

## 开发太阳能 造福全人类

DEVELOP SOLAR POWER TO BENEFIT THE ENTIRE HUMAN RACE



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晶澳太阳能科技股份有限公司

# 2020 年可持续发展报告

JA SOLAR TECHNOLOGY CO., LTD.

2020 SUSTAINABLE DEVELOPMENT REPORT

## 关于本报告

本报告为晶澳太阳能科技股份有限公司及其子公司发布的第四份企业可持续发展报告或社会责任报告。报告中“晶澳太阳能科技股份有限公司”以“晶澳”“晶澳科技”“公司”“我们”表示。

### 时间范围：

本报告时间跨度自2020年1月1日至2020年12月31日，因项目的延续性，部分内容超出上述范围。发布周期为每年一期，上期报告发布于2020年8月。

### 报告边界：

本报告覆盖晶澳太阳能科技股份有限公司及下属各级子公司和生产基地。其中部分基地，如宁晋生产基地、邢台生产基地由多个公司组成。本报告中如果涉及单个公司时，会以单个公司名义体现；其他情形以生产基地名义体现。

### 涵盖内容：

本报告披露了晶澳太阳能科技股份有限公司的可持续发展实践，涵盖经济、社会、环境等方面绩效。

### 编写依据：

本报告编写参考了全球可持续发展标准委员会（GSSB）发布的《可持续发展报告标准》（GRI Standards）核心方案进行编制。

### 数据来源：

本报告中的数据主要来源于公司实际运行的原始记录和公司季报、年报等公开披露的正式文件。

### 报告声明：

我们保证本报告信息的可靠性、真实性、客观性，希望通过发布报告，加强与利益相关方的沟通与交流。

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联系邮箱：csr@jasolar.com

## ABOUT THIS REPORT

This is the fourth Corporate Social Responsibility Report or Sustainable Development Report released by JA Solar Technology Co., Ltd. and its subsidiaries. In this Report, "JA Solar Technology Co., Ltd." is also referred to as "JA Solar", "the Company" and "we".

### Time range:

The time span of this Report is from January 1, 2020 to December 31, 2020. Due to the continuity of the project, some contents are beyond the above time range. The report is released annually, with the last one was released in August 2020.

### Report boundary:

JA Solar Technology Co., Ltd. as well as its subsidiaries and manufacturing bases at all levels are covered by this Report. Some of the manufacturing bases, such as Ningjin Manufacturing Base and Xingtai Manufacturing Base, are composed of several companies. If a single company is involved in this Report, it will be reflected in the name of the single company; in other cases, the name of the concerning manufacturing base will be used in this Report.

### Contents:

This report discloses sustainable development practices of JA Solar Technology Co., Ltd., involving the performance on economy, society and environment etc.

### Basis of preparation:

This report is prepared by reference to the core plan of GRI Standards issued by the Global Sustainable Development Standards Board (GSSB).

### Data source:

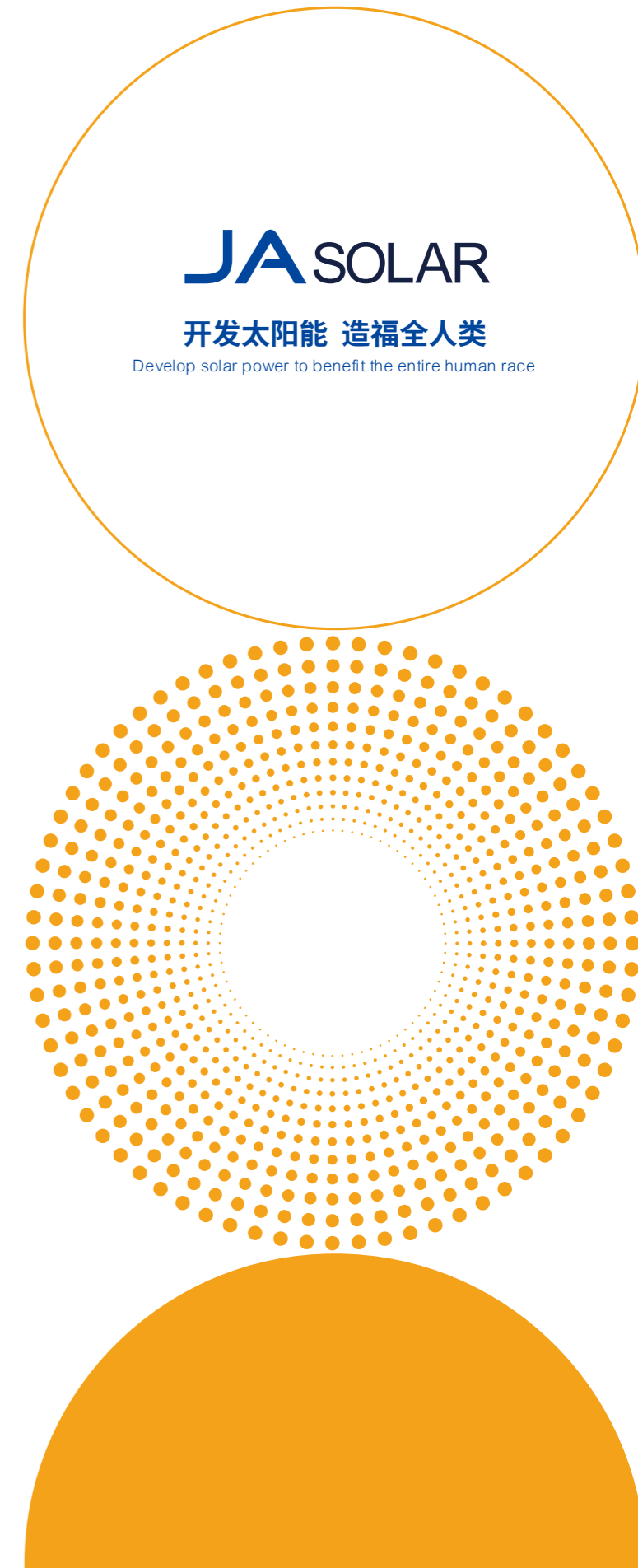
The data in this Report come mainly from publicly disclosed operations records and official documents such as quarterly reports and annual report of the Company.

### Report statement:

We guarantee the reliability, authenticity and objectivity of the information in this Report. Through this Report, we hope to strengthen communication and exchange with our stakeholders.

### Availability:

The Report is presented in both electronic and paper formats. To request an electronic version or paper version of this Report, please give us a call or email.  
Tel: +86-10-63611888  
E-mail: csr@jasolar.com



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## 董事长致辞 CHAIRMAN'S STATEMENT

“我们从事的是绿色新能源产业，是造福人类的伟大事业，‘开发太阳能、造福全人类’是我们晶澳对社会对人类做出伟大贡献的底色追求。”

2020年，新冠疫情突如其来，加剧了全球的不确定性。但有一点可以确信，绿色发展、绿色能源已成为全球共识和必然趋势。晶澳有幸从事这一伟大事业，15年耕耘奋斗，秉持“开发太阳能，造福全人类”使命，为和谐社会、绿色地球贡献晶澳力量。

我们已为全球130多个国家和地区提供光伏电池组件，这些产品持续不断地为世界带来绿色电力。我们始终关注客户价值，潜心技术研发，率先推出并量产基于182mm硅片的高功率组件，让客户受益更优质的光伏发电解决方案。我们坚持稳健经营、绿色制造，与多家合作伙伴建立战略合作关系，稳步扩大垂直一体化产能优势，打造上下游共生的生态圈。我们积极履行社会责任，率先为抗击疫情捐款捐物，科学防疫保障员工健康，持续开展“光伏+”精准扶贫工作。我们高度重视合规经营，坚持诚信为本，努力成为一家最受信赖的公司。

大道不孤，笃行致远！展望未来，我国提出2030年“碳达峰”、2060年“碳中和”宏伟目标，多个国家提高减排目标，全球正在加速拥抱“脱碳”时代。晶澳将坚守初心，乘势奋进，与各相关利益方一道，共创人类绿色美好生活新篇章。

——晶澳科技董事长 

“We are engaged in the green new energy industry, which is a great cause for the benefit of mankind. Developing solar power to benefit the entire human race is our pursuit of making great contributions to society and mankind.”

The sudden outbreak of COVID-19 in 2020 exacerbated global uncertainty. However, one thing is certain: green development and green energy have become a global consensus and an inevitable trend. JA Solar is honored to engage in this great cause. We have been working hard for 15 years and upholding the mission of “develop solar power to benefit the entire human race” and contributing JA Solar’s strength to a harmonious society and a green earth.

We have provided PV modules to more than 130 countries and regions around the globe, keeping bringing green power to the world. We always focus on customer values, concentrate on technology research and development, take the lead in launching and mass-producing high-power modules based on 182mm silicon wafers, so that customers can benefit from better PV power generation solutions. We adhere to prudent operation and green manufacturing, establish strategic partnerships with multiple partners, steadily expand advantages of vertically integrated manufacturing capacity and create an ecosystem of symbiosis between upstream and downstream industries. Furthermore, we actively fulfill our social responsibilities by taking the lead in donating money and goods to fight against the epidemic, scientifically prevent the epidemic to ensure the health of all employees and continue to carry out the targeted poverty alleviation mission “photovoltaic +”. We attach great importance to compliance management, adhere to honesty and strive to become one of the most trusted companies.

We are not lonely upon a great cause and with a determined mind we start a long march! Looking forward to the future, China has aimed to reach “carbon peak” by 2030 and achieve “carbon neutrality” by 2060. Many countries have raised their emission reduction targets, and the world is accelerating the embrace of the era of “decarbonization”. JA Solar will hold firm to its original aspiration and principles, take advantage of the momentum, and work with all stakeholders to create a new chapter of green and beautiful life for mankind.

——Jin Baofang, Chairman of JA Solar





# 稳健发展

## 展现善的形象

### STEADY DEVELOPMENT FOR POSITIVITY

我们所奋斗的事业是造福全人类的伟大事业。自成立以来，晶澳始终秉持“稳健经营，持续盈利”的经营理念，不断提升价值创造能力和可持续发展能力，矢志用更稳健的步伐带来更长久的发展。

The cause we are striving for is great and beneficial for all mankind. Since establishment, JA Solar has always adhered to the business philosophy of "prudent operation and sustainable profitability", continuously improved its capabilities of value creation and sustainable development, and been determined to pursue long-term development on a firmer footing.

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#### 联合国2030年可持续发展目标 (SDGs)

UN SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)





# 公司简介 ABOUT US

晶澳太阳能科技股份有限公司（股票代码：002459，注册地：河北省宁晋县新兴路123号）致力于成为全球领先的光伏发电解决方案平台企业，主营业务为硅片、太阳能电池及太阳能组件的研发、生产和销售，以及太阳能光伏电站的开发、建设、运营等。截至2020年底，晶澳在全球拥有12个生产基地(部分基地含有多家公司)，员工2.5万余人，电池组件产品累计出货量超过63GW，遍布130多个国家和地区，被广泛应用于地面光伏电站以及工商业、住宅分布式光伏系统。

JA Solar Technology Co., Ltd. (Stock code: 002459, registration address: No. 123, Xinxing Road, Ningjin, Hebei) is committed to becoming a world leading photovoltaic power generation solution platform enterprise, with its main businesses covering the R & D, production and sales of silicon wafers, solar cells and PV modules, as well as the development, construction and operation of solar photovoltaic power stations, etc. As of the end of 2020, JA Solar owns 12 manufacturing bases (some of them consisting of multiple companies) and more than 25,000 employees all over the world. Products such as PV modules and solar cells of over 63 GW have been sold to more than 130 countries and regions and have been widely used in ground photovoltaic power stations, industrial, commercial and residential distributed photovoltaic systems.



在全球拥有 **12** 个生产基地

员工 **2.5** 万余人

电池组件产品累计出货量超过 **63** GW

遍布 **130** 多个国家和地区

**12** manufacturing bases around the world

more than **25,000** employees

cumulative shipments of PV modules and solar cells exceed **63** GW

shipments spreading over **130+** countries and regions

备注：公司运营管理总部位于北京。

Note: the operation and management headquarter of the Company is located in Beijing.



2020年，晶澳电池组件出货 **15.88** GW，位居行业前列，并以主营产品光伏组件荣获工信部第五批“**制造业单项冠军示范企业**”殊荣。

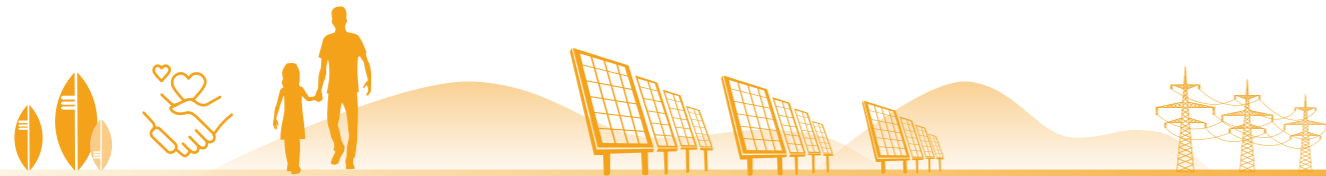
The solar cell and PV module shipment of JA Solar was **15.88** GW in 2020, ranking in the forefront of the industry, and won in the fifth batch the award of "Single Champion Model Enterprise in Manufacturing" by Ministry of Industry and Information Technology of People's Republic of China for its main product - PV modules.

