solar attaches great importance to emergency disaster relief. We proactively support disaster relief and post-disaster reconstruction to reduce the economic losses of the victims affected by the disaster and promote the recovery and development of disaster-stricken areas.

In the wake of the flood that occurred in Hebei Province in August 2023, JA Solar responded fast and issued the *Announcement on External Donations to Support Flood Prevention and Disaster Relief in Hebei Province*, donating RMB 20 million to Hebei Province for flood prevention, disaster relief and post-disaster reconstruction. In response to the disaster, we established a militia emergency company and a volunteer service team that consists of nearly 100 employees, to make full preparations for flood prevention, disaster relief and post-disaster reconstruction.

In December 2023, Jishishan County, Linxia Hui Autonomous Prefecture, Gansu Province was struck by a 6.2-magnitude earthquake, which resulted in numerous casualties and heavy property losses. JA Solar's Headquarter and Yangzhou Base acted swiftly to respond by donating earthquake relief supplier worth of over RMB 300,000. We also rushed to the disaster-stricken areas to provide disaster relief and support for the locals and rescue workers.

Donate RMB 20 million to Hebei Province for flood prevention, disaster relief and post-disaster reconstruction

20
million



2.4.5 PROMOTING OVERSEAS ASSISTANCE

JA Solar gives full play to our industrial and technological edge, vigorously providing assistance overseas in the construction of PV projects, to build a community with a shared future for mankind. We provide efficient and reliable PV products to many countries along the "Belt and Road". By the end of 2023, we have provided Uzbekistan, Vietnam, Pakistan and other countries with PV modules to support the local PV industry.

In addition to donating PV equipment, we have also been following the development of communities where our overseas business operates. In 2023, our Vietnam Base donated approximately RMB 700,000 worth of teaching equipment, facilities, and scholarships to nearly 120 schools in Son Dong, Luc Ngan, Yen The and other areas of Bac Giang Province.

Amidst rapid industrial development, Vietnam's electricity market has struggled with major challenges in power supply. To advance the construction of the "Belt and Road" initiative in Vietnam, JA Solar donated a 30kW PV power station to the Bac Giang Province Industrial Zone to help improve Vietnam's power supply.

JA Solar Donated a 30 kW PV Power Station to Bac Giang Industrial Zone in Vietnam

CASE



2.4.6 LOVE PASS BY EMPLOYEES

Being a part of volunteer service is an important way to cultivate team spirit and civic consciousness among employees. JA Solar encourages employees to participate in volunteer activities to convey our social responsibility with practical actions. In 2023, JA Solar's Baotou Base, Hefei Base, Yangzhou Base and Qujing Base and a few other bases carried out voluntary blood donation activities several times, with over 370 volunteers in attendance. At the same time, all our bases proactively arranged for employees to participate in volunteer services and community services, conveying the spirit of love to society.

"Let Love Flow with Blood Donated Voluntarily" Organized by Yangzhou Base

CASE

"Warm Heart in Winter with Love" Welfare Visit Carried Out by Baotou Base on Thanksgiving Day

CASE

In June 2023, the trade union of Yangzhou Base arranged for employees to carry out a voluntary blood donation. Under the theme of "Let Love Flow with Blood Donated Voluntarily", this activity was carried out in strict accordance with the relevant regulations on unpaid blood donation. A total of more than 200 employees participated in the donation, spreading warmth and love to society.

In November 2023, JA Solar's Baotou Base organized a welfare visit to children's welfare home themed "Warm Heart in Winter with Love". More than 300 employees participated and donated a total of 3,136 daily supplies and school supplies, including toiletries, clothing and books.



2.4.7 SAFEGUARDING ECOLOGY WITH CONCERTED EFFORTS

The environment is a key foundation for the sustainable development of enterprises and society. Upholding a respectful attitude towards the natural environment, JA Solar joins hands with social organizations to promote environmental protection with concrete efforts and also fosters a favorable atmosphere that encourages widespread participation from the whole society.

JA Solar Joins the Desertification Prevention and Control Project "100 Million Haloxylon Ammodendron"

CASE

In 2023, JA Solar joined the desertification prevention and control project "100 Million Haloxylon Ammodendron" initiated by the Alxa Society of Entrepreneurs and Ecology (SEE). The project aims to plant 100 million psammophytes represented by Haloxylon ammodendron in Alxa's key ecological zone and recover 2 million mu of desert vegetation, thereby improving the local ecological environment and curbing the spread of desertification. In the next three years, we will plant 30,000 Haloxylon ammodendron, Caragana korshinskii, Salix mongolica and other symbolic plants in Alxa League, Inner Mongolia in order to reclaiming 450 mu of desert land, improve the local ecological environment and the living standards of local herdsmen, and contribute to the national desertification prevention and ecological protection.



J



GOVERNANCE



TOMORROW

ACHIEVING EXCELLENT 3.0 GOVERNANCE TO SHAPE A SUSTAINABLE TOMORROW

In line with the operating principle of "steady growth and sustained profitability", JA Solar has established a complete governance structure, which fully safeguards the rights and interests of investors, and pools strength through compliance operations, IPR protection, information security management and other means, so as to lay a foundation of responsibility for the enterprise's everlasting development. At the same time, we strive to embrace a promising future, hand in hand with our valued partners.

097	ENHANCING CORPORATE GOVERNANCE	3.1
101	ENSURING COMPLIANCE OPERATIONS	3.2
105	PROTECTING INTELLECTUAL PROPERTY RIGHTS	3.3
106	SAFEGUARDING INFORMATION SECURITY	3.4



3.1 ENHANCING CORPORATE GOVERNANCE

We strictly comply with a series of laws and regulations, such as the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, the *Guidelines for Corporate Governance for Listed Companies*, and the *Rules Governing the Listing of Shares on Shenzhen Stock Exchange*. Accordingly, we continue to upgrade our internal corporate governance structure, and have established a robust internal control system, standardized our behaviors, enhanced the communication with investors, and fully protected their rights and interests with the objective of improving our corporate governance.

3.1.1 CORPORATE GOVERNANCE STRUCTURE

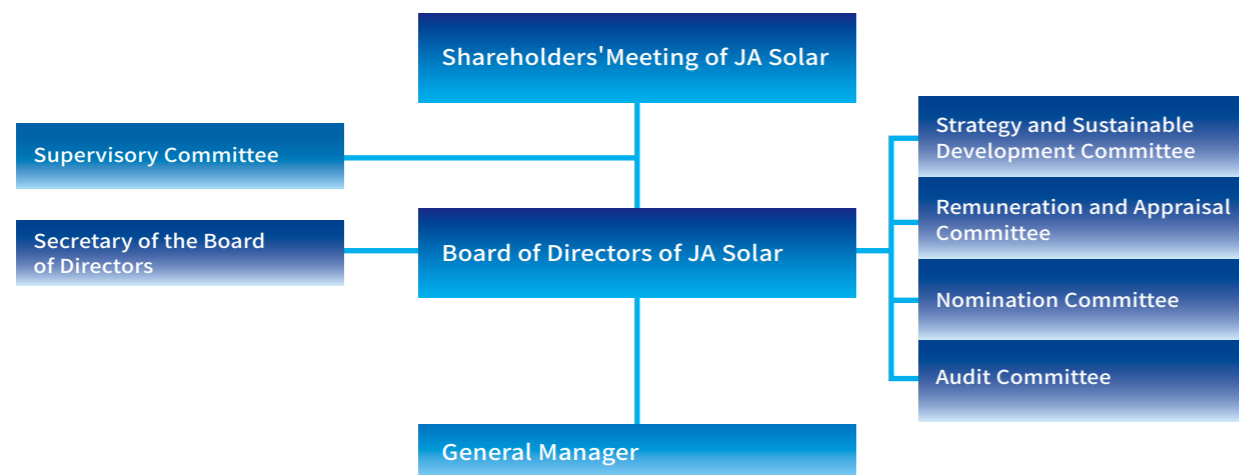
A scientific, standardized management system with efficient operation and clear boundaries is the prerequisite for our Company's robust operation. To this end, JA Solar has established a corporate governance structure with the Shareholders' Meeting, Board of Directors, Board of Supervisors, and Senior Management as the main body. Among them, the Board of Directors has four special committees under its umbrella, namely the Strategy and Sustainable Development Committee, Remuneration and Appraisal Committee, Nomination Committee, and Audit Committee. We have also formulated a decision-making and operation management system accordingly, thus effectively safeguarding the interests and rights of all shareholders and creditors.