晶澳凭借持续的技术创新、卓越的财务优势和完善的全球销售与服务网络，备受国内外客户的认可，公司多年荣登《财富》中国500强和“全球新能源企业500强”榜单；2020年位居“中国战略性新兴产业领军企业100强”第86位。

With its continuous technological innovation, outstanding financial advantages and perfect global sales and service network, JA Solar is highly recognized by customers both at home and abroad, and has been listed in the Fortune China 500 and "Top 500 Global New Energy Enterprise" for many years. In 2020, JA Solar ranked NO. 86 in the "Top 100 Leading Enterprises in China's Strategic Emerging Industries".



## 2020年大事记 2020 COMPANY EVENTS



### 1月26日

通过官方捐赠渠道向武汉疫区捐赠人民币 1,000 万元。

On January 26, RMB 10 million was donated to the Wuhan epidemic area through official donation channels.

### 3月4日

义乌 10GW 高效电池和 10GW 高功率组件及配套项目正式签约。

On March 4, agreement on the 10GW high-efficiency solar cell and 10GW high-power solar module projects as well as supporting projects in Yiwu Manufacturing Base was officially signed.

晶澳太阳能



### 4月27日

晶澳太阳能科技股份有限公司揭牌仪式在河北宁晋举行。

On April 27, JA Solar Technology Co., Ltd. opening ceremony was held in Ningjin, Hebei.

### 5月18日

正式发布业内首款基于 182mm 硅片的超高功率组件 DeepBlue 3.0 技术方案。

On May 18, DeepBlue 3.0, the industry's first ultra-high power output solar module based on 182mm silicon wafer, was officially released.

### 10月25日

义乌基地一期 5GW 组件项目举行投产仪式。

On October 25, the production start ceremony of first phase of the 5GW solar module project in Yiwu Manufacturing Base was held.

### 9月9日

宁晋基地 3.6GW 大尺寸高效电池项目顺利投产。

On September 9, 3.6GW large-size high-efficiency solar cell project in Ningjin Manufacturing Base was successfully put into production.

### 8月18日

非公开发行股票申请获得中国证监会核准。

On August 18, the application for private stock issuance was approved by China Securities Regulatory Commission.

### 11月7日

越南基地 3.5GW 高功率组件项目举行开工仪式。

On November 7, Vietnam Manufacturing Base 3.5GW high-power solar module project launch ceremony was held.

### 11月18日

曲靖基地二期 20GW 单晶拉棒及切片项目开工。

On November 18, the second phase of the 20GW mono-crystalline ingot pulling and wafering project in Qujing Manufacturing Base came into operation.

### 12月1日

奉贤基地 3.2GW 高功率组件项目顺利投产。

On December 1, 3.2GW high-power solar module project in Fengxian Manufacturing Base successfully went into production.

### 12月30日

包头基地 20GW 拉晶和切片项目签订框架协议。

On December 30, 20GW ingot pulling and wafering project in Baotou Manufacturing Base witnessed the signing of a framework agreement.



# 财务业绩 FINANCIAL PERFORMANCE



电池组件出货量 (GW)  
Solar cell and module shipment (GW)

15.88



营业收入 (亿元)  
Operating revenue (Unit: RMB 100 million)

258.47



归母净利润 (亿元)  
Net profit attributable to parent company (Unit: RMB 100 million)

15.07



总资产 (亿元)  
Total assets (Unit: RMB 100 million)

372.97



资产负债率 (%)  
Asset-liability ratio (%)

60.21

数据来源：《晶澳太阳能科技股份有限公司 2020 年年度报告》等。  
Data source: 2020 Annual Report of JA Solar Technology Co., Ltd., etc.



# 强化治理

## 培育善的基因

### ENHANCED GOVERNANCE TO FOSTER GOODNESS

晶澳尊重市场规律，遵守国际准则和各国法律法规等，并以高瞻远瞩的战略为发展奠基，不断推进治理体系和治理能力现代化。晶澳在坚持做好主业的基础上，积极与利益相关方保持密切有效的沟通，在沟通中增进互信，在沟通中凝聚共识，在沟通中共享丰盛、共创繁荣。

JA Solar respects the law of the market, complies with international standards and laws and regulations of all countries, lays the foundation for development with a visionary strategy to continuously promote the modernization of its governance system and capacity. On the basis of adhering to its major business, JA Solar actively maintains close and effective communication with stakeholders to enhance mutual trust and build consensus and share prosperity.

16 公司战略  
Corporate Strategy

17 晶澳文化  
JA Solar Corporate Culture

18 治理架构  
Governance Structure

20 晶澳风控  
JA Solar Risk Control

24 可持续发展管理  
Sustainable Development Management

#### 联合国2030年可持续发展目标 (SDGs)

UN SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)



晶澳太阳能





## 公司战略 CORPORATE STRATEGY



晶澳科技始终秉承“开发太阳能、造福全人类”的企业使命，以“稳健增长、持续盈利”为经营原则，致力于成为全球领先的光伏解决方案平台企业。

晶澳科技将坚持“技术创新引领发展、优异品质赢得客户、成本控制提升竞争力、完善服务创造价值”的理念，以市场为导向，以人才为基石，借力资本，全球布局，创新驱动，不断巩固和提高公司核心竞争优势。

晶澳战略的实施，不仅推动了光伏产业技术进步、全球绿色电力的推广应用，同时也带动当地产业发展、劳动就业和收入的增长，实现了晶澳与社会经济的共进、共生、共荣。

Adhering to the enterprise mission of “develop solar power to benefit the entire human race” and taking “stable growth and continuous profitability” as the operating principle, JA Solar has always been committed to becoming a world leading solar photovoltaic power generation solution platform enterprise.

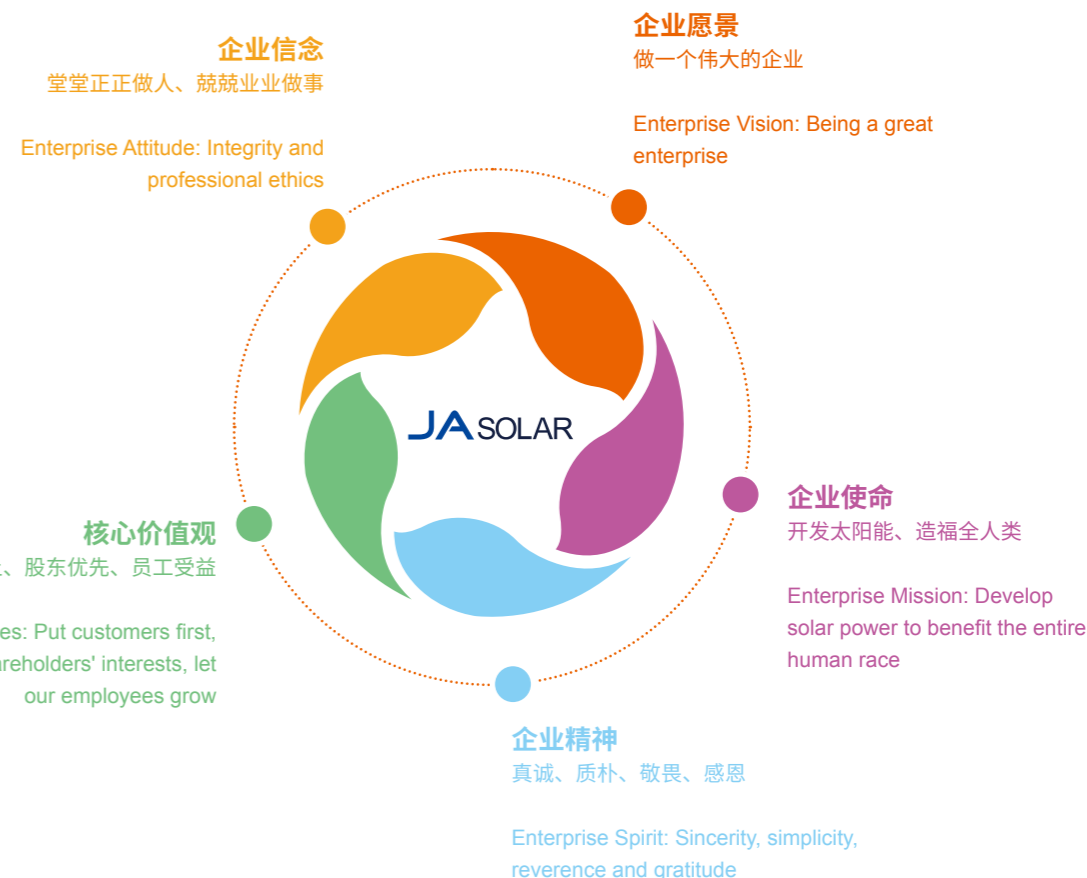
JA Solar will adhere to the philosophy of “leading development through technological innovation, winning customers over through excellent quality, enhancing competitiveness through cost control and creating value through perfect services”. Oriented by market and taking talents as the cornerstone, we will leverage capital to make a global deployment driven by innovation so as to continuously consolidate and improve our core competitive advantages.

The implementation of JA Solar's strategy has not only promoted technological progress of the PV industry, the promotion and application of green power globally, but also spurred the development of local industries, employment and income growth, realizing the co-progress, symbiosis and co-prosperity of JA Solar and the social economy.

## 晶澳文化 JA SOLAR CORPORATE CULTURE

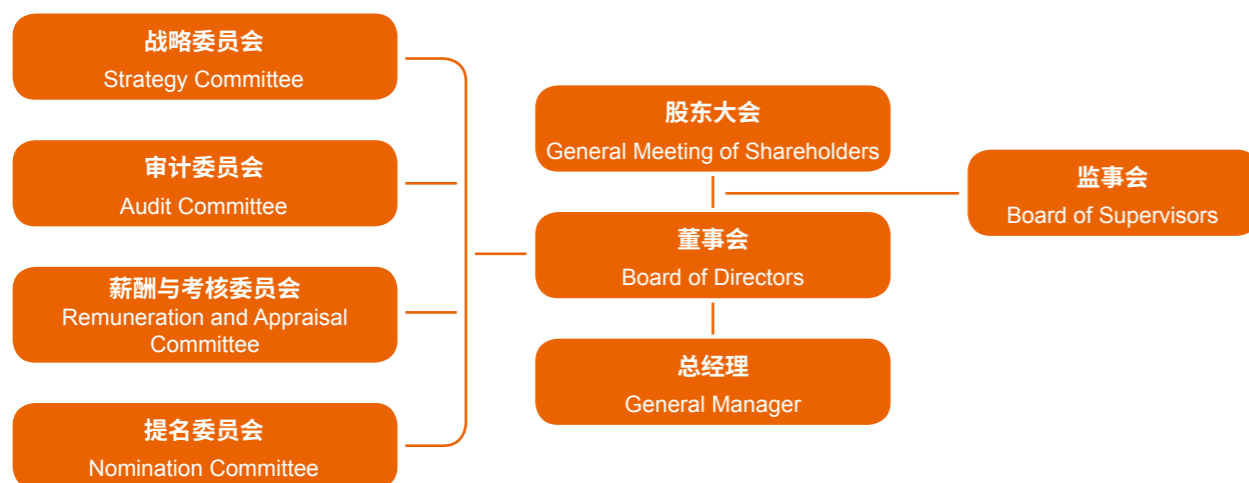
我们植根于中华民族优秀的传统文化，提炼培育出具有当代价值与世界意义的晶澳文化。自成立之初，晶澳就把“开发太阳能、造福全人类”作为自己的使命，秉持“真诚、质朴、敬畏、感恩”的企业精神和“客户至上、股东优先、员工受益”的核心价值观，始终践行“堂堂正正做人、兢兢业业做事”的企业信念，立志“做一个伟大的企业”。晶澳文化作为公司实现可持续价值创造的源动力，获得了员工的高度认同，成为了晶澳全体员工的思想准则和行动指南。

Inspired by fine traditional Chinese values, we have cultivated the JA Solar corporate culture with contemporary value and global significance. Since establishment JA Solar has taken as its mission “develop solar power to benefit the entire human race”, adhered to the enterprise spirit of “sincerity, simplicity, reverence and gratitude” and the core values of “put customers first, respect shareholders' interests, let our employees grow”, has always practiced the enterprise attitude of “integrity and professional ethics”, and been determined to grow into “a great enterprise”. The JA Solar corporate culture is the driving force for the Company to achieve sustainable value creation, which has been highly recognized by employees and has become the ideological norm and action guide for all JA Solar employees.





## 治理架构 GOVERNANCE STRUCTURE



公司拥有科学规范、运行高效、边界清晰的管理体系，建立了以股东大会、董事会、监事会和高级管理层为主体的公司治理结构，董事会下设战略委员会、审计委员会、薪酬与考核委员会、提名委员会等决策与运营管理机制，切实保障全体股东及债权人的权益。公司严格按照相关法律法规的要求，及时、客观、准确、完整地进行信息披露，确保公司所有股东能够以平等的机会获得公司相关信息。公司通过现场接待、网上业绩说明会、电话、网络留言、传真、邮件等多种方式与投资者进行沟通交流，公司官网对各类重要决策进行公告，并设置投资者教育和董秘联系方式等板块，方便股东和投资者更好地了解公司经营情况。

The Company has a scientific and standardized management system with efficient operations and clear boundaries, and has established a corporate governance structure composed of the General Meeting of Shareholders, the Board of Directors, the Board of Supervisors and senior management. The Board of Directors has the Strategy Committee, the Audit Committee, the Remuneration and Appraisal Committee, the Nomination Committee and other decision-making and operation management mechanisms, to effectively protect the rights and interests of all shareholders and creditors. The Company discloses information in a timely, objective, accurate and concise manner in strict accordance with the requirements of relevant laws and regulations to ensure all shareholders of the Company have equal opportunity to obtain relevant information of the Company. The Company communicates with investors through various methods such as on-site receptions, online performance briefings, telephone, Internet message, fax, and email. Important news are released on the Company's official website, which also has sections such as investor education and contact information of the Secretary of the Board of Directors for shareholders and investors to better understand the Company's operations.