JA Solar elects all directors, supervisors and senior executives in strict accordance with the conditions and procedures specified in the *Company Law and Articles of Association*. Our Board of Directors brings together management members with professional expertise and diversified backgrounds covering a wide range of fields, including renewable energy applications, sustainable development, legal compliance, business strategy, and financial management & analysis, thereby providing a solid, professional foundation for the comprehensive development of the Company. At the end of the reporting period, the Board of Directors consists of 9 directors, 6 of whom are male and 3 are female. Female directors constitute 33% of the total membership of the Board. Our Board of Supervisors comprises three members, 1 of whom is male and the other 2 are female. The latter constitute 67% of the total membership of the Board.

Percentage of female members in Board of Directors **33%**

Percentage of female members in Supervisory Board **67%**

Number of members in Board of Directors
Total number of Board of Directors 9
Number of male directors 6
Number of female directors 3



3.1.2 BOARD OF DIRECTORS GOVERNANCE

JA Solar is committed to making decisions in a scientific, standardized, and transparent way that can safeguard the benefits and interests of our shareholders and promote the healthy development of the Company. We have a robust corporate governance structure. All directors work in accordance with the *Self-regulatory Guideline No. 1 for Companies Listed on the Shenzhen Stock Exchange – the Standardized Operation of Companies Listed on the Main Board*, the *Rules of Procedure for the Board of Directors* and rules formulated by each special committee. They also implement the resolutions passed by the Shareholders' Meeting, thereby ensuring the sustainable, healthy and robust development of the Company. At the same time, we attach great importance to the supervisory functions of independent directors and have formulated the *Independent Director System* and the *Working Rules for Special Meetings of Independent Directors*. We seek to protect the rights of independent directors to participate in corporate governance and supervision, and proactively cooperate with them in duty performance, thereby enabling independent directors to fully exercise their role in the governance of listed companies. Currently, our Board of Directors consists of 9 directors, of whom 3 are independent directors, constituting 33% of the total membership of the Board.

Our Board of Directors has established the Remuneration and Appraisal Committee, which is responsible for formulating and reviewing the remuneration policies and plans of the Company's directors, supervisors and senior executives. The Remuneration and Appraisal Committee formulates the assessment standards for directors and senior executives, and conducts assessment on a regular basis. We evaluate the performance of directors and managers in an open, transparent manner with strict reference to the *Working Rules for the Remuneration and Appraisal Committee*. To further standardize the behavior of senior executives, we have established an incentive mechanism that aligns the remuneration of senior executives with company performance and individual performance. This ensures that all senior executives comply with the relevant laws and regulations and perform their duties in line with the *Articles of Association and Working Rules for General Manager* as well as other regulations.

In 2023, we held a total of 5 Shareholders' Meetings, 15 Board of Directors meetings, 5 Strategy and Sustainable Development Committee meetings, 3 Remuneration and Appraisal Committee meetings, and 7 Audit Committee meetings, to carry out comprehensive discussions and hold votes on our Company's various proposals, thereby ensuring that our decision-making is compliant, rigorous and efficient.

Shareholders' meeting **5**
 Board of Directors meetings **15**
 Strategy and Sustainable Development Committee meetings **5**

Number of independent directors
Total number of Board of Directors 9
Number of independent directors 3



3.1.3 PROTECTION OF INVESTORS' RIGHTS AND INTERESTS

JA Solar has always been committed to establishing a sound investor protection mechanism to enhance our credibility and market competitiveness. We have formulated the *Management System for Investor Relations*, the *Management System for Information Disclosure* and the *Management System for Reception of Specific Visitors* in order to strictly comply with regulatory requirements and fully fulfill information disclosure obligations. In addition to ensuring compliance with information disclosure, JA Solar also voluntarily increases information disclosure, thus making the disclosed information more referable and practical. At the same time, this ensures the true, accurate, complete and timely disclosure of information. Furthermore, we communicate with investors in a diversified and innovative way, thereby promoting closed-loop investor communication and making information acquisition more transparent and efficient. During the reporting period, JA Solar had successfully prepared and disclosed 4 periodic reports and 177 interim reports.

Ways of communication with JA Solar investors

Investigation & Reception

We provide investors with plenty of activities such as on-site investigation, conference calls, and base visits, so that they, along with our shareholders and investor, can fully understand the Company's operating conditions through a variety of ways. We have held several performance briefings as well as the "Walk into a Listed Company" collective reception day activities, so that investors can have a more intuitive understanding of the Company's production and operation, which effectively protects their rights and interests.

Media Transmission

Through our official WeChat account, video account, and other platforms under the new media matrix, we timely transmit relevant information to investors in forms of visual pictures, short videos, H5, etc., which is used to present investors with the Company's latest updates in a timely and comprehensive manner. Besides, we also proactively utilize diversified media communication channels to expand the coverage and influence of information.

Online Interactive Communication

We arrange designated personnel to manage the Shenzhen Stock Exchange interaction platform to ensure that all the questions raised by investors are answered in a timely, comprehensive, and complete manner with popular and easy-to-understand language. As for information that needs to be confirmed with the business department, it will be verified with the relevant person in charge at the first opportunity before a reply is given to investors in a timely manner. During the reporting period, we replied 100% of questions on the Shenzhen Stock Exchange interaction platform.

Investor Hotline

We assign designated personnel to answer calls made through the investor hotline, and patiently answer inquiries from our investors. For questions that cannot be answered immediately, we will follow up and provide timely replies.

Special Column on the Company's Official Website

We constantly upgrade the "Investor Relations" special column on our official website and continue to release the latest developments as well as publicize relevant information. We provide detailed breakdowns of main information, so as to facilitate quick access by investors and improve reading efficiency. This allows our shareholders and investors to better understand our operating conditions. In this way, we can improve our transparency and integrity.