在管理方面，晶澳设立了研发、智造、产品与质量、运营管理、市场、智慧能源、人力资源、财务金融、数据与智能九大平台。平台化的建立，促使晶澳向扁平化管理又迈出关键一步，推动公司管理从“管控”向“赋能”转变。

In terms of management, JA Solar has established nine platforms, namely R & D, Intelligent Manufacturing, Product & Quality, Operations Management, Marketing, Smart Energy, Human Resources, Finance and Data & Intelligence. The establishment of the platforms has promoted JA Solar to take another key step towards flat management, driving the corporate management to transform from "control" to "empowerment".



晶澳董事会高度关注可持续发展议题，并将环境、社会及管治（ESG）绩效提升作为公司发展的重要工作。为有序推进公司可持续发展，晶澳设立了EHS管理委员会、审计监察部等专业机构，并大力支持各级工会组织开展的工作。公司积极推进内外部开展可持续发展议题沟通，接受社会各界监督。

The JA Solar Board of Directors pays great attention to sustainable development issues and regards the environmental, social and governance (ESG) performance improvement as an integral part of the Company's development. To promote the Company's sustainable development in an orderly manner, JA Solar has established professional institutions such as the EHS Management Committee and the Audit and Supervision Department, and has vigorously supported the work organized by labor unions at all levels. The Company actively promotes internal and external communication on sustainable development topics and accepts guidance from society.

# 晶澳风控 JA SOLAR RISK CONTROL

## 风险管理 RISK CONTROL

公司以风险防控护航发展，积极对标国际最佳实践，持续健全和完善内部控制体系，将风险管理和合规经营要求嵌入业务流程，形成全面、全员、全过程、全体系的风险防控机制，管理范围覆盖研发、采购、生产、销售、资产、人力资源、财务等经营业务活动。

The Company escorts its development with risk prevention and control, actively aligns with international best practices, continues to improve and perfect the construction of internal control system, embeds the requirements of risk management and compliance management into the business process, forming a comprehensive, full-staff, full-process and system-wide risk prevention and control mechanism. The scope of management covers R&D, procurement, production, sales, assets, human resources, finance and other business activities.

此外，公司建立了包含事前预防宣导、事中监督把控、事后调查处罚的全过程反舞弊体系，为生产经营的规范性、资产的安全性、财务报告及相关信息的真实性、完整性提供了有力保障。

The Company has established a full-process anti-fraud system including preventional promotion beforehand, in-process supervision and control, as well as investigation and punishment afterwards, which has provided a strong guarantee for the standardization of production and operation, the safety of assets, and the authenticity and integrity of financial reports and related information.

公司依照内控管理手册严格开展内控评价工作，2020年度纳入评价范围的公司资产总额和营业收入占公司合并财务报表对应项目均超过70%，无重大内部控制缺陷，并发布了《2020年度内部控制自我评价报告》。

The Company strictly performs internal control evaluation in accordance with the internal control management manual. In 2020, total assets and operating revenue of the Company included in the evaluation scope accounted for more than 70% of the corresponding items in the Company's consolidated financial statements, and there was no major internal control defect. The "2020 Internal Control Self-evaluation Report" was released.



2020年度**70%**的资产总额和营业收入纳入评价范围

无重大内部控制缺陷

More than **70%** of the total assets and operating revenues included in evaluation scope

No significant internal control defect

## 审计监督 AUDIT SUPERVISION



审计监察部作为董事会审计委员会下设机构，审计工作独立于公司总部各职能部门及子公司，以保证审计工作的独立性、客观性；依据《上市公司治理准则》《企业内部控制基本规范》《民营企业风险管理指引手册》等，审计监察部制定并发布了《内部审计管理制度》《反舞弊举报及处理程序》《审计监察违规惩戒实施细则》《晶澳科技举报人保护与廉洁申报奖励管理制度》等一系列管理制度，用以指导和规范公司人员及供应商行为。

As an institution under the Audit Committee of the Board of Directors, the Audit and Supervision Department is independent of the various functional departments and subsidiaries of the headquarter so as to ensure the independence and objectivity of the audit work. Based upon "Listed Company Governance Guidelines", "Basic Norms of Enterprise Internal Control", "Guidelines for Risk Management of Private Enterprises", etc., the Audit and Supervision Department formulated a series of management systems such as "Internal Audit Management System", "Anti-fraud Reporting and Handling Procedures", "Detailed Rules for the Implementation of Auditing, Supervision, Violation and Punishment", "Whistleblower Protection, Integrity Declaration and Reward Management System of JA Solar" to guide and regulate the behavior of Company staff and suppliers.



审计监察部通过内部控制测试进行全面风险评估，在此基础上，结合内外部舞弊举报，确定舞弊风险点，制定并开展年度审计工作。

The Audit and Supervision Department conducts a comprehensive risk assessment through internal control tests, coordinates with internal and external departments on the aforementioned basis for fraud reports in order to identify fraud risk points, and perform annual audit work.



晶澳作为“反舞弊联盟”和“阳光诚信联盟”的理事单位，致力于打造廉洁诚信、阳光合规的经营环境，借助联盟的平台力量，整合资源、共享数据，积极倡导“讲诚信、强内控、反舞弊”，共同推进商业环境的健康发展。

As the director unit of the "Enterprise Anti-Fraud Alliance" and the "Trust and Integrity Enterprise Alliance", JA Solar is committed to creating a credible, honest, transparent and regulation-compliant business environment. Relying on the platform of the alliances, JA Solar integrates resources, shares data, and actively advocates "promotion of honesty, enhancement of internal control and anti-fraud" to jointly drive the healthy development of the business environment.



2020年审计监察部对接到的贪污舞弊举报，通过调查取证、资料核实、现场访谈等方式确认案情，其中涉及违法犯罪的案件，公司已经移送司法机关处理。公司终止了不合规、不合法的业务往来，并在OA办公系统对相关事项进行全员通告，相关业务部门按审计建议对内部控制管理措施和流程进行加强和进一步规范，扎紧管理制度的“藩篱”，使公司全员时时警醒、对规章制度保持敬畏之心。2020年，晶澳通过内部控制测试，实施风险评估的运营点数量为11个，占总数的84.62%。晶澳开展年度反舞弊工作，确认无重大腐败风险。

In 2020, the Audit and Supervision Department confirmed cases through investigation and collection of evidence, data verification and on-site interviews regarding reports of corruption and fraud. Furthermore, the Company transferred illegal cases to the judicial authority for handling. Non-compliant and illegal business transactions were terminated and relevant matters were announced in the OA office system. The relevant business departments strengthened and further standardized internal control management measures and procedures according to audit recommendations and tightened the "fence" of management system. In 2020, JA Solar passed the internal control test and the number of operation sites receiving risk assessments was 11, which accounts for 84.62% out of the total. JA Solar carried out annual anti-fraud work and no major risk of corruption was identified.



## 商业道德 BUSINESS ETHICS

国际市场风云变幻，我们坚持正确的价值取向，牢牢守住道德边界，努力成为受尊敬的中国企业。公司在劳工与人权、健康与安全、商业贿赂等方面制定了方针、政策，确保公司的运营和管理始终与合法、公平、诚信的商业道德标准和理念保持高度一致；严格遵守与公平竞争相关的法律法规和国际准则，倡导以品质和服务赢得竞争优势，禁止一切不道德、不合法的行为。

The international market witnesses constant changes of events. We adhere to the correct value orientation, firmly guard the moral boundaries and strive to become a respected Chinese enterprise. The Company has formulated guidelines and policies on labor and human rights, health and safety, commercial bribery, etc. to ensure the Company's operations and management are always highly consistent with legal, fair and honest business ethics and concepts. JA Solar strictly abides by laws, regulations and international standards related to fair competition, advocates winning competitive advantage by quality and service, and prohibits all unethical and illegal behaviors.

公司除了提升自己的反舞弊管理能力之外，还将反舞弊管理向合作伙伴延伸，与供应商签订《诚信廉洁合作协议》，发送《致晶澳合作伙伴的公开信》，共建“阳光交往、互惠共赢”的商业环境；通过公开合法的渠道，定期对第三方合作伙伴在商业道德、反腐败、信息安全和隐私管理、企业法人、注册地址等方面开展尽职调查，针对拥有高风险事项、存有商业道德问题的企业，采取终止合作等措施。

In addition to improving its own anti-fraud management capabilities, the Company also extends anti-fraud management to its partners. It has signed the "Honesty and Integrity Agreement" with suppliers and sent the "Open Letter to the Partner of JA Solar" to co-build a business environment upon "trust and integrity-based communication, mutual benefit and win-win". Through open and legal channels, JA Solar regularly conducts due diligence investigations on third-party partners regarding business ethics, anti-corruption, information security and privacy management, corporate legal persons, registered addresses, etc. JA Solar has terminated collaborations with companies with high-risk matters and business ethics issues.

## 公司权益保护 COMPANY RIGHTS AND INTERESTS PROTECTION



晶澳申请并获核准注册商标  
**10**件  
累计获得核准注册商标**272**件  
Applied and obtained **10** registered trademarks  
and a total of **272** approved registered trademarks been obtained

我们充分重视对无形资产的保护，悉心维护好良好的市场声誉。公司积极开展打假和商标注册工作，设置专人负责检索外部商标侵权行为，及时收集侵权信息并报送至相关部门，实现动态监控，推进权益保护工作扎实深入开展。2020年，晶澳申请并获核准注册商标10件，累计获得核准注册商标272件，发起对外工商投诉1项，以高压态势捍卫公司及消费者合法利益。

We attach great importance to the protection of intangible assets and carefully maintain a good market reputation. The Company has actively carried out anti-counterfeiting and trademark registration work. Special personnel have been assigned for searching external trademark infringements, collecting infringement information in a timely manner and reporting it to the relevant departments, realizing dynamic monitoring and making solid and in-depth progress in protection of the Company's rights and interests. In 2020, JA Solar applied and obtained 10 registered trademarks, and had obtained a total of 272 approved registered trademarks as of the year end. It also firmly initiated one external industrial and commercial complaint to defend legitimate rights and interests of the Company and consumers.

## 宣传教育 PUBLICITY AND TRAINING

晶澳积极创造廉洁清正、诚信友好的商业环境，并加强对内部员工遵纪守法、廉洁自律方面的宣传教育。目前，晶澳搭建邮箱、电话、廉洁晶澳微信公众号、邮寄、QQ等五种投诉举报途径，以严监管倒逼公司不触底线、不越红线。

JA Solar actively creates a fair, transparent, honest and friendly business environment, strengthens publicity and training for internal employees in respect of discipline and law-abiding, integrity and self-discipline. At present, JA Solar has established five complaint and reporting channels, including Email, telephone, WeChat official account of Honest JA Solar, mail and QQ, to prohibit the Company through strict supervision from touching the bottom line or crossing the red line.



反舞弊宣传传达率 **100%**  
反舞弊培训覆盖率 **100%**  
反舞弊及内控合规培训 **8** 场次  
transmission rate of anti-fraud publicity: **100%**  
coverage rate of anti-fraud training: **100%**  
**8** training sessions on anti-fraud and internal control compliance

晶澳反舞弊政策和程序的宣传，涵盖董事会、高管、普通员工及业务合作伙伴（传达率均为100%）；另外，加强反舞弊培训，2020年接受反舞弊培训的人员包括董事会成员（9位，覆盖率100%）、高管和员工（25,183人，覆盖率100%），做到全员参与、全面覆盖。同时，新入职员工需通过反舞弊及合规考试，合格后方可转正。2020年，公司共开展反舞弊及内控合规培训8场次。

JA Solar has publicized anti-fraud policies and procedures among the Board of Directors, senior executives, employees and business partners (with a transmission rate of 100%). In addition, anti-fraud training has been strengthened. The personnel receiving anti-fraud training in 2020 included board members (nine people, 100% coverage), senior executives and employees (25,183 people, 100% coverage). Full participation and full coverage have been achieved. At the same time, newly recruited employees must pass anti-fraud and compliance examinations before becoming to be a regular employee. In 2020, the Company conducted a total of eight anti-fraud and internal control compliance training sessions.

2020年晶澳组织企业合规相关专题讲座  
JA Solar organizes special lectures on corporate compliance





# 可持续发展管理 SUSTAINABLE DEVELOPMENT MANAGEMENT

## 责任组织

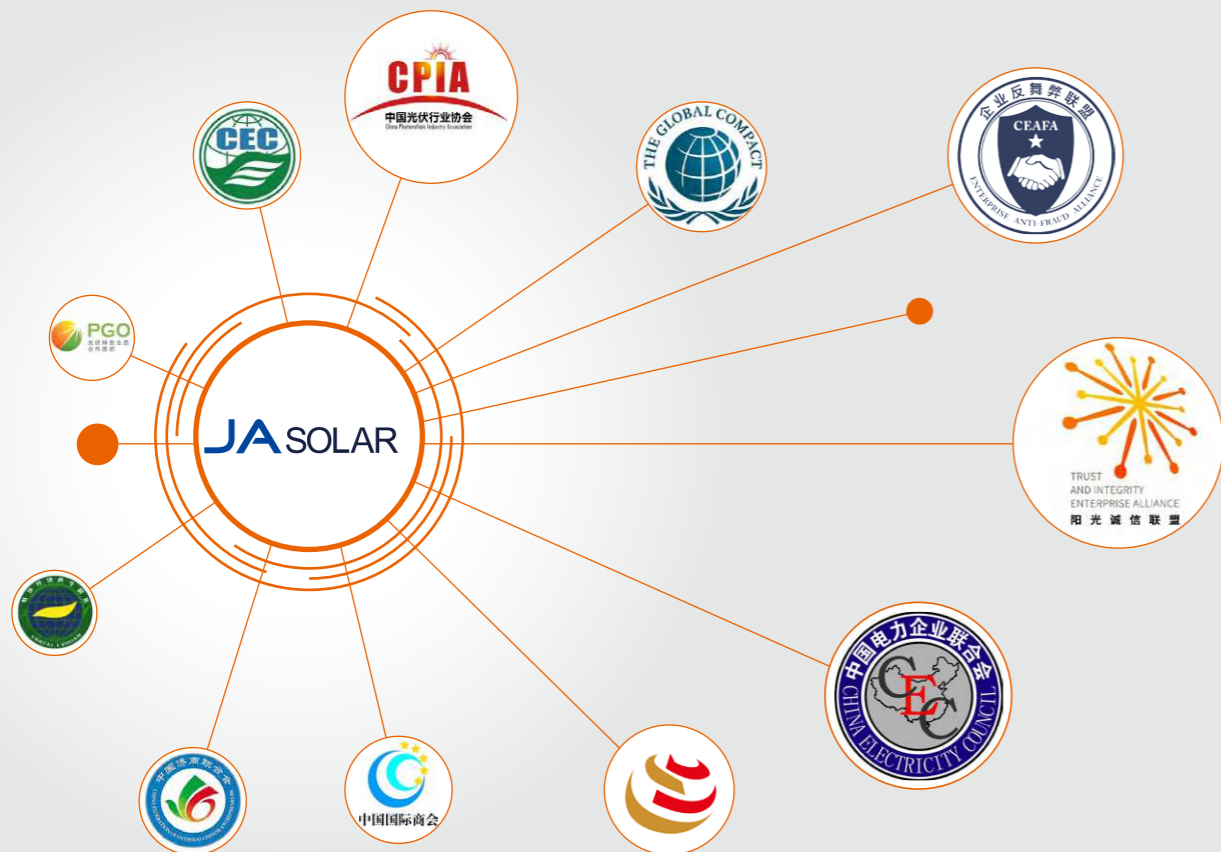
### RESPONSIBLE ORGANIZATION

晶澳已经构建以股东会、董事会为决策机构，总部各部门和生产基地统筹推进的可持续发展管理体系。公司工会、EHS管理委员会、审计部门、各事业平台等充分发挥与利益相关方的沟通和协调作用，晶澳学院负责对相关可持续发展理念进行传播。

同时，晶澳通过加入国内外相关协会和倡议组织，与行业内企业、NGO组织成员等一起践行可持续发展理念，借助平台力量，向世界传播正能量。

JA Solar has established a sustainable development management system with the Board of Shareholders and Board of Directors as the decision-making bodies, and all headquarter departments and manufacturing bases as the coordinators. The Company labor unions, EHS Management Committee, Audit and Supervision Department, and various business platforms give full play to their communication and coordination roles with stakeholders, and JA College is responsible for the dissemination of relevant sustainable development concepts.

At the same time, JA Solar has joined relevant associations and advocacy organizations both domestically and at abroad to practice the concept of sustainable development with other players in the industry and members of NGO to spread positivity to the world together.



## 晶澳加入的部分社会组织和倡议

Some Social Organizations and Initiatives Joined by JA Solar

序号 No.	协会或组织名称	Association or organization name	所担任角色	Role
1	中国光伏行业协会	China Photovoltaic Industry Association	副理事长	Vice chairman
2	中国机电产品进出口商会	China Chamber of Commerce for Import and Export of Machinery and Electronic Products	副会长	Vice president
3	中国国际商会	China Chamber of International Commerce	会员	Member
4	中国电力企业联合会	China Electricity Council	会员	Member
5	中国光伏扶贫联盟	China Photovoltaic Poverty Alleviation Alliance	成员	Member
6	中国循环经济协会可再生能源专业委员会	Chinese Renewable Energy Industries Association (CREIA)	会员	Member
7	河北省侨商会	Hebei Association of Overseas Chinese Investment Enterprises	常务副会长	Executive vice president
8	中国侨商投资企业协会	China Overseas Chinese Investment Enterprise Association (COCEA)	常务理事	Standing director
9	光伏绿色生态合作组织	Photovoltaic Green-ecosystem Organization (PGO)	会员	Member
10	河北省应急产业协会	Hebei Emergency Industry Alliance	副会长	Vice president
11	中国上市公司协会	China Association for Public Companies	理事	Director
12	中国企业反舞弊联盟	China Enterprise Anti-Fraud Alliance	常务理事	Standing director
13	阳光诚信联盟	Trust and Integrity Enterprise Alliance	理事	Director
14	联合国全球契约组织	United Nations Global Compact	会员	Member
15	中国企业气候行动	China Business Climate Action (CBCA)	会员	Member
16	中国绿色供应链联盟	China Green Supply Chain Alliance	会员	Member

## 利益相关方确定和沟通

### COMMUNICATION WITH STAKEHOLDERS

公司通过问卷调查、内部讨论和外部专家咨询，并参照同行业企业标准，识别了关键利益相关方，包括客户和经销商、投资者、员工、供应商、监管部门、非政府组织和社区，并为之积极建立联系，不断升级互利共赢的生态价值体系。

Through questionnaire surveys, internal discussions, and external expert consultations and with reference to industry standards, the Company has identified key stakeholders, including customers and distributors, investors, employees, suppliers, regulators, non-governmental organizations and communities. Moreover, JA Solar has actively connected with them and continued to upgrade the ecological value system for mutual benefit and win-win cooperation.

同时，构建多层次、多方位的沟通渠道，深入研究利益相关方的要求和期望，并将相关诉求转化为公司可持续发展行动和方案，公司的履责能力和服务水平也不断提升。

In the meantime, JA Solar has established multi-level and multi-directional communication channels, performed in-depth studies of the requirements and expectations of stakeholders and converted their demands into the Company's sustainable development actions and plans. The Company's ability to fulfill responsibilities and service levels are also continuously improving.

#### 关键利益相关方

Key Stakeholders

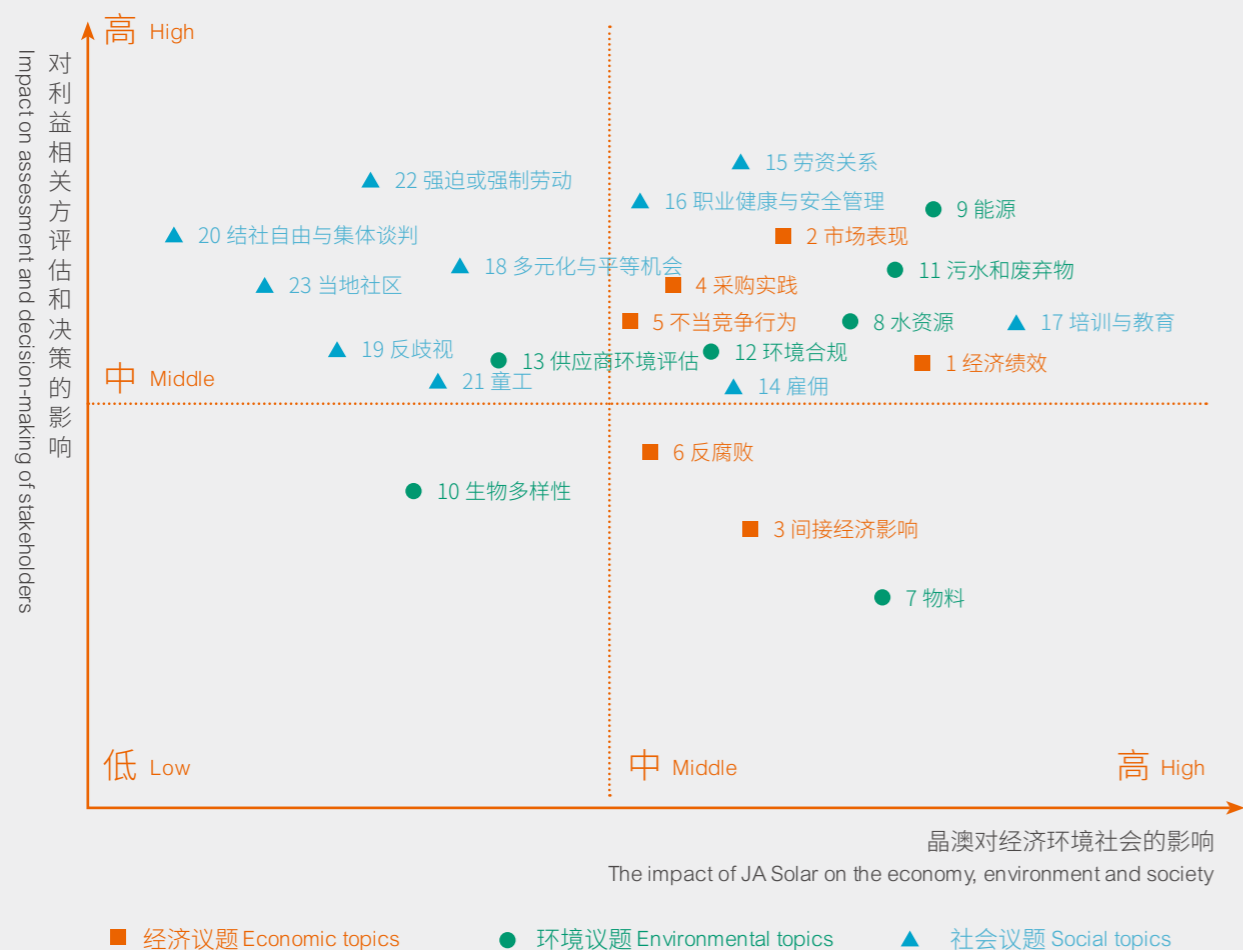
关键利益相关方 Key Stakeholders	主要期望 Major Expectations	沟通渠道 Communication Channels
 客户和经销商 Customers and distributors	高效产品 优质服务 信息安全 ESG 要求 Efficient products, quality services, information security, ESG requirements	新产品发布会、客户答谢会、行业展会、客服电话、产品交流会等 New product launches, customer appreciation meetings, industry exhibitions, customer service calls, exchange meetings on products, etc.
 投资者 Investors	投资回报 财务稳健 信息披露 可持续发展能力 ROI, financial stability, information disclosure, sustainable development capacity	股东大会、现场接待、网上业绩说明会、电话、网络留言、传真、邮件等 Shareholders' meeting, on-site reception, online performance briefing, telephone, online message, fax, email, etc.
 员工 Employees	职业发展 职业健康 舒适环境 无歧视 Career development, vocational health, comfortable environment, non-discrimination	职工代表大会、员工交流、拓展活动、员工培训、雇主品牌、团建等 Workers' congress, employee exchanges, outreach activities, employee training, employer branding, team building, etc.
 供应商 Suppliers	稳定供应 长期合作 公平合作 Stable supply, long-term cooperation, fair cooperation	供应商大会、供应商交流会、供应商管理、招标采购网等 Supplier conferences, supplier exchange meetings, supplier management, bidding and procurement network, etc.
 监管部门 Regulators	产业发展 优化经商环境 Industrial development, optimization of business environment	政策建议、政府会议、遵纪守法等 Policy recommendations, government meetings, compliance with laws, etc.
 非政府组织（含 NGO 组织） Non-governmental organizations (including NGO organizations)	环境保护 产业发展 社会责任 Environmental protection, industrial development, social responsibility	加入协会、加入倡议、公益捐赠等 Join associations, initiatives, donate to charity, etc.
 社区 Communities	环境安全、改善民生 社区发展、公共关系 文化生活 Environmental safety, improvement of people's livelihood, community development, public relations, cultural life	公益活动、联谊活动、组织慰问、环保措施、组织参观等 Public welfare activities, networking activities, organization of caretaking activities, environmental protection measures, organization of visits, etc.

## 实质性议题

### MATERIAL TOPICS

晶澳通过开展问卷调查、组织相关会议等方式与利益相关方实现有效的沟通交流，并结合行业经验，依照GRI standards、联合国可持续发展目标（SDGs）等国际普遍认可的指南标准，从对利益相关方评估和决策的影响（纵向）、对经济环境社会的影响（横向）两个维度，对多个议题进行排序，最终确定实质性议题。

JA Solar conducts questionnaire surveys, organizes relevant meetings, and takes other measures to effectively communicate with stakeholders. Combined with industry experience, in accordance with GRI standards, United Nations Sustainable Development Goals (SDGs) and other guidelines and standards generally accepted by the international community, multiple topics have been sorted in terms of the impact on assessment and decision-making of stakeholders (vertical) and the impact on economy, environment and society (horizontal), finally identifying material topics.



## 实质性议题列表

List of Material Topics

实质性议题	Material Topics	主要方面	Major Aspects
经济议题	Economic topics	经济绩效、市场表现、间接经济影响、采购实践、不正当竞争行为、反腐败	Economic Performance, Market Presence, Indirect Economic Impacts, Procurement Practices, Acts of Unfair Competition, Anti-corruption
环境议题	Environmental topics	物料、能源、水资源、排放、污水和废弃物、环境合规、供应商环境评估	Materials, Energy, Water Resources, Emissions, Effluents and Waste, Environmental Compliance, Supplier Environmental Assessment
社会议题	Social topics	雇佣、劳资关系、职业健康与安全、培训与教育、多元化与平等机会、反歧视、结社自由与集体谈判、童工、强迫或强制劳动、当地社区	Employment, Labor/Management Relations, Occupational Health and Safety, Training and Education, Diversity and Equal Opportunity, Non-discrimination, Freedom of Association and Collective Bargaining, Child Labor, Forced or Compulsory Labor, Local Communities

晶澳与利益相关方定期回顾并更新实质性议题矩阵，确保各项议题永葆先进，与时代合拍，与国际接轨，能够持续满足利益相关方的期望。

JA Solar and stakeholders regularly review and update the matrix of material topics to ensure that all topics remain advanced, up to date and in line with international standards to continue to meet the expectations of all stakeholders.