During the reporting period, the amount of cash dividends expected to be paid by the Company exceeded RMB **1.85 billion**

During the reporting period, the converted shares of the Company reached **12.48 million shares**

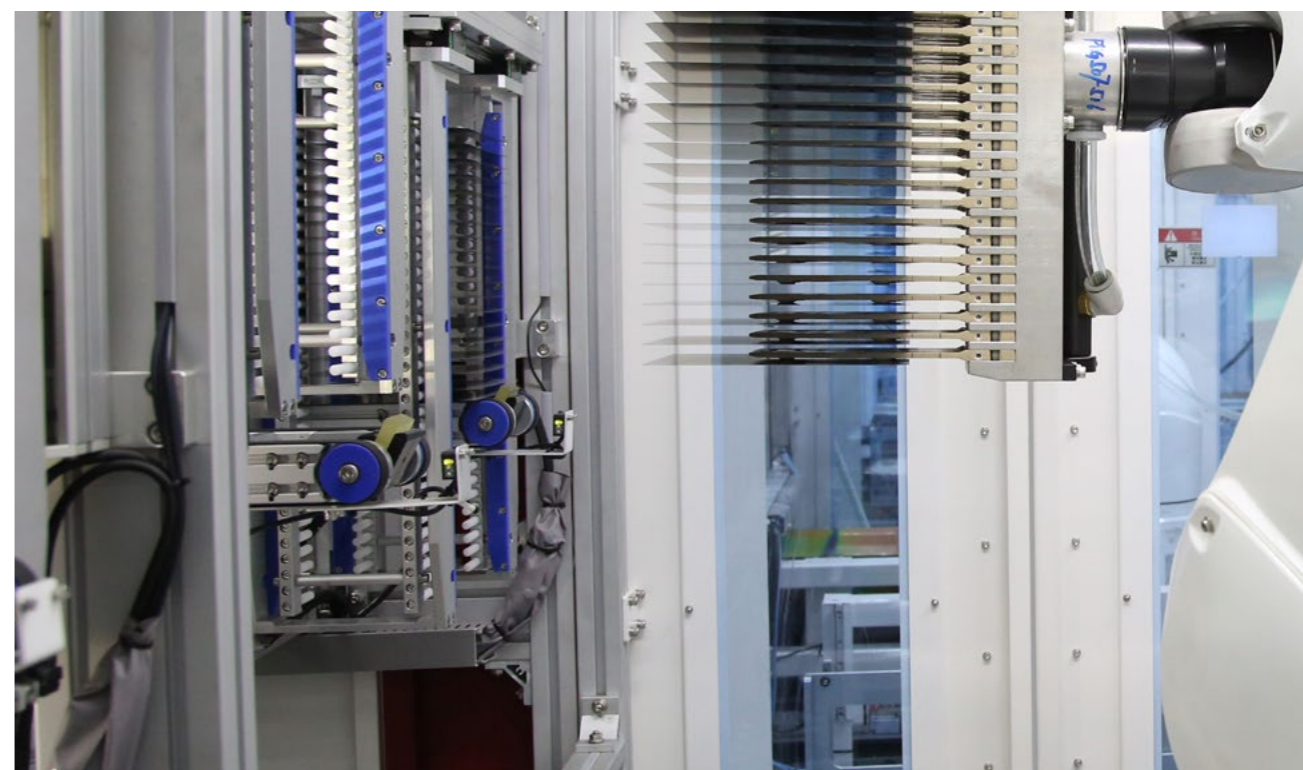
Transaction amount reached about RMB **260 million**

The percentage of the net profit attributable to shareholders for the year that equity distribution accounted for reached **30%**

JA Solar performs duties in strict accordance with the requirements of the relevant laws and regulations, thus enabling small- and medium-sized investors to enjoy equal status and full exercise of power, with the objective of safeguarding their rights and interests. We convene Shareholders' Meetings in strict accordance with relevant requirements of the China Securities Regulatory Commission and the Shenzhen Stock Exchange, with lawyers engaged to serve as witnesses on site. To ensure that small and medium-sized investors can exercise their rights as shareholders more conveniently, the Shareholders' Meeting combines on-site voting and online voting to make these investors more involved in the Company's decision-making while fully protecting their voting rights on major matters related to the Company.

By pursuing the principle of "Creating Value for The Owners", JA Solar firmly establishes the awareness of repaying shareholders, with a focus on providing them with reasonable and stable returns on investment. We have also shared the Company's development achievement with investors. The total amount of cash dividends expected to be paid out by the Company this time, combined with the amount of shares repurchased in 2023, was RMB 2,111,851,755.10, accounting for 30% of the net profit attributable to shareholders of the listed company in the consolidated statements for 2023.

Furthermore, to encourage employees to gain a deeper understanding and proactively safeguard the rights and interests of investors, JA Solar invited the legal counsel of our Company serving as the lecturer to provide training to its employees. The training is provided for all employees, which popularizes laws and regulations related to the securities market in a targeted manner, so as to increase the investment-related legal knowledge reserves of our employees, and better protect the rights and interests of investors.



¹ According to the *Rules for Repurchase of Shares by Listed Companies*, the *Self-Regulatory Guidelines No. 9 for Listed Companies on the Shenzhen Stock Exchange - Share Repurchases*, and relevant regulations, when listed companies repurchase shares by cash consideration in the form of offer or centralized bidding, the amount of repurchased shares in the current year shall be regarded as the amount of cash dividends and included in the calculation of the relevant proportion of cash dividends for that year.

3.2 ENSURING COMPLIANCE OPERATIONS

JA Solar firmly believes that compliance operation is the cornerstone of our robust development. We constantly optimize our internal compliance management and risk prevention and control system. In terms of anti-corruption and business ethics, we actively fulfill our duties, act in line with business ethics, and promote an integrity corporate culture. At the same time, JA Solar attaches great importance to the protection of IPR, information security, and user privacy, so as to ensure our robust, efficient operation in an all-round manner.



3.2.1 LEGAL COMPLIANCE

JA Solar has always placed the construction and improvement of the compliance system at the core of corporate governance. We have set up the Audit Committee independent of all functional departments of the headquarters and subsidiaries. The Committee is responsible for coordinating the internal control, auditing and supervision within the Company, and is mainly involved in the internal control and risk management, supervision audit and engineering audit, and identification of risks or vulnerabilities in the Company's operation management. At the same time, JA Solar has set up the Compliance Management Committee, giving full play to the leadership of senior executives to promote the establishment of various compliance systems, including anti-unfair competition compliance, data compliance, and safety and environmental compliance, etc. This enables us to constantly refine our compliance management system and reducing operation risks.

We continue to improve the compliance management operation guarantee mechanism and supporting systems while comprehensively standardizing the construction of the compliance system in line with a series of internal management systems, including the *Internal Audit Management System*, the *Work Plan for Standardized Implementation of Internal Control*, the *Responsibility and Accountability Management System*, and the *Laws, Regulations and Other Requirements and Compliance Evaluation Control Procedures*. In 2023, we continued to improve the internal control system by revising the *Internal Audit Management System* and the *Responsibility and Accountability Management System* and adding the *Compliance Management System*, thereby advancing our compliance work in a steady and orderly manner.

In terms of compliance risk management of overseas business, JA Solar strictly observes the relevant laws and regulations on international trade and has issued the *Export Control Compliance System* to ensure the legal export of our products and reduce the potential impact caused by overseas trade restrictions. As of the end of 2023, JA Solar had not been subject to any economic sanctions anywhere in the world.

JA Solar attaches great importance to enhancing employees' compliance awareness through training. We have formulated the *Code of Conduct*, which imposes specific constraints on employees' ethical code of conduct. In 2023, we provided compliance training courses for senior executives and employees, covering topics such as restrictions on import & export trade, anti-money laundering, economic sanctions, and forced labor compliance. Facilitated by senior lawyers, the courses helped trainees deepen their understanding of relevant laws and regulations and enhance their compliance awareness through case analysis and practical instructions.

3.2.2 ANTI-MONOPOLY AND ANTI-UNFAIR COMPETITION

JA Solar strictly observes the *Anti-Monopoly Law of the People's Republic of China*, the *Anti-Unfair Competition Law of the People's Republic of China*, the *Foreign Trade Law of the People's Republic of China* and the laws and regulations of local places of our overseas operations. We proactively fulfill our legal obligation in terms of anti-monopoly and anti-unfair competition, seek to create a market environment for fair play, and resolutely oppose unfair means used to restrict or exclude market competition. This allows us to ensure the healthy and orderly development of the market.

To further improve our anti-unfair competition management system, JA Solar issued the *Global Compliance System for Anti-monopoly and Competition Law* in 2023, which requires all company personnel to comply with this system, as well as relevant laws and regulations on competition and anti-monopoly in all jurisdictions where our business is involved. As a comprehensive guideline on unfair competition for our Company, this system provides comprehensive guidance in addressing unfair competition and clarifies the potential adverse impacts, including those resulting from legal consequences. At the same time, to reduce operational compliance risks, we have organized training sessions on anti-monopoly regulation to continuously enhance employees' compliance awareness while laying a solid foundation for the Company's steady development.

Internal Training on Anti-monopoly Regulation

CASE

In October 2023, with the objective of helping employees gain a deeper insight into anti-monopoly regulations and improve their capacity in practical application and ensure our compliance development amidst the market environment with fierce competition, we invited a third-party professional institute and carried out special training on anti-monopoly and competition law for relevant employees. The training explained in detail the core provisions and latest policy trends of anti-monopoly regulations. Through the analysis of typical cases at home and abroad, the training enhanced employees' awareness of anti-monopoly, and improved their ability to incorporate anti-monopoly regulations in their actual work, thereby laying a solid foundation for our compliance development.

3.2.3 ANTI-CORRUPTION

Constructing Integrity System

In pursuit of the corporate spirit of "Being genuine, simple, respectful and restrained, grateful", JA Solar strictly abides by the code of business ethics, and is committed to creating a clean and upright corporate culture. We have always observed local laws and regulations when carrying out business and commercial activities worldwide and we resolutely prohibit all practices of acquiring business in an improper way.

JA Solar strictly adheres to the standards of business ethics and spares no efforts to build an integrity system that strictly regulates and prevents embezzlement and corruption. We comply with the *Anti-Money Laundering Law of the People's Republic of China* and other relevant laws and regulations, including those pertaining to anti-bribery, anti-fraud, anti-extortion and anti-money laundering of each local area where our overseas business is operated. The Board of Directors and its subordinate committees have formulated and reviewed a series of systems such as the *Anti-Fraud Reporting and Handling Procedures*, which are fully implemented alongside the standardization of the business ethics management system. The Board of Directors also supervises and updates the system on a regular basis. In 2023, we revised and updated the *Anti-Fraud Reporting and Handling Procedures* and other systems, providing an institutional foundation for building a complete integrity system.

In terms of organizational structure, our Audit Committee under the Board of Directors is responsible for coordinating audit and supervision, conducting business sorting, anti-fraud supervision and risk assessment through control testing, and identifying potential risks and vulnerabilities in operation and management based on internal and external reporting clues. During the reporting period, the Audit Committee continued to improve the relevant governance systems, and resolutely cracked down on violations of laws and regulations, thereby providing a solid guarantee for the robust and stable operation of our Company.

At the same time, JA Solar attaches great importance to the business ethics performance of our partners. We issued an *Open Letter to JA Solar Partners*, which requires our partners to abide by business ethics and eliminate corruption and fraud. At the same time, we have signed the *Agreement on Honest Cooperation* with our suppliers and formulated a detailed *Code of Conduct for Suppliers*, which clarifies that the relationship between company employees and customers must not violate any laws and must comply with applicable professional or industry codes.

Moreover, JA Solar regularly conducts due diligence on third-party partners through public and legal channels, with supervision and management of the integrity performance of our dealers. Any supplier who violates JA Solar's business ethics code will be blacklisted, and we will cease all business cooperation immediately. In 2023, we advocated integrity requirements through the *Agreement on Honest Cooperation*, our WeChat public account and other means to continuously strengthen suppliers' anti-corruption and integrity awareness.

To establish smooth reporting and complaint channels, JA Solar has formulated the *Management System for Informer Protection and Integrity Reporting*, so as to provide internal and external stakeholders with multiple reporting channels such as Official WeChat accounts, complaint hotlines, and email addresses. Once we receive information from reports, we will hand the case over to the Internal Audit Department immediately for preliminary screening and in-depth investigation. As for suspected criminal acts, we will hand them over to the Legal Department for processing. We set up the "SpeakUp" reporting mechanism for overseas markets, thus providing a safe, convenient, and transparent reporting channel for all our personnel, partners and other stakeholders.

JA Solar sets great store by the protection of informers. We keep the informers and relevant information strictly confidential while strictly prohibiting all forms of blackmail, threats and retaliation against informants. Anyone held accountable for violation of confidentiality provisions will be punished strictly and severely. At JA Solar, we have zero tolerance for all personnel involved in violating regulations and engaging in fraudulent practices. In 2023, we updated the *Management System for Informer Protection and Integrity Reporting*, supplementing rules for rewards for informers and rules for integrity declaration, along with clarifications of our reporting and integrity declaration channels.

During the reporting period, we evaluated the risk of corruption of all operation sites, and there were no lawsuits or cases involving corruption or violation of business ethics.

Ensuring Smooth Complaint Channels

Access from "JA Integrity"



JA Solar internal and external complaint & reporting channel

DingTalk: JA Solar workbench-Integrity reporting
Tel: 010-63611911 | QQ: 3476840246
WeChat: LianJieJA | Email: antifraud@jasolar.com
Address: JA Solar Audit Committee, No. 8 Building, Nuode Center, Fengtai District, Beijing

Advocating Integrity Culture

JA Solar advocates a corporate culture of honesty and integrity as we continue to carry out anti-corruption education on a regular basis. We also regularly publish posts on our Official WeChat account "LianJieJA", to continuously enhance our employees' anti-corruption awareness. In addition, JA Solar has designated December as the "Integrity Publicity Month". During December each year, we strengthen training and education for all employees through a series of activities themed on "Shaping a Spirit of Integrity and Building a Great Enterprise", proactively promoting the construction of enterprise integrity and compliance.

During the reporting period, JA Solar continued to step up efforts in integrity promotion, and guided employees' honest practice in work through diversified training activities, such as induction training, system training, and case sharing, in forms of Official WeChat account and integrity agreements. We also published integrity promotion videos and online courses on the Company's "Yidian Zhishi" learning platform. All employees are required to complete the courses and submit questionnaires, thereby ensuring that they are more involved. In 2023, JA Solar conducted five training sessions on business ethics and anti-corruption, and the training attendance reached 98,204. In addition to employee integrity training, JA Solar also regularly conducts integrity education and training for suppliers and dealers to enhance their awareness of integrity.

To build a clean and honest business environment in the industry, JA Solar has joined the Trust and Integrity Enterprise Alliance and Enterprise Anti-Fraud Alliance, serving as a governing member of the Alliances. We work to build a clean and compliant business environment together with our partners through the platform.

Number of attendance in JA Solar's business ethics and anti-corruption training in 2023

98,204

JA Solar Signed the "Call-to-Action on Underscoring Anti-Corruption and Good Governance" by UNGC

CASE

In December 2023, JA Solar officially signed the "Call-to-Action on Underscoring Anti-Corruption and Good Governance" initiated by the United Nations Global Compact (UNGC). The Call-to-Action was initiated by UNGC on the occasion of the 20th anniversary of the United Nations Convention against Corruption. It is a call from businesses to governments for stepping up efforts to address corruption that affects businesses worldwide.

WE SUPPORT



Awarded with the "Private Enterprise Integrity and Compliance Innovation Award"

CASE

In August 2023, JA Solar participated in the 2nd "Private Enterprise Integrity and Compliance Innovation Award" and "Private Enterprise Integrity and Compliance Innovation" high-end forum. JA Solar was awarded with an award for its outstanding performance and remarkable achievements in integrity, compliance and anti-corruption. Jointly initiated by the Criminal Justice College of East China University of Political Science and Law (ECUPL) and Internet Enterprise Anti-Corruption and Compliance Research Institute of ECUPL, the award is the first academic and professional award for integrity and compliance of private enterprises nationwide.