1	经济绩效	Economic performance	14	雇佣	Employment
2	市场表现	Market Presence	15	劳资关系	Labor/Management Relations
3	间接经济影响	Indirect Economic Impacts	16	职业健康与安全	Occupational Health and Safety
4	采购实践	Procurement Practices	17	培训与教育	Training and Education
5	不正当竞争行为	Acts of Unfair Competition	18	多元化与平等机会	Diversity and Equal Opportunity
6	反腐败	Anti-corruption	19	反歧视	Non-discrimination
7	物料	Materials	20	结社自由与集体谈判	Freedom of Association and Collective Bargaining
8	能源	Energy	21	童工	Child Labor
9	水资源	Water Resources	22	强迫或强制劳动	Forced or Compulsory Labor
10	生物多样性	Biodiversity	23	当地社区	Local Communities
11	污水和废弃物	Effluents and Waste			
12	环境合规	Environmental Compliance			
13	供应商环境评估	Supplier Environmental Assessment			



# 关爱员工

## 践行善的承诺

### CARE FOR EMPLOYEES TO FULFIL THE COMMITMENT OF GOODNESS

晶澳以识才的慧眼、爱才的诚意、用才的胆识、容才的雅量、聚才的良方谱写“人才强企”的绚丽篇章，依托积极的激励机制和用人导向，最大程度满足员工个性化成长需求，促进各类人才的创造活力竞相迸发，聪明才智充分涌流。

JA Solar has written a splendid chapter of “Strengthening Enterprise through Talents” with its insight to discover talents, sincerity to care talents, courage to hire talents, generosity to accept talents and a good recipe to gather talents. Relying on the active incentive mechanism and employment orientation, JA Solar has satisfied the individualized growth needs of employees to the greatest extent, tapped the creative vitality of all kinds of talents, and promoted the full flow of talents.

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Employees' Basic Rights

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Talent Recruitment and Career Development

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Employee Training and Skill Competition

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42 员工关爱和文体生活  
Employee Care and Recreational Activities

#### 联合国2030年可持续发展目标 (SDGs)

UN SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)





## 员工基本权益 EMPLOYEES' BASIC RIGHTS

晶澳奉行公开、公平、公正的用工政策，积极维护劳资关系的和谐稳定，严格遵循全球范围内各工厂、办事处所在地的劳工标准及相关法律法规。公司坚决杜绝强迫劳动，不允许以暴力、威胁或非法限制人身自由的手段强迫员工劳动，严格禁止任何骚扰员工的行为，不干涉员工信仰自由，不因民族、种族、国籍、宗教信仰、性别、年龄、残疾、婚姻状况、性倾向、怀孕等因素做出任何歧视员工的行为，不雇佣童工，坚持男女员工同工同酬，推进性别平等，尊重员工自由结社和集体谈判的权利。

JA Solar pursues an open, fair and just employment policy, actively maintains the harmony and stability of labor relations, and strictly follows labor standards and related laws and regulations of factories and offices around the world. The Company resolutely puts an end to forced labor, forbids forced labor by means of violence, threats or illegal restrictions on personal freedom. Any behavior that harasses employees is strictly prohibited. JA Solar does not interfere with employees' freedom of belief, makes no discrimination on grounds of ethnicity, race, nationality, religious belief, gender, age, disability, marital status, sexual orientation, pregnancy etc., prohibits use of child labor, insists on equal pay for equal work for men and women employees, promotes gender equality, and respects employees' rights of free association and collective negotiation.

在中国，晶澳严格遵守《劳动法》《劳动合同法》等法律法规，依法为员工缴纳养老保险、医疗保险、生育保险、失业保险、工伤保险等险种。遵循国家关于员工休假的规定，落实带薪年假制度，按规定向员工提供婚假、产假、陪产假、哺乳假和丧假等假期。工会代表员工与公司签订《集体劳动合同》《工资协商专项集体合同》等，充分保障员工在劳动报酬、工作时间、休息休假、劳动安全卫生、保险福利和职业技能培训等方面的合法权益。

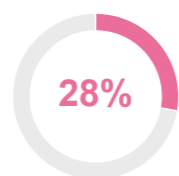
In China, JA Solar strictly complies with the Labor Law, Labor Contract Law and other laws and regulations, pays various insurances such as pension insurance, medical insurance, maternity insurance, unemployment insurance, work injury insurance for employees according to the law. The Company complies with national regulations on employee leave, implements a paid annual leave system and provides employees with marriage leave, maternity leave, paternity leave, breastfeeding leave as well as bereavement leave as required. The labor union signs on behalf of employees with the Company the "Collective Labor Contract", "Special Collective Contract for Wage Negotiation" etc. in order to fully protect legal rights and interests of employees with regard to labor compensation, working hours, rest and vacation, labor safety and health, insurance benefits and vocational skill training, etc.

公司的员工报酬政策严格遵守各地方法律法规，通过与外部第三方咨询机构合作对系统各类岗位的价值进行评估，建立科学合理的职位职级体系和具有竞争力的薪酬体系，使员工的报酬决定有章可循。

The Company's employee remuneration policy is in strict compliance with local laws and regulations. A scientific and reasonable position system and a competitive remuneration system have been established by evaluating the value of various positions in the system through cooperation with external consulting third-parties, so that employees' remuneration is determined by specific rules.

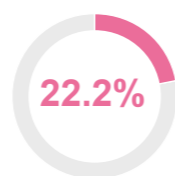


截至2020年底  
As of the end of 2020



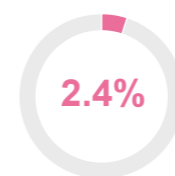
晶澳员工总数**25,183**人  
其中女性员工**7,055**人  
占比约**28%**

JA Solar has possessed totally 25,183 employees, including 7,055 female employees, accounting for about 28%



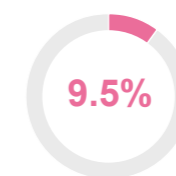
主管及以上级别管理者**1,543**人  
其中女性管理者**342**人  
占比约**22.2%**

1,543 managers in total (supervisors and above), with 342 female managers accounting for 22.2%



中国少数民族员工**604**人  
占比约**2.4%**

604 employees of Chinese minor ethnic groups accounting for about 2.4%



外籍员工**2,384**人  
占比约**9.5%**

2,384 foreign employees accounting for about 9.5%



残疾人数量**27**人

Posts also available to 27 disabled people



# 人才招聘和职业发展 TALENT RECRUITMENT AND CAREER DEVELOPMENT

## 人才招聘 TALENT RECRUITMENT



共组织校园招聘 **124** 场  
员工净增加 **3,021** 人，  
增幅 **13.6%**  
本地化雇佣 **61.93%**

A total of **124** on-campus job fairs were organized

The number of employees increased by **3,021** a rise by **13.6%**

Local employment rate up to **61.93%**

人才是晶澳赢得国际市场竞争主动的战略资源。公司通过线上、线下等多元化的招聘渠道应对不断增长的人才需求。2020年，晶澳共组织校园招聘124场，足迹遍布华东、华南、华北等地区，覆盖北京航空航天大学、中国人民大学、北京科技大学、外交学院、河北科技大学等高校。2020年，晶澳员工总数相对于2019年净增加3,021人，增幅达13.6%，员工流失率为5.34%。

Talent is a strategic resource for JA Solar to win international market competition actively. The Company recruits employees through online and offline channels to satisfy its growing demand for talents. In 2020, JA Solar organized a total of 124 job fairs, involving universities in East China, South China and North China, etc., including Beijing University of Aeronautics and Astronautics, Renmin University of China, University of Science and Technology Beijing, China Foreign Affairs University, Hebei University of Science and Technology. In 2020, JA Solar's total number of employees increased by 3,021 compared to 2019, a rise by 13.6%, and the employee turnover rate was 5.34%.

晶澳注重人才本地化，以生产基地为基础，积极创造优质就业岗位，吸纳当地大学生、农民工等群体就业。2020年，公司本地化（海外以国籍为口径，国内以地级市为口径）雇佣比例为61.93%。

JA Solar focuses on the localization of talents, actively creates quality positions to attract local college students and migrant workers based on its manufacturing bases. In 2020, the proportion of local employment (overseas companies based on nationality while domestic companies based on prefecture-level cities) was 61.93%.



义乌基地新员工入职  
Onboarding ceremony of new staffs of Yiwu Manufacturing Base



曲靖基地组织校园招聘  
The on-campus job fair held by Qujing Manufacturing Base



马来西亚基地组织社会招聘  
The on-campus job fair held by Malaysia Manufacturing Base

## 职业发展 CAREER DEVELOPMENT



2020年晶澳识别核心人才  
**1,134**名

JA Solar identified **1,134** core talents in 2020.

晶澳为员工制定全面的职业发展路径，包括纵向的职级、职务晋升和横向的跨序列拓展，员工可以根据公司需要、个人兴趣等实际情况，在不同通道之间进行转换。通过上述机制，2020年晶澳识别核心人才1,134名。晶澳还通过建立轮岗和竞聘机制增强组织活力，为员工提供更多职业发展空间和机会。

JA Solar has developed full-dimensional career development channels for employees, including vertical promotion of position and title as well as horizontal cross-sequence expansion. Employees can transfer between different channels based on the corporate needs, individual interest and other actual situations. Through the above mechanism, JA Solar identified 1,134 core talents in 2020. In addition, JA Solar has established a rotation and competition mechanism to enhance organizational vitality and provide employees with more career development space and opportunities.

### 案例



#### 晶澳总部举办第七期“长期服务奖”颁奖仪式

JA Solar headquarter held an awarding ceremony of the seventh "Long-term Service Award"

2020年12月3日，为表彰长期为公司服务，为公司发展做出贡献的员工，晶澳北京总部和上海总部分别举办“心相映 共奋进”为主题的第七期“长期服务奖”颁奖仪式，为在晶澳工作满五周年、十周年和十五周年的69名员工颁发荣誉证书及奖品。

On December 3, 2020, in order to commend the employees who have long served the Company and contributed to the development of the Company, Beijing and Shanghai Offices of JA Solar held respectively an awarding ceremony of the seventh "Long-Term Service Award" themed "united, we forge ahead together" to issue honorary certificates and prizes to 69 employees who have served the Company for five, ten or fifteen years.





# 员工培训和技能竞赛 EMPLOYEE TRAINING AND SKILL COMPETITION

## 员工培训 EMPLOYEE TRAINING

晶澳每年举行覆盖公司全体员工的绩效考核及重点骨干人员盘点会，选拔优秀年轻员工作为储备人才进行培养，通过《员工轮岗管理办法》《培训管理制度》等措施进行人才梯队建设，针对不同层级人员实行不同培养方案，包括针对公司高管的总裁班、针对技术部门的专业知识培训、针对新员工的应知应会培训、针对员工知识扩展的“知识分享会”等。

JA Solar holds performance appraisal for all employees of the Company and talent review meeting for key personnel annually to select outstanding young employees as reserve talents. It carries out talent echelon construction through "Management Methods for Staff Rotation", "Training Management Policies" and other measures; implements different training programs for different levels of personnel such as presidential class for senior executives, professional knowledge training for technical departments, training of required knowledge and skills for new employees, and "knowledge sharing session" to expand employees' knowledge.



北京总部新员工入职培训  
On-boarding training for new employees of Beijing headquarter



燕郊基地仓储管理培训  
Warehouse management training of Yanjiao Manufacturing Base



晶澳“牢固信念 坚定信心 创造辉煌”基地宣讲会  
JA Solar's presentation "Strengthen Belief, Consolidate Confidence and Create Brilliance" of Yangzhou Manufacturing Base

## 案例 CASE 晶澳科技云课堂上线 JA Solar Cloud Class set up online

2020年4月22日，晶澳科技云平台课堂上线，首期面向总部和基地发放1,000个账号。截至2021年1月底，云课堂累计培训达2.5万人次，总学时19,603小时。疫情期间，保障了员工线下停课不停学，构建出全新的“绿色”学习型组织。

JA Solar Cloud Class was set up online on April 22, 2020. In the first phase, a total of 1,000 accounts was available to the headquarter and manufacturing bases. As of the end of January 2021, the cloud class had accumulated 25,000 training sessions with a total of 19,603 hours. During the COVID-19 epidemic, employees were able to continue learning without any suspension, building a new "green" learning organization.



邢台基地精益生产培训  
Lean production training of Xingtai Manufacturing Base



曲靖基地拉晶基础培训  
Ingot pulling basic training of Qujing Manufacturing Base



义乌基地项目管理培训  
Project management training of Yiwu Manufacturing Base



扬州基地沙盘培训  
Sand table training of Yangzhou Manufacturing Base



## 技能竞赛

### SKILL COMPETITION

晶澳积极培育具备国际竞争力的高端专业技术型人才。为全面提高员工操作技能，晶澳每年举办不同类型的劳动技能竞赛，通过岗位技能竞赛活动调动员工的工作热情，检验员工岗位操作要点的执行情况。

JA Solar actively cultivates high-end professional and technical talents with international competitiveness. In order to improve the operation skills of employees in a comprehensive way, JA Solar organizes different types of vocational skill competitions every year, and mobilizes employees' work enthusiasm and examines employees' implementation of post operation essentials through post skill competition activities.