Call-to-Action UNCAC at 20

Join the appeal on behalf of companies for Governments to underscore anti-corruption and good governance.

Sign the Call-to-Action by
1 December 2023



3.3 PROTECTING INTELLECTUAL PROPERTY RIGHTS

JA Solar is well aware of the core position of independent IPRs in technological innovation. We follow the market-oriented strategy and talents as the cornerstone of our development. We continuously strengthen IPR management and consistently enhance our core competitive edges, thereby providing strong support for technological innovation. We strictly abide by relevant laws and regulations such as the *Patent Law of the People's Republic of China* and the *Rules for the Implementation of the Patent Law of the People's Republic of China*, and have formulated and implemented a series of internal rules and regulations such as the *Measures for Management of Intellectual Property Rights* and the *Measures for Management of Trade Secrets*, all of which are aimed at clarifying patent protection measures and penalties for violations.

JA Solar attaches great importance to the management of IPR risks and has established a robust IPR management system, ensuring that patent management fully covers all aspects of product development, production and sales. During the reporting period, JA Solar had continuously improved its IPR management and refined its IPR management system as well as rights protection mechanisms from patents, trademarks, technical secrets, to software copyrights.

To avoid the risk of product infringement, we ramp up efforts in FTO (Free to Operate) investigation, carrying out in-depth investigations in solar cell technologies such as TOPCon, IBC and HJT, as well as the critical bus bar technology by integrating internal IPR team and external lawyer team.

In 2023, JA Solar vigorously embraced digital transformation, which resulted in the successful launch of the patent management system. We have also achieved all-process digitalization and intelligence of patent management. The system covers the filing and review of patent proposals, as well as post-authorization maintenance, rights protection and operation of the patent. By tracking the status of the patents in real time, the system improves the accuracy and traceability of patent information and optimizes patent management efficiency.

At the same time, JA Solar actively advances the cultivation and protection of the brand while steadily promoting trademark registration and protection strategies worldwide. We make strategic plans for trademarking before a new product is released, thereby incorporating the brand into the track of legal protection to ensure the effectiveness of trademark. We quickly respond to trademark infringement in the market by monitoring the latest developments of core trademarks in real time. We resolutely cease any infringement identified through sending letters, filing complaints, and taking other measures, effectively preventing trademark infringement and safeguarding the legitimate rights and interests of our Company and the brand image. We were granted 25 registered trademarks in 2023. By the end of the year, we had accumulately obtained a total of 310 registered trademarks granted domestically and internationally.

Newly granted trademarks granted in 2023 **25**

Accumulately obtained trademarks granted domestically and internationally **310**

Key Performance

As of December 31, 2023, the number of valid granted patents JA Solar held reached **1,263**

In 2023, the number of newly granted patents reached **138**

JA Solar Establishes PV Industry IPR Operation Center

CASE

In January 2023, JA Solar officially received support from the China National Intellectual Property Administration (CNIPA) in accordance with the *Letter on Supporting the Construction of the PV Industry IPR Operation Center*, to build an IPR operation center that is currently the only one of its kind at national level in the field of PV manufacturing (excluding polysilicon) in China.

Relying on the Center, JA Solar seeks to enhance the stability and competitiveness of industrial and supply chains. We integrate relevant IPR service resources with a focus on developing IPR operation service capabilities. In this way, we can create high-quality IPR, foster sound IPR portfolio planning and generate higher benefits through IPR, thereby boosting the high-quality development of the PV industry.

3.4 SAFEGUARDING INFORMATION SECURITY

JA Solar attaches great importance to information security and privacy protection during operations. We strictly observe the *Data Security Law of the People's Republic of China*, the *Personal Information Protection Law of the People's Republic of China* and other laws, and have formulated a series of rules and regulations, such as the *Measures for Management of Trade Secrets*, the *Information Security Management Procedures* and the *System and Cybersecurity Management Regulations*. By continuously refining our information security and privacy protection system, we ensure the information security of our employees, customers and partners.

In response to the public emergencies involving cybersecurity and information security, JA Solar has formulated the Management System for Emergency Response of Security Incidents, which clarifies the departments held accountable for emergency response, thereby ensuring the stability and security of important computer information systems in case of emergencies. In 2023, we formulated the Management System for Emergency Response of Business Continuity, which strengthens the response management of system emergency plans and ensures the continuity of our business.

JA Solar's organizational structure for information security emergency response



When it comes to data security, we exercise strict control over access to data using security technology, conduct security detection and defense for personal terminal data, and monitor key data and file formats in data traffic under specific conditions. We also take strict data encryption measures in special scenarios and circumstances. In 2023, JA Solar initiated the assessment for classified protection of core system as well as the certification of ISO27001 information security management system and ISO27701 privacy management system. It is expected that in October 2024, we will pass the certification, which covers the headquarters and 9 companies/bases of the listed parent company.

For data security protection of overseas operation sites, we process personal data in strict accordance with EU's *General Data Protection Regulation (GDPR)* and the *Federal Data Protection Act (FDPA)* alongside other relevant laws and regulations on privacy policies required by the operation site. Furthermore, we sign standard contractual clauses (SCCs) for cross-border data transmission. At the same time, we appoint Data Protection Officers (DPOs) who will be responsible for data protection and data compliance management, thus providing a solid guarantee for data security in our operation sites overseas.

To strengthen suppliers' information security and privacy management, JA Solar signs the *Mutual Confidentiality Agreement* with its suppliers, so as to protect the privacy and information ownership of both parties. At the same time, we conduct training on information security for suppliers who enter our operation sites for project implementation. The training covers safety operations in computer rooms, computer room fire safety, and control strategy for cybersecurity-related access. As for long-term resident suppliers on site, we sign the *Cybersecurity Commitment Letter* with them, which further guarantees the information security of supply chain.

On this basis, we also carry out information security training for employees in order to continuously enhance their awareness of information security and privacy protection. In 2023, based on the "Yidian Zhishi" online learning platform, we added the content of mandatory training on information security awareness for all employees. 100% of employees benefited from the training. At the same time, we proactively carried out activities for information security week, with a total of 37 sessions of offline training on information security organized, and employees' training attendance reaching 1,760 times. During the reporting period, we had no complaints arising from infringement of customer privacy rights or loss of customer information.

In 2023, our Digitalization and Engineering Center organized the "Information Security Week-Email Security" special event, to enable the headquarters and all bases to jointly hold training on information security awareness and broadcast the training simultaneously within the Company. We combined phishing email simulation exercises with offline training to enhance all employees' awareness of email security protection.

Key Performance

Coverage rate of employee information security training is

100%

"Information Security Week-Email Security" Special Event

CASE

KEY PERFORMANCE INDICATORS

Primary Indicators	Secondary Indicators	Unit	2022	2023
ECONOMIC PERFORMANCE				
Operating Income		RMB 10 ⁸	729.89	815.56
Net Profits Attributable to the Parent Company		RMB 10 ⁸	55.33	70.39
Shipment of Cells and Modules		GW	39.75	57.09 ¹
ENVIRONMENTAL MANAGEMENT SYSTEM				
Non-compliance with Environmental Laws and Regulations	Amount of Fines	RMB 10 ⁴	0	0
	Number of Incidents	case	0	0
	Cases Brought through Dispute Resolution Mechanisms	case	0	0
Employee Environmental Training	Number of Sessions	session	345	434
	Number of Employees Participating	attendance	13,420	45,402
ENERGY MANAGEMENT				
Energy Consumption	Integrated Energy Consumption	tce	537,311.85	799,359.32
	- Electricity Consumption	MWh	4,293,020.17	6,472,368.61
	- Natural Gas Consumption	10 ⁴ m ³	40.64	107.85
	- Coal Consumption	tonne	0	0
	- Diesel Consumption (burning of stationary source)	tonne	8.14	15.64
	- Diesel Consumption (burning of movable source)	tonne	265.13	338.56
	- Motor Gasoline	tonne	101.45	231.29
	- LPG Consumption	tonne	137.30	6.09
	- Heating Consumption	GJ	245,498	46,981.63
	- LNG Consumption	tonne	—	0.54
	Total Energy Consumption (Non-renewable Energy)	tce	396,108.76	579,009.62
	Total Energy Consumption (Renewable Energy)	tce	141,203.09	220,349.70
	Electricity Consumption	MWh	4,293,020.17	6,472,368.61
	- Market-based Purchase of Green Electricity	MWh	1,115,023.11	1,725,983.91
	- Other Purchased Electricity	MWh	3,144,093.46	4,679,449.96
	- In-plant Distributed Green Electricity Consumption	MWh	33,903.61	66,934.74
	Energy Intensity	Integrated Energy Consumption Intensity	tce/RMB 10 ⁸	736.15
Scale of Self-owned PV Station	Scale of Self-owned PV Station	MW	963	2,165
	- Scale of Self-owned PV Station-Centralized	MW	788	788
	- Scale of Self-owned PV Station-Distributed	MW	175	1,377
	Self-generated Distributed PV Plant	MW	50	138

¹ Includes 2.156 GW of self-consumption.

Primary Indicators	Secondary Indicators	Unit	2022	2023
WATER RESOURCES USE AND MANAGEMENT				
Water Withdrawal	Total Water Withdrawal	m ³	23,838,835.03	30,924,897.90
	Water Withdrawal by Source			
	- Municipal Water	m ³	18,369,057.10	28,885,382.90
	- Rainwater Collected and Stored Directly by Enterprises	m ³	18,000.00	36,027.00
	- Wastewater from Other Enterprises or Organizations	m ³	—	—
	- Ground Water	m ³	5,451,777.93 ¹	2,003,488.00
	- Surface Water	m ³	—	—
	Water Withdrawal from Areas under ater Resources Stress	m ³	—	7,395,522.00
Water Discharge	Total Wastewater Discharge	m ³	20,538,665.96	23,618,520.50
	By Discharge Destination			
	- Discharged to Sewage Pipes	m ³	16,067,278.96	23,618,520.50
	- Discharged to Surface Waters	m ³	—	—
	- Discharged to Ground Waters	m ³	—	—
	- Discharged to Other Destinations	m ³	4,471,387.00	—
		Water Discharged to Areas under Water Resources Stress	m ³	—
Water Consumption ²	Total Water Consumption	m ³	3,300,169.07	7,306,377.41
	Water Consumption from All Areas under Water Resources Stress	m ³	—	2,014,135.58
Water Resources Recycling and Use	(Reuse of Reclaimed Water) Recycling Rate of Water Resources ³	—	—	84%
	(Reuse of Reclaimed Water) Recycled Amount of Water Resources	m ³	6,627,645.63	162,141,605.34
EMISSIONS AND WASTE MANAGEMENT				
Other Significant Gas Emissions	Nitrogen Oxide (NOx) Emissions	kg	5,503.77	4,870.93
	Sulfur Oxide (SOx) Emissions	kg	111.98	171.50
	Volatile Organic Compounds (VOCs) Emissions	kg	91,617.74	107,821.00
	Particulate Matter (PM) Emissions	kg	89,684.79	97,062.91
	Ammonia	kg	23,469.84	95,122.06
	Fluoride	kg	21,759.99	28,504.85
	Waste	Total Hazardous Waste	tonne	2,132.52
Total Non-hazardous Waste		tonne	113,125.64	236,509.31
Amount of Waste Recycled		tonne	54,390.50	171,700.77
- Amount of Hazardous Waste Recycled		tonne	93.90	231.51
- Amount of Non-hazardous Waste Recycled		tonne	54,296.60	171,469.26

¹ The data for 2022 is revised according to the latest statistical standards² According to GRI 303-5, water consumption = water withdrawal - water discharge³ Recycled amount of water resources/(recycled amount of water resources+water withdrawal)×100% = recycling rate of water resources

Primary Indicators	Secondary Indicators	Unit	2022	2023
COMBATING CLIMATE CHANGE				
GHG Emissions	Total GHG Emissions (Scope 1+Scope 2)	tCO ₂ e	1,879,379	2,871,963
	- Scope 1: Direct GHG Emissions	tCO ₂ e	45,268	109,178
	- Scope 2: GHG Emissions from Purchased Energy	tCO ₂ e	1,834,111	2,762,785
	GHG Emissions (Scope 1+Scope 2) Intensity	tCO ₂ e/RMB hundred million	2,574.88	3,521.45
	Scope 3: Other Indirect GHG Emissions	tCO ₂ e	15,702,382	24,351,855
	- Indirect GHG Emissions from Transportation (Category 3)	tCO ₂ e	—	771,076
	- Indirect GHG Emissions from Products Used by Organizations (Category 4)	tCO ₂ e	—	22,895,695
	- Indirect GHG Emissions Related to the Use of Products by Organizations (Category 5)	tCO ₂ e	—	685,084
	- Indirect GHG Emissions from Other Sources (Category 6)	tCO ₂ e	—	0
	EMPLOYMENT			
Number of Employees	Total Number of Employees	person	—	50,258
	- Number of Full-time Employees	person	29,900	46,147
	- Labor Outsourcing/Labor Dispatch	person	2,633	4,097
	- Part-time Employees	person	58	14
	- Working in Mainland China	person	27,003	42,706
	- Working in Hong Kong, Macao and Taiwan (China), and Overseas	person	2,897	3,441
DIVERSITY AND EQUAL OPPORTUNITIES				
Management by Gender	Male	person	104	148
	Female	person	13	28
Management by Age	Under 30 years old	person	0	0
	30-50 years old	person	101	156
	Over 50 years old	person	16	20
Employees by Gender (with Full-time Labor Contracts)	Male	person	21,285	33,320
	Female	person	8,615	12,827
Employees by Age (with Full-time Labor Contracts)	Under 30 years old	person	10,013	19,634
	30-50 years old	person	19,690	26,311
	Over 50 years old	person	197	202
Other Diversity Indicators of Employees	Minority Employees	person	944	4,080
	Disabled Employees	person	27	32

Primary Indicators	Secondary Indicators	Unit	2022	2023
EMPLOYEE TRAINING AND DEVELOPMENT				
Employee Training	Average Training Hours per Employee	hour	55.68	56.28
	- Male Employees	hour	—	55.70
	- Female Employees	hour	—	57.80
	- Senior Management	hour	42.58	116.00
	- Middle Management Employees	hour	104.69	111.00
	- Front-line Employees	hour	28.87	43.00
	Employees Who Participated in Trainings	attendance	19,270 ¹	1,242,563
	- Male Employees	attendance	—	874,227
	- Female Employees	attendance	—	368,336
	- Senior Management	attendance	1,858	1,921
	- Middle Management Employees	attendance	6,452	17,602
	- Front-line Employees	attendance	10,960	1,223,040
	Professional Training	Internal and External Professional Training	session	17,117
		attendance	—	610,776
		hour	—	169,667
Funded External Professional Training		session	—	5,270
		attendance	1,901	11,730
	hour	17,684	223,442	
	RMB 10 ⁴	238.88	592.00	
Career Development	Proportion of Employees Accepting Regular Performance and Career Development Reviews	—	100%	100%
OCCUPATIONAL HEALTH AND SAFETY				
Occupational Health	Percentage of Employees Covered by Occupational Health and Safety Management System	—	100%	100%
	Number of Health and Safety Trainings	session	8,711	8,320
	Employees Participated in Occupational Health and Safety Training	attendance	362,732	179,187
Occupational Injuries	Number of Employee Deaths due to Work-related Injuries	person	1	1
	Percentage of Employee Deaths due to Work-related Injuries	—	0	0
	Work Wastage Rate per Million Working Hours	—	0.47	0.29
	Number of Employees Suffering from Occupational Diseases	person	0	0

¹ Employee training data in 2022 only covered 2,357 employees who have registered on JA online learning platform.