#### 案例



#### 晶澳承办河北省职工职业技能大赛太阳能利用工决赛

JA Solar held Hebei Provincial Workers' Vocational Skill Competition- Final for Solar Energy Utilization

2020年10月12日，河北省职工职业技能大赛——太阳能利用工决赛在晶澳邢台基地举行，共有来自沧州、保定、唐山、承德、张家口、邢台、河北省交通运输7支代表队31名选手参加竞技比拼。此次赛事为河北省相关行业职工提供了一个同场竞技和友好交流的平台。

On October 12, 2020, Hebei Provincial Workers' Vocational Skills Competition- Final for Solar Energy Utilization was held in JA Solar's Xingtai Manufacturing Base. There were seven representative teams and 31 players participating in the competition, all coming from the province's prefecture-level cities such as Cangzhou, Baoding, Tangshan, Chengde, Zhangjiakou, Xingtai, and Hebei Provincial Communications Department was specially invited as a guest participant. This competition provided a platform for technique competition together and friendly exchanges for employees in related industries in Hebei.

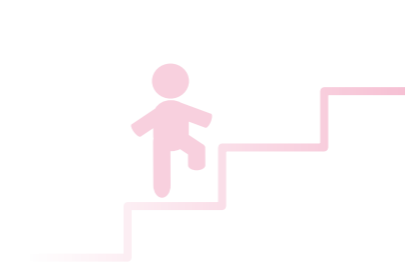


## 人才激励和民主管理

### TALENT INCENTIVE AND DEMOCRATIC MANAGEMENT

## 人才激励

### TALENT INCENTIVE



晶澳不断完善人才长期与短期激励机制，既推出核心人才激励计划等针对性长期激励计划，又制定出销售激励政策等短期激励机制，并设有年度评模选优以及其它日常性奖励项目，保证员工个人价值获得充分认可。

JA Solar continuously improves long-term and short-term incentive mechanisms, launches targeted long-term incentive plans such as core talent incentive scheme and short-term incentive mechanisms such as sales incentive policy, and sets up annual model selection and other daily incentive programs to ensure that employees' personal value will be fully recognized.

2020年9月18日是联合国首个国际同工同酬日，旨在进一步号召人人享有平等的公平和尊严。晶澳秉持男女同工同酬理念，不因性别原因在人才激励上区别对待，推动女性经济赋权进一步加速。

The date of September 18, 2020 is the United Nations' first International Equal Pay Day, which aims to further call on everyone to enjoy equal fairness and dignity. JA Solar adheres to the concept of equal pay for equal work for both men and women, makes no discrimination of talent incentives due to gender reasons and contributes to the acceleration of women's economic empowerment.



2020年评模选优

获奖员工 **5,458** 人次

奖励一线员工 **2,252** 人次

Model selection of 2020

**5,458** employees winning awards

including **2,252** front-line workers

晶澳每年度开展绩效考核，近三年绩效考核覆盖员工范围100%。2020年评模选优共设18类奖项，获奖员工5,458人次，奖励一线员工2,252人次；另外，公司实施了《2020年股票期权与限制性股票激励计划》，向110名激励对象授予1,655.23万份股票期权，向436名激励对象授予952.57万股限制性股票。

JA Solar conducts performance appraisal every year, and it covered 100% of employees in the last three years. The model selection of 2020 had totally 18 categories of awards. A total of 5,458 employees won awards and 2,252 front-line employees were awarded. In addition, the Company initiated the "2020 Stock Options and Restricted Stock Incentive Program", granting 16,552,300 stock options to 110 incentive receivers and 9.5257 million restricted stocks to 436 receivers.



## 民主管理 DEMOCRATIC MANAGEMENT

晶澳提倡“坦诚交流”，积极采取各种措施畅通沟通渠道，包括举办职代会、员工座谈会、设置意见箱等，为员工创造更多参与公司决策和表达意见的机会。晶澳以职工代表大会为民主管理的基本形式（全体员工通过选举产生职工代表，职工代表代表员工签署集体协议，集体协议员工覆盖率100%），支持职工参与企业管理，维护职工合法权益，构建和谐劳动关系。晶澳建立完善的员工满意度调查程序，通过内部沟通平台，倾听员工心声，为员工建言献策、参与民主管理提供渠道。

JA Solar advocates "open communication" and actively takes various measures to smooth the communication channels, including holding workers' congress, staff symposium, setting up suggestion boxes, etc., creating more opportunities for employees to participate in the Company's decision-making and express their own opinions. JA Solar takes the workers' congress as the basic form of democratic management (Employees' representatives are elected among all staff to sign a collective agreement on behalf of the employees and the coverage rate of employees in collective agreement is 100%), supporting employees to participate in enterprise management, safeguarding employees' legitimate rights and interests, and building harmonious labor relations. JA Solar has established a sound survey procedure for employee satisfaction and an internal communication platform, so as to listen to the voices of employees and provide communication channels for employees to participate in the democratic management and offer suggestions.



2020年召开职代会和民主会

**37** 场次

收集合理化建议 **1,547** 条

**37** workers' congress sessions and democratic meetings held

**1,547** rational suggestions collected

2020年，晶澳共召开职工代表大会和民主会37场次，收集合理化建议1547条。公司对员工所提建议进行合理化审查，并反馈信息1036条，对其中有效性问题进行了积极的追踪与解决。

In 2020, labor unions at all levels of the Company held a total of 37 workers' congress sessions and democratic meetings, collecting 1,547 rational suggestions. The Company conducted a rational review of the suggestions made by employees, and gave 1,036 pieces of information in respond to them, actively tracked and resolved the validity issues among them.



宁晋基地职代会  
Workers' Congress of Ningjin Manufacturing Base



包头基地职代会  
Workers' Congress of Baotou Manufacturing Base



东海基地职代会  
Workers' Congress of Donghai Manufacturing Base



晶兴公司退伍军人职工座谈会  
Veteran Staff Symposium of Jingxing Company



扬州基地职代会  
Workers' Congress of Yangzhou Manufacturing Base



义乌基地职代会  
Workers' Congress of Yiwu Manufacturing Base

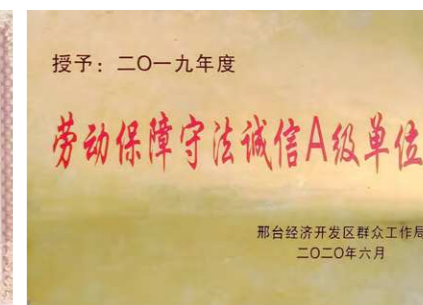
和谐的劳资关系推动晶澳实现了更高质量、更有效率、更快速度、更加健康的发展，也受到了社会各界的广泛好评。2020年，合肥基地连续两年荣获“安徽企业最佳雇主”，并获得“安徽省和谐劳动关系示范企业”荣誉，奉贤基地荣获“上海市和谐劳动关系达标企业”，邢台晶龙荣获邢台经济开发区“劳动保障守法诚信A级单位”等。

The harmonious labor relations have promoted JA Solar's development with higher quality, more efficiency, faster speed, and more soundness, and have also been widely praised by all sectors of society. In 2020, Hefei Manufacturing Base won the title of "Best Employer of Anhui Enterprises" for two consecutive years as well as the honor of "Anhui Demonstration Enterprise with Harmonious Labor Relations". Fengxian Manufacturing Base won the title of "Shanghai Standard Enterprise with Harmonious Labor Relations". Xingtai Jinglong was rated as "Labor Security Level A Unit in Law-abiding and Honesty" by Xingtai Economic Development District.



晶澳劳资关系方面相关荣誉

JA Solar's honors in labor relations building





# 员工关爱和文体生活 EMPLOYEE CARE AND RECREATIONAL ACTIVITIES

## 员工关爱 EMPLOYEE CARE

晶澳坚持以人为本，倡导“快乐工作，感恩生活”。公司为员工配备了运动场所、母婴室、员工活动室、休息室等，并通过为员工提供多项福利措施、开展集体活动、慰问困难员工等方式，提升员工的归属感和幸福感。

JA Solar insists on people orientation and advocates "Happy Work, Gratitude to Life". The Company has provided employees with sports venues, maternal and child rooms, employee activity rooms, lounges, etc., and enhanced employees' sense of belonging and happiness through taking a variety of welfare measures, carrying out collective activities and extending care to employees with difficulties, etc.

### 案例 CASE1 晶澳宁晋基地职工活动中心揭牌使用 Staff Activity Center of Ningjin Manufacturing Base unveiled and put in use



2020年9月17日，宁晋基地职工活动中心揭牌仪式在宁晋基地活动中心隆重举行，活动中心总投资近100万元，总建筑面积1400平米，设台球室、乒乓球室、健身房、棋牌室、瑜伽室、图书室、会议室等，全方位为员工提供集文化、娱乐、健身、休闲为一体的文体活动综合平台。

On September 17, 2020, the opening ceremony of the Staff Activity Center of Ningjin Manufacturing Base was held on site. The activity center, covering 1,400 square meters, had a total investment of nearly RMB 1 million. It set up billiard rooms, table tennis rooms, gyms, chess and cards rooms, yoga rooms, libraries, meeting rooms etc., providing employees with a comprehensive platform for cultural and sports activities integrating culture, entertainment, fitness and leisure.

晶澳工会严格落实中华全国总工会《关于加强基层工会经费收支管理的通知》，在此基础上设置多项福利，如组织联谊会、生日祝福卡、节日礼物、女职工特殊福利、团建活动等，营造温馨愉悦的工作环境。2020年公司相关职工福利费、工会经费和职工教育费支出为7,200多万元。

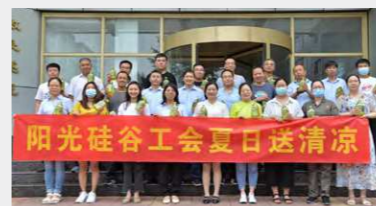
The labor union of JA Solar has strictly implemented the Notice of the All-China Federation of Trade Unions on Strengthening the Management of Funds and Expenditures of Grass-roots Trade Unions and brought a lot of benefits on this basis, such as organizing fraternities, birthday greeting cards, holiday gifts, special benefits for female employees and team building activities to create a pleasant working environment. In 2020, the Company spent more than RMB 72 million on related employee welfare, labor union funds and employee training.

2020年公司职工福利费和教育费、  
工会经费超**7,200**万元

An investment of more than RMB **72**  
million made on employee welfare,  
training and labor union funds



宁晋基地妇女节关心女性活动  
Caring activity for women on Women's Day  
at Ningjin Manufacturing Base



燕郊基地夏季送清凉活动  
Cooling activity at hot summer in Yanjiao  
Manufacturing Base



晶澳总部生日会活动  
Birthday party in JA Solar Beijing headquarter



阳光设备元宵节慰问一线员工  
Caring activity for front-line  
employees during Lantern  
Festival at Sunshine Equipment  
Company



越南基地中秋节发放月饼  
Distribution of mooncake during Mid-  
Autumn Festival in Vietnam Manufacturing  
Base



奉贤基地长期服务人员慰问  
Caretaking for long-term service personnel  
at Fengxian Manufacturing Base



扬州基地防暑慰问活动  
Sunstroke prevention and  
caring activities at Yangzhou  
Manufacturing Base

晶澳每年开展贫困职工帮扶和慰问活动，2020年通过工会拨付、“困难职工一日捐”等渠道筹集资金近80万元，重点用于贫困职工家庭的帮扶慰问。

JA Solar carries out aid and caring activities for poor employees every year. In 2020, JA Solar raised nearly RMB 800,000 through channels such as labor union allocation and "One Day Donation for Employees in Need", focusing on the aid and caring for poor employee families.



晶澳组织困难职工慰问活动  
JA Solar's aid and caring activities for employees in need





## 文体生活 RECREATIONAL ACTIVITIES

公司积极组织兴趣类、运动类、传统节日类等主题丰富的文体活动，每年参与员工超过1万人次，员工“工作在晶澳、愉快在晶澳、幸福在晶澳”的体验感和获得感不断增强。

JA Solar actively organizes various recreational and sports activities with multiple themes such as interest, sports, and traditional festivals and more than 10,000 employees participate in such activities every year. Employees “feel happy working for JA Solar” with their sense of accomplishment and positive sense of self continuing to increase.



包头基地第一届足球赛  
The First Football Match at Baotou Manufacturing Base



邢台基地职工包饺子活动  
Workers making dumplings at Xingtai Manufacturing Base



晶澳第十届篮球赛  
The tenth Basketball League of JA Solar

### 案例 CASE 邢台晶澳荣获第六届“全国文明单位”荣誉称号 JA Solar (Xingtai) Co., Ltd. was awarded the honorary title of the 6th "National Civilized Unit"

2020年11月20日，全国精神文明建设表彰大会隆重召开，邢台晶澳被中央文明委正式授予“全国文明单位”荣誉称号。“全国文明单位”是对各项事业全面协调发展、精神文明建设成效突出，能在社会上发挥示范引领作用单位的最高褒奖，由中央文明委组织综合性评选，每三年评选表彰一次。



The National Spiritual Civilization Construction Commendation Conference was held on November 20, 2020. JA Solar (Xingtai) Co., Ltd. was officially awarded the honorary title of “National Civilized Unit” by the Central Civilization Commission. The “National Civilized Unit” is the highest commendation for the units that play an exemplary and leading role in society. It is organized by the Central Civilization Committee for comprehensive selection, and is selected and honored once every three years.



包头基地拔河比赛  
Tug-of-war competition of Baotou Manufacturing Base



宁晋基地趣味运动会  
Fun Games at Ningjin Manufacturing Base



燕郊基地猜灯谜活动  
Lantern Riddle Guessing at Yanjiao Manufacturing Base



邢台晶龙冰雪大世界活动  
Ice and Snow World activity of Xingtai Jinglong Company



松宫公司诗歌朗诵比赛  
Poetry Recitation Competition of Songgong Company



# 卓越品质

## 坚定善的担当

### OUTSTANDING QUALITY SECURING THE RESPONSIBILITY OF GOODNESS

晶澳坚持“技术创新引领发展、优异品质赢得客户、成本控制提升竞争力、完善服务创造价值”的理念，不断推进产品、服务升级，在满足客户需求的基础上，引领产业发展。

JA Solar adheres to the philosophy of "leading development through technological innovation, winning customers over through excellent quality, enhancing competitiveness through cost control and creating value through excellent services", constantly promotes product and service upgrading, and leads the industry development while meeting customer demands.