Primary Indicators	Secondary Indicators	Unit	2022	2023
R&D INNOVATION AND IPRS PROTECTION				
R&D Innovation	R&D Expenses	RMB 10 ⁸	46.08	44.46
	Number of R&D Employees	person	2,276	2,426
Intellectual Property Protection	Cumulative Number of Patent Granted	number	1,260	1,263
	Number of Newly Authorized Patents Granted during the Reporting Period	number	215	138
PRODUCT AND SERVICE INFORMATION AND LOGOS				
Number of Product Categories for Which Environmental and Social Impacts are Assessed during the Reporting Period		category	—	26
The Company's Total Product Category in the Reporting Period		category	—	29
Percentage of Assessed Products out of All ^①		—	—	90%
CUSTOMERS RIGHTS AND INTERESTS PROTECTION				
Customer Satisfaction Rate		score	96.48	95.99
SUPPLY CHAIN MANAGEMENT				
Negative Environmental Impacts in the Supply Chain and Actions Taken	Number of Suppliers that Have Undergone Social and Environmental Impact Assessment	supplier	190	220
	Number of Suppliers Identified for Having Actual and Potential Significant Negative Environmental Impacts	supplier	0	0
	Number of Suppliers Identified for Having Actual and Potential Significant Negative Social Impacts	supplier	0	0
ANTI-CORRUPTION AND BUSINESS ETHICS				
Percentage of Operation Sites that have Accepted Corruption Risk Assessment		—	100%	100%
Confirmed Lawsuits and Cases Involving Corruption or Violation of Business Ethics		case	0	0
Training on Anti-corruption and Business Ethics	Employees Participated in Anti-corruption Related Training	attendance	3,177	98,204
	Number of Anti-corruption Training	session	4	5
INFORMATION SECURITY AND PRIVACY PROTECTION				
Customer Privacy Protection	Number of Substantiated Complaints of Invasion of Customer Privacy and Loss of Customer Data	compliant	0	0
Data Security Training for Employees	Number of In-person Training on Employee Personal Information Security	session	24	37
	Number of Employees that Participated in Information Security Training	attendance	5,623	49,878 ^②
CORPORATE GOVERNANCE				
Number of Board of Directors		person	9	9
Number of Females among the Board of Directors		person	3	3
COMMUNITY INVESTMENT				
Public Welfare Donations	Donations in the "Three Major Projects for the Benefit of the People"	RMB 10 ⁴	167.51	178.56
	Donation of Overseas Assistance	RMB 10 ⁴	20.56	70.36

① Percentage of assessed products in all products (%) = product categories for which environmental and social impacts are assessed/total number of product categories × 100%

② Including 48,118 attendance in online training and 1,760 in offline training

GRI CONTENT INDEX

Disclosure	Pages
GRI 2: General Disclosures 2021	
2-1 Organizational details	About This Report; 003-004
2-2 Entities included in the organization's sustainability reporting	About This Report
2-3 Reporting period, frequency and contact point	About This Report
2-5 External assurance	117-118
2-6 Activities, value chain and other business relationships	003-004
2-7 Employees	078-079; 107-111
2-8 Workers who are not employees	078-079; 107-111
2-9 Governance structure and composition	015-020; 053-057; 097
2-10 Nomination and selection of the highest governance body	097; 098
2-12 Role of the highest governance body in overseeing the management of impacts	015-020
2-13 Delegation of responsibility for managing impacts	015-020; 053-057
2-14 Role of the highest governance body in sustainability reporting	015-020
2-16 Communication of critical concerns	015-020; 085-087
2-17 Collective knowledge of the highest governance body	015-020; 053-057; 097
2-18 Evaluation of the performance of the highest governance body	015-020
2-19 Remuneration policies	078-079; 097
2-20 Process to determine remuneration	097
2-22 Statement on sustainable development strategy	003-004; 011-014
2-23 Policy commitments	074; 075; 076; 101
2-27 Compliance with laws and regulations	101; 107-111
2-28 Membership associations	003-004
2-29 Approach to stakeholder engagement	015-020
2-30 Collective bargaining agreements	088-089
GRI 3: Material Topics 2021	
3-1 Process to determine material topics	015-020
3-2 List of material topics	015-020
3-3 Management of material topics	015-020
GRI 201: Economic Performance 2016	
201-1 Direct economic value generated and distributed	003-004; 107-111
201-2 Financial implications and other risks and opportunities due to climate change	053-057
GRI 203: Indirect Economic Impacts 2016	
203-1 Infrastructure investments and services supported	003-004; 063-066; 067-068; 090
203-2 Significant indirect economic impacts	063-066; 090; 105
GRI 205: Anti-corruption 2016	
205-1 Operations assessed for risks related to corruption	102-104; 107-111
205-2 Communication and training about anti-corruption policies and procedures	102-104; 107-111

Disclosure	Pages
GRI 206: Anti-competitive Behavior 2016	
206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	102
GRI 301: Materials 2016	
301-1 Materials used by weight or volume	051-052
301-2 Recycled input materials used	050
301-3 Reclaimed products and their packaging materials	051-052
GRI 302: Energy 2016	
302-1 Energy consumption within the organization	041-042; 107-111
302-2 Energy consumption outside of the organization	107-111
302-3 Energy intensity	107-111
302-4 Reduction of energy consumption	041-042
302-5 Reductions in energy requirements of products and services	041-042; 063-066
GRI 303: Water and Effluents 2018	
303-1 Interactions with water as a shared resource	043-044; 107-111
303-2 Management of water discharge-related impacts	043-044; 107-111
303-3 Water withdrawal	043-044; 107-111
303-4 Water discharge	043-044; 107-111
303-5 Water consumption	043-044; 107-111
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	048
GRI 305: Emissions 2016	
305-1 Direct (Scope 1) GHG emissions	053-057; 107-111
305-2 Energy indirect (Scope 2) GHG emissions	053-057; 107-111
305-3 Other indirect (Scope 3) GHG emissions	053-057; 107-111
305-4 GHG emission intensity	053-057; 107-111
305-5 Reduction of GHG emissions	053-057
305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	053-057; 107-111
GRI 306: Waste 2020	
306-1 Waste generation and significant waste-related impacts	045-047
306-2 Management of significant waste-related impacts	045-047; 107-111
306-3 Waste generated	045-047; 107-111
306-4 Waste diverted from disposal	045-047; 107-111
306-5 Waste directed to disposal	045-047; 107-111
GRI 308: Supplier Environmental Assessment 2016	
308-1 New suppliers that were screened using environmental criteria	074; 075; 076; 107-111
308-2 Negative environmental impacts in the supply chain and actions taken	074; 075; 076; 107-111