48 研发创新  
R & D and Innovation

51 智能制造和运维  
Intelligent Manufacturing and Operation & Maintenance

54 质量管理  
Quality Management

55 客户服务  
Customer Service

#### 联合国2030年可持续发展目标 (SDGs)

UN SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)





## 研发创新 R & D AND INNOVATION

公司拥有一支由美籍科学家及国内外知名院校毕业的博士、硕士组成的专业团队，设有江苏连云港硅片研发中心、江苏扬州电池/组件研发中心、和上海奉贤组件研发中心，与美国、荷兰和澳大利亚等国家的科研机构建立了长期合作关系，强大的研发力量成就晶澳雄厚的企业实力。

The Company has a professional team composed of American scientists, doctor and master graduates from well-known universities both nationally and internationally. We have Jiangsu Lianyungang Silicon Wafer R&D Center, Jiangsu Yangzhou Cell/Module R&D Center and Shanghai Fengxian Module R&D Center. JA Solar has established long-term cooperative relations with scientific research institutions in the Netherlands, Australia and other countries. JA Solar's strong corporate strength is built upon its strong R&D capabilities.



累计拥有授权专利 **897** 项

其中发明专利 **131** 项

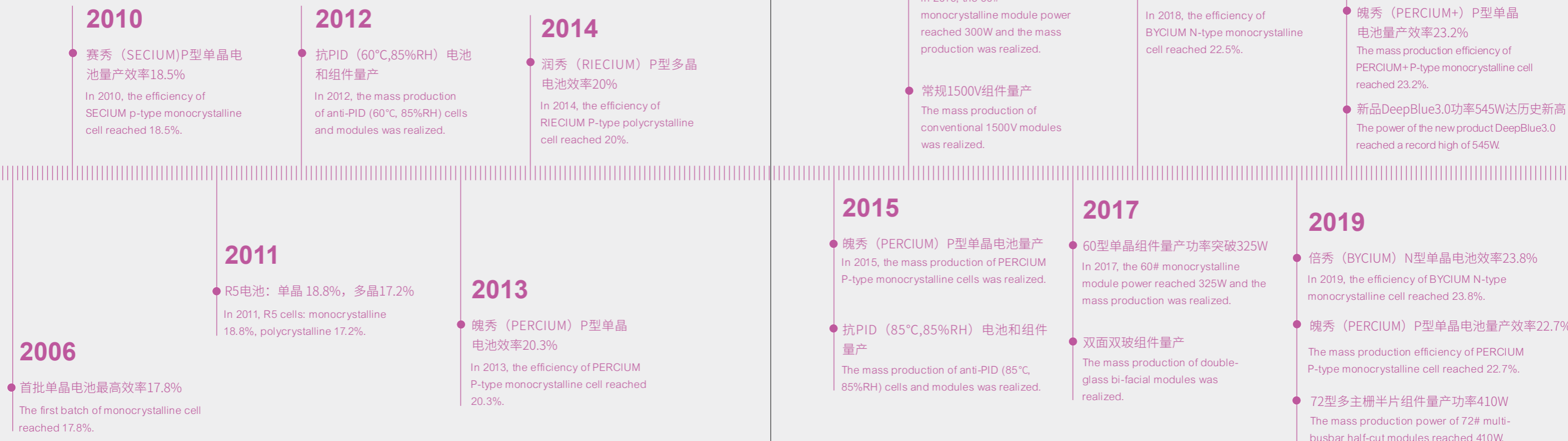
A total of **897** authorized patents

**131** invention patents

晶澳积极响应国家创新战略和光伏行业“领跑者”等专业技术要求，以“生产一代、研发一代、储备一代”战略为导向，电池和组件覆盖了大尺寸、半片、双面双玻、多主栅、高密度、N型等多款产品。目前，行业主流的PERC电池技术由晶澳率先在国内实现规模化量产，公司还率先大规模量产大尺寸多主栅半片组件。2020年公司推出基于182mm硅片的高功率组件DeepBlue 3.0，协助客户有效降低度电成本。截至2020年底，晶澳拥有授权专利897项，其中发明专利131项，位居行业前列。

JA Solar actively responds to national innovation strategy and professional technical requirements of “Top Runner” in the photovoltaic industry. Led by the strategy of the “production generation (the first-generation products that have entered the market), R&D generation (the second-generation products that are ready to be launched to the market) and reserve generation (the third-generation products that are being developed), cells and modules of JA Solar have covered a variety of products such as large-size, half-cut, bifacial & double-glass, multi-busbar, high density and N-type, etc. At present, JA Solar has taken the lead to realize the large-scale mass production of the mainstream PERC technology in China. In addition, the Company is also the first to realize the large-scale mass production of the large-size multi-busbar half-cut modules. In 2020, the Company launched DeepBlue 3.0, a high-power module based on 182mm silicon wafers, to help customers effectively reduce the LCOE. As of the end of 2020, JA Solar has 897 authorized patents, including 131 invention patents, which ranks among the top in the solar PV industry.

## 产品研发里程碑 PRODUCT DEVELOPMENT MILESTONES







得益于先进技术和高性能产品，晶澳入选工信部“国家工业企业知识产权运用试点企业”、获得《能源》杂志社颁发的“能源科创贡献企业”殊荣，晶澳PERC技术入选国家发改委《绿色技术推广目录》；在美国权威检测机构可再生能源试验中心公布的《2020年光伏组件指数报告》(PVMI)中，晶澳凭借组件在品质、可靠性和发电表现三个方面测试中的优异表现，获评“全面表现最优”荣誉。

Thanks to advanced technology and high-performance products, JA Solar was selected as the "National Pilot Enterprise for the Use of Intellectual Property Rights in Industrial Enterprises" by the Ministry of Industry and Information Technology of the People's Republic of China, and was awarded the "Energy Science and Technology Innovation Contribution Enterprise" by the "Energy" magazine. JA Solar's PERC technology was selected in the "Green Technology Promotion Catalog" by the National Development and Reform Commission. In the "2020 Photovoltaic Module Index Report" (PVMI) published by the National Renewable Energy Laboratory (NREL), a U.S. authoritative testing agency, JA Solar was awarded the "Best Overall Performance" for its excellent performance in the tests of module quality, reliability and power generation performance.

入选工信部“国家工业企业知识产权运用试点企业”

获得《能源》杂志社颁发的“能源科创贡献企业”殊荣

晶澳PERC技术入选国家发改委《绿色技术推广目录》

JA Solar was selected as the "National Pilot Enterprise for the Use of Intellectual Property Rights in Industrial Enterprises" by the Ministry of Industry and Information Technology of the People's Republic of China, and was awarded the "Energy Science and Technology Innovation Contribution Enterprise" by the "Energy" magazine. JA Solar's PERC technology was selected in the "Green Technology Promotion Catalog" by the National Development and Reform Commission.

**案例 CASE** 晶澳182组件DeepBlue 3.0正式向市场供货  
JA Solar's 182mm module DeepBlue 3.0 was officially supplied to the market

2020年10月17日，晶澳DeepBlue 3.0组件全球首单从义乌基地顺利出货，标志着晶澳正式开始向全球市场供货182组件。DeepBlue 3.0采用182mm×182mm标准尺寸的硅片，是首批拿到TÜV权威认证的182组件产品，并取得欧盟LVD、EMC等认证。产品结合了新一代高效PERC电池技术PERCIUM+、掺镓硅片等，具有高效率、低衰减技术方案，以及高转换效率、优异的发电能力和出色的可靠性等特点。

On October 17, 2020, JA Solar's first shipment of DeepBlue 3.0 module was successfully released from JA Solar Yiwu Manufacturing Base, marking the official start of JA Solar's supply of 182mm modules to the global market. DeepBlue 3.0 uses 182mm×182mm standard size silicon wafers. It is the first batch of 182mm solar module products certified by TÜV and has obtained EU LVD, EMC and other certifications. This product combines a new generation of high-efficiency PERC cell technology as was named as PERCIUM+ with gallium-doped silicon wafers, etc. and is especially famous for high-efficiency, low-degradation technical solutions, high conversion efficiency, excellent power generation capacity as well as reliability.



## 智能制造和运维 INTELLIGENT MANUFACTURING AND OPERATION & MAINTENANCE

晶澳顺应全球智能制造的大趋势，将智能生产作为企业转型升级的加速器，不断推进产品向高端化、智能化迈进，未来计划建立覆盖生产制造基地和其他各商业主体的智能综合管理运营平台。

Complying with the global intelligent manufacturing trends, JA Solar has deemed intelligent manufacturing as an accelerator for the enterprise transformation and upgrading, and constantly promoted the products to be high-end and intelligent. In the future, an intelligent integrated management and operation platform covering manufacturing bases and other commercial entities will be established.



拉晶炉集控系统  
Crystal growing furnace centralized control system



电池、组件基地AGV系统  
AGV system for both the cell and module manufacturing bases



智能立体库系统  
Three-dimensional intelligent warehousing system



在硅片环节, 晶澳建立生产分析系统, 将设备、辅材、硅片的参数采集入库并加以计算, 该系统如车间管家一般24小时不间断对生产进行实时监测和自动预警, 借助大数据实现对硅片产品质量的精细控制。

In the silicon wafer link, JA Solar has established a production analysis system to record and calculate the parameters of equipment, auxiliary materials and silicon wafers. The system can monitor the production in real time and give automatic early warning 24 hours a day. In virtue of big data, fine control of the quality of silicon wafer product has been realized.

在电池环节, 晶澳建立产品质量分析系统, 通过汇总生产过程中的所有质量和过程数据, 构建全面的质量管理体系并实现质量标准化。设备方面全部使用单晶槽式制绒设备、低压软着陆扩散系统、全自动颜色EL (电致发光) 检测等, 均为世界领先的高度自动化设备, 智能化自动化可升级程度高, 便于实现全程智能控制和监控。

In the solar cell link, JA Solar has established a product quality analysis system to summarize all the quality and process data in the production process, thus achieving the comprehensive quality management system and quality standardization. In terms of equipment, the Company adopts single-crystalline trough etching equipment, low-pressure soft-landing diffusion system and automatic color EL (electroluminescence) detection, etc., which are all highly automated world-leading facilities. The intelligent automation can be upgraded to a high degree, which is easy for full-process intelligent control and monitoring.

在组件环节, 全部使用全自动双轨高速串焊机、双腔层压机全自动装框一体机和拥有工业级电脑智能控制多维度机械手的自动排版机等先进设备。同时, 该生产线拥有较高的适应性, 实现生产全过程智能联动, 一键完成产品规格更换。例如, 邢台基地EL智能检测在串焊EL检测、层前EL检测、层后EL检测的运用, 不仅大幅节省了人工, 更有效提高了检测效率、精度, 提高了产品质量一致性和产品追溯能力。

In the solar module link, the Company uses automatic double-track high-speed string welding machine, double cavity laminating machine, automatic framing integrated machine, the automatic typesetting machine with industrial-grade computer-controlled multi-dimensional manipulators and other advanced equipment. At the same time, the production line has high adaptability, where the intelligent linkage of the whole production process has been realized and product specifications can be replaced with one click. For instance, the application of EL intelligent detection in Xingtai Manufacturing Base in string welding EL detection, pre-layer-up EL detection and post-layer-up EL detection not only greatly saves the labor, but also effectively improves the detection efficiency and accuracy, the consistency of product quality as well as the product traceability.

在光伏电站环节, 晶澳已实现大数据采集, 通过集控信息的采集、汇总、分析, 辅助运维人员对电站日常运检工作进行判断、决策; 通过电站集控平台与电网之间信息、设备的互联互通, 达到光伏电站功率预测、实现远程功率控制功能; 结合无人机巡检、机器人清洗, 有效提高电站运维的安全性、可靠性和经济性。

In the photovoltaic power plant link, JA Solar has realized the big data acquisition, which has assisted the operation and maintenance personnel in their judgment and decision-making on the daily operation and inspection of power stations through the collection, summary and analysis of centralized control information; helped achieve the function of power prediction and remote power control of photovoltaic power stations through the interconnection of information and equipment between the centralized control platform of power stations and the power grid; and effectively improved the safety, reliability and economy of power station operation and maintenance by combining UAV inspection and robot cleaning.

除此之外, 晶澳通过对生产运营管理软件系统 (EPR、MES、WMS等) 和大数据平台、分析应用软件的融合应用, 建设一体化企业综合管理运营平台, 实现生产、运营、管理、分析、决策等业务的全面整合。

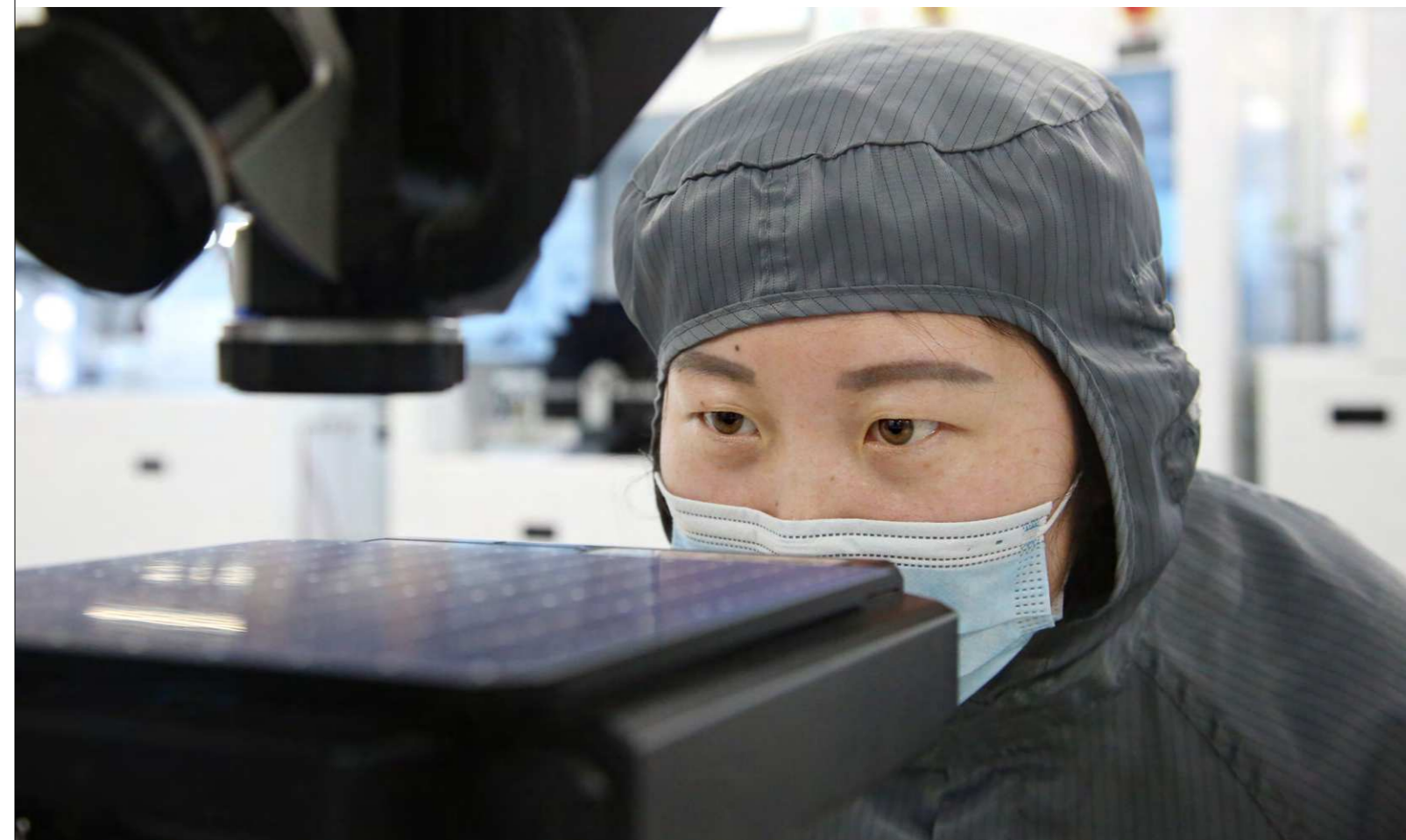
In addition, JA Solar has constructed an integrated enterprise comprehensive management and operation platform, and realized the comprehensive business integration of production, operation, management, analysis, decision-making, etc. through the integrated application of production and operation management software systems (EPR, PLM, MES, WMS, etc.), big data platform and analysis applications.

晶澳的自动化和智能化推进, 受到来自社会各界的关注和认可。2020年, 晶澳入选“中国电子信息百强企业”, 邢台晶澳、阳光硅谷、邢台晶龙、松宫公司均入选“2020年河北省电子信息五十强企业”、晶海洋公司荣获“连云港市智能制造示范车间”等荣誉。

JA Solar's advancement of automation and intelligentization has received social attention and recognition. In 2020, JA Solar was selected as one of the "Top 100 Electronic Information Enterprises in China"; JA Solar (Xingtai) Co., Ltd., Solar Silicon Valley Electronic Science and Technology Co., Ltd., Xingtai Jinglong Electronic Materials Co., Ltd., and Ningjin Songgong Electronic Materials Co., Ltd. were all selected as "2020 Top 50 Electronic Information Enterprises in Hebei". Jinghaiyang Semiconductor Material (Donghai) Co., Ltd. was awarded the "Lianyungang Intelligent Manufacturing Demonstration Workshop" among other honors.



中国电子信息百强企业发布会  
Press Conference of Top 100 Electronic Information Enterprises in China





## 质量管理 QUALITY MANAGEMENT

科学的质量保证体系让优质的晶澳产品源源不断地输往全世界。公司建立总部质量总控、基地质量执行的大质量管理体系，制定完善的质量管理制度，并严格执行管理体系相关要求，对产品的设计开发、采购、生产、检测、出货、运输等过程进行管控，保证所提供的产品符合相关国家标准及客户要求。

A scientific quality guarantee system has made it possible for JA Solar to ship its products continuously to every corner of the world. The Company has established a big quality management system of quality control by headquarter and quality implementation by the manufacturing bases, and has developed a complete quality management system. Moreover, it has implemented management and control of the design and development, procurement, production, testing, shipment, transport and other processes of products in strict accordance with the requirements of the management system to ensure that the products provided meet all the relevant national standards.

### 晶澳组织质量月系列活动 JA Solar organizes "Quality Month" series of activities



晶澳检测中心不断升级先进测量仪器，持续提升实验室管理水平及人员测试能力，陆续获 TÜV SÜD、Intertek、CNAS、CGC 等第三方认证的实验室资质，2021年1月获得第三方检测认证机构德国莱茵TUV授予的TMP目击认可实验室资质，为晶澳行业领先提供有力支持。

JA Solar's Testing Center continues to upgrade its advanced instruments, improve laboratory management and personnel testing capabilities. It has successively obtained third-party laboratory qualifications certified by TÜV SÜD, Intertek, CNAS, CGC, etc. In January 2021, JA Solar obtained the TMP Witness Accredited Laboratory Qualification granted by TÜV Rheinland, a third-party testing and certification agency, which has provided strong support for JA Solar's leadership in the industry.

2020年公司大质量体系新增曲靖、义乌、燕郊、扬州四个基地分现场，并顺利通过ISO9001:2015质量管理体系和 IEC TS62941光伏行业质量管理体系认证，产品质量提升有了更加坚实的保障。在宁晋基地、合肥基地分别荣获河北省质量奖、安徽省级质量奖后，2020年，东海基地再传佳讯，成功获得“2019年连云港市质量奖”。

In 2020, the Company's big quality system welcomed four new manufacturing bases, namely in Qujing, Yiwu, Yanjiao, and Yangzhou. JA Solar also successfully passed the certification of ISO9001:2015 quality management system and IEC TS62941 photovoltaic quality management system, which has provided more solid guarantee for the improvement of product quality. After Ningjin Manufacturing Base and Hefei Manufacturing Base won the Quality Award of Hebei Province and the Quality Award of Anhui Province respectively, good news came again in 2020 that Donghai Manufacturing Base successfully won the "2019 Quality Award of Lianyungang City".

## 客户服务 CUSTOMER SERVICE

晶澳自建立以来一直秉承“客户至上，持续满足客户需求”的服务宗旨，并建立了完善的客户服务保障体系，涵盖技术咨询、技术评审、电站现场服务、客户反馈处理等内容。晶澳通过制定《售前非标订单评审流程》《客户验厂管理流程》《售中服务流程》《客诉抱怨处理流程》《客户满意度调查流程》《退换货流程》及《产品召回流程》等制度规范明确售前、售中、售后的服务流程，确保客户服务标准化运行，并持续改进。

Since its establishment, JA Solar has always adhered to the principle of "customer first, continuously meet the customer requirements" and has established a comprehensive customer service guarantee system, covering technical consulting, technical review, power station field service, customer feedback processing and other contents. JA Solar has formulated several systems and regulations clarifying the pre-sales, in-sales and after-sales service processes to ensure standardized operation and continuous improvement of customer services, including "Pre-sale Review Process of Orders for Non-standard items", "Customer Inspection Management Process", "In-Sale Service Process", "Customer Complaint Handling Process", "Customer Satisfaction Survey Process", "Return and Exchange Process" and "Product Recall Process", etc.

针对客户问题反馈，公司建立“24小时内响应机制”，在收到客户意见后，24小时内及时与客户沟通，了解实际情况，提供紧急解决方案，并将信息反馈至相关部门，组织成立调查小组查找原因，以最快速度响应客户需求。

Regarding customer feedback, JA Solar has established a "24-hour response mechanism". Upon receiving customer opinions, JA Solar is in the position to communicate with customers within the 24-hour timeout period to understand the situation, provide emergency solutions, relay the information to relevant departments in the Company, and organizes an investigation team to find out the real reason and responds to customer needs quickly.

晶澳坚持每年进行客户满意度调查，问卷内容涵盖产品性能与安全、产品交期、产品价格、客户服务、企业社会责任及客户新产品开发需求等多重维度。2020年晶澳客户满意度超过92%，客户投诉解决率为100%。调查结果体现了合作伙伴对晶澳的认可与支持，鼓励晶澳不断提升产品和服务品质，持续满足全球客户日益增长的需求。

JA Solar conducts annual customer satisfaction surveys, and the content covers multiple dimensions such as product performance and safety, product delivery, product pricing, customer services, corporate social responsibility and customer demand for new product development. In 2020, the customer satisfaction of JA Solar exceeded 92% and the customer complaint resolution rate was 100%. The survey results have reflected the recognition and support of partners to JA Solar, encouraged JA Solar to continuously improve the quality of its products and services, so as to enable JA Solar to continue to meet the growing demands of global customers.



客户满意度超过 **92%**

投诉解决率 **100%**

Customer satisfaction of over **92%**

Complaint resolution rate of **100%**



# 绿色友好

## 树立善的榜样

### ESTABLISHING AN EXAMPLE OF GOODNESS WITH ECOFRIENDLINESS

晶澳根植于绿色产业的沃土，以发展成果反哺自然，让良好生态环境成为人民幸福生活的增长点。晶澳全面实施技改提质、降耗减排、管理增效、低碳办公等绿色生产实践，努力在绿水青山与金山银山的良性互动中实现高质量发展，为建设美丽中国和美丽地球贡献晶澳方案。

JA Solar is rooted in the fertile soil of green industry, feeding back nature with the fruits of development and making a good ecological environment a growth point for the people's happy life. JA Solar fully implements green production practices such as technological transformation and quality improvement, consumption reduction and emission reduction, management efficiency enhancement, and low-carbon office, and strives to achieve high-quality development in the benign interaction between lush mountains and gold mountains, in order to contribute JA Solar solutions to the construction of a beautiful China and a beautiful planet.

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Green Office and Green Idea Communication

#### 联合国2030年可持续发展目标 (SDGs)

#### THE SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)



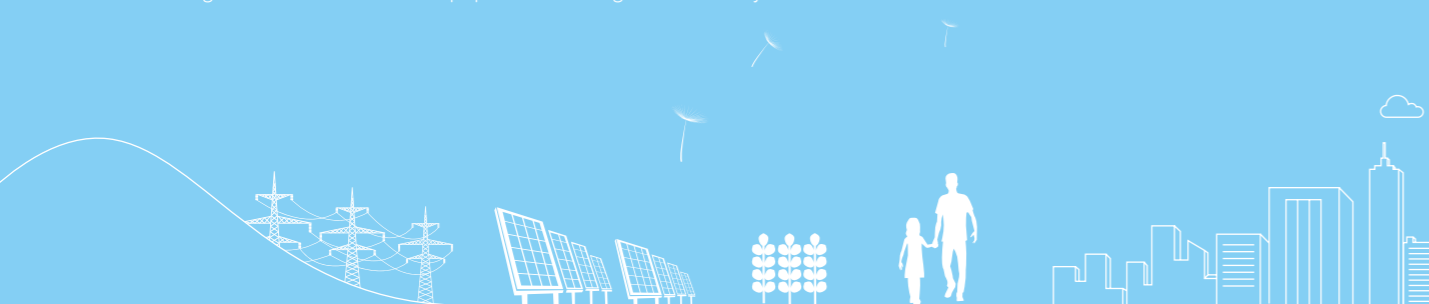


联合国《巴黎协定》的制定向全球释放了控制温室气体排放、推进能源绿色低碳转型的强劲信号。多年来，各国纷纷参与制定碳排放目标，为推动全球绿色能源普及起到了重要作用，也为晶澳快速发展创造了机会。截至2020年底，晶澳累计电池组件产品出货量约63GW，这些产品最终运用到电站后，相当于每年减少二氧化碳排放量约6,900万吨。

The formulation of "The Paris Agreement" by the UN has released a strong signal to the world to control greenhouse gas emissions and to promote the green and low-carbon transition of energy. Various countries have participated in the formulation of carbon emission targets over the years, which have played an important role in promoting the popularization of global green energy and have also created opportunities for the rapid development of JA Solar. As of the end of 2020, JA Solar's cumulative shipments of solar cells and modules have been approximate to 63GW. After these products are finally installed in power stations, it is equivalent to reducing carbon dioxide emissions by approximately 69 million tons per year.

晶澳科技以“开发太阳能、造福全人类”为使命，积极构建绿色发展体系，先后加入联合国全球契约组织、中国绿色供应链联盟光伏专业委员会、中国企业气候行动等机构，连续两年获得中国社会责任百人论坛颁发的中国企业社会责任“绿色环保奖”，用实际行动助力全球生态环境建设和绿电普及。

Taking "Develop Solar Power to Benefit the Entire Human Race" as its mission, JA Solar is active on the road to build a green development system. The Company has successively joined the United Nations Global Compact, Photovoltaic Professional Committee of China Green Supply Chain Alliance, China Business Climate Action and other Institutions