Disclosure	Pages
GRI 401: Employment 2016	
401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	088-089; 107-111
401-3 Parental leave	088-089
GRI 403: Occupational Health and Safety 2018	
403-1 Occupational health and safety management system	085-087
403-2 Hazard identification, risk assessment, and incident investigation	085-087; 107-111
403-3 Occupational health services	085-087
403-4 Worker participation, consultation, and communication on occupational health and safety	085-087
403-5 Worker training on occupational health and safety	085-087
403-6 Promotion of worker health	085-087; 088-089
403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	085-087
403-8 Workers covered by an occupational health and safety management system	085-087
403-9 Work-related injuries	085-087; 107-111
403-10 Work-related ill health	085-087
GRI 404: Training and Education 2016	
404-1 Average hours of training per year per employee	080-084; 107-111
404-2 Programs for upgrading employee skills and transition assistance programs	080-084
404-3 Percentage of employees receiving regular performance and career development reviews	107-111
GRI 405: Diversity and Equal Opportunity 2016	
405-1 Diversity of governance bodies and employees	078-079; 097; 107-111
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	088-089
GRI 408: Child Labor 2016	
408-1 Operations and suppliers at significant risk for incidents of child labor	074; 078-079
GRI 409: Forced or Compulsory Labor 2016	
409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	074; 075; 078-079
GRI 413: Local Communities 2016	
413-1 Operations with local community engagement, impact assessments, and development programs	090-094
GRI 414: Supplier Social Assessment 2016	
414-1 New suppliers that were screened using social criteria	074; 075
414-2 Negative social impacts in the supply chain and actions taken	074; 075
GRI 416: Customer Health and Safety 2016	
416-1 Assessment of the health and safety impacts of product and service categories	069-070
GRI 418: Customer Privacy 2016	
418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	073; 106; 107-111



Verification Statement of GHG emissions

Certificate No. : CGC-CC&SS-CN20240013

Company Name : JA Solar Technology Co., Ltd.

Address : Ningjin County, Xingtai City, Hebei Province

Reporting Period : 01/01/2023- 31/12/2023

Applied Standards : ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

Reporting Boundary : GHG emissions from global operations

GHG Included : CO₂ CH₄ N₂O HFCs PFCs SF₆ NF₃

GHG Emissions :	Direct GHG emissions (Category 1) :	109,178 tCO ₂ e
	Indirect GHG emissions from imported energy (Category 2) :	2,762,785 tCO ₂ e
	Total GHG emissions quantified above:	2,871,963 tCO ₂ e

The organization verifies in accordance with ISO 14064-3 that the above organization-level GHG accounting complies with the selected standards and that the results are accurate, conservative and credible.



Verification Statement of GHG emissions

Certificate No. : CGC-CC&SS-CN20240014

Company Name : JA Solar Technology Co., Ltd.

Address : Ningjin County, Xingtai City, Hebei Province

Reporting Period : 01/01/2023- 31/12/2023

Applied Standards : ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

Reporting Boundary : Other indirect GHG emissions from global business activities

GHG Included : CO₂ CH₄ N₂O HFCs PFCs SF₆ NF₃

GHG Emissions :	Indirect GHG emissions from transportation (Category 3) :	771,076 tCO ₂ e
	Indirect GHG emissions from products used by an organization (Category 4) :	22,895,695 tCO ₂ e
	Indirect GHG emissions associated with the use of products from the organization (Category 5) :	685,084 tCO ₂ e
	Indirect GHG emissions from other sources (Category 6) :	Not quantified
	Total GHG emissions quantified above:	24,351,855 tCO ₂ e

The organization verifies in accordance with ISO 14064-3 that the above organization-level GHG accounting complies with the selected standards and that the results are accurate, conservative and credible.



**INDEPENDENT
ASSURANCE REPORT**



ASSURANCE STATEMENT

SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE JA SOLAR TECHNOLOGY CO.,LTD. 2023 SUSTAINABILITY AND ESG REPORT

NATURE OF THE ASSURANCE/VERIFICATION

SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. (hereinafter referred to as SGS) was commissioned by JA SOLAR TECHNOLOGY CO.,LTD. (hereinafter referred to as JA Solar) to conduct an independent assurance of the Chinese version of JA Solar's sustainability and ESG report for 2023 (hereinafter referred to as the Report) .

INTENDED USERS OF THIS ASSURANCE STATEMENT

This Assurance Statement is provided with the intention of informing all JA Solar's Stakeholders.

RESPONSIBILITIES

The information in the Report and its presentation are the responsibility of the directors or governing body of Directors and ESG&Sustainability Committee of JA Solar. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all JA Solar's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognised assurance guidance and standards including the principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) GRI 1 Foundation 2021 for report quality, GRI 2 General Disclosure 2021 for organisation's reporting practices and other organizational detail, GRI 3 2021 for organisation's process of determining material topics, its list of material topics and how to manages each topic, and the guidance on levels of assurance contained within the AA1000 series of standards and ISAE3000.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options	Level of Assurance
SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)	Moderate

Assurance has been conducted at a moderatelevel of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA

The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

Reporting Criteria Options
GRI Standards 2021 (Reference)

ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, on-site interviewed with relevant employees including the JA Solar group which is located at Building 8, Noble Center, East Auto Museum Road, Fengtai District, Beijing, P.R. China.

LIMITATIONS AND MITIGATION

Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.
The carbon emission related data in the Report was directly adopted from the independent third party verification data and has not been double verified in this audit.
The on-site verification was only at the JA Solar group. The original data of all subsidiaries of JA Solar were not traced.
The assurance process only involved interviews with the heads of relevant departments and certain employees of group as well as consultation with relevant documents. No external stakeholders involved.

STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and verification, operating in multiple countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from JA solar, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with CCAA registered ISO 9001, ISO 14001 and ISO 45001 auditor, SGS recognized ISO37001 and CSR/ESG lead auditor.

FINDINGS AND CONCLUSIONS

ASSURANCE/VERIFICATION OPINION

On the basis of the methodology described and the verification work performed, the specified performance information included in the scope of assurance is accurate, reliable, and has been fairly stated.

The assurance team believes that the Report is with reference to the GRI Standards 2021.

Principles

Accuracy

JA Solar's information in the report was accurate, enable to release multiple qualitative and quantitative information with indicators for stakeholders.

Balance

The Report followed the balance principle and truthfully disclosed the positive and negative information.

Clarity

The Report was presented different ways with words, charts, graphics and pictures, also described with actual cases to ensure the stakeholders understanding easily.

Comparability

JA Solar conducted statistics and analysis on key quantitative performance indicators, and outlined their impact and purpose in the report. The report compares most of the key performance data over the last two years which could help stakeholders to understand and compare the improved performance year by year.

Completeness

The Report included coverage of material aspects and boundaries, to reflect significant economic, environmental and social impacts and enable stakeholders to assess the organization's performance in the reporting period.

Sustainability Context

JA Solar had presented the efforts on sustainability development related to economic, environmental and social aspects and combined the performance in the wide context as well.

Timeliness

Verification showed that the reported data and information was timely and effective.

Verifiability

The data and information can be traced and verified.

Management Approach

The Report had disclosed the management approach of identified material topics.

General Disclosures

The selected indicators were presented in accordance with GRI 2: general disclosures 2021.

Topic-Specific Disclosures

JA Solar's topic-specific disclosures related to the material topics in environmental, social and governance areas were in accordance with GRI Standards 2021.

Findings and recommendations

Good practices and recommendations for sustainability report and management process were described in the internal management report which has been submitted to the management of JA Solar for continuous improvement.

Signed:

For and on behalf of SGS-CSTC

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JA SOLAR SUSTAINABILITY AND ESG REPORT 2023

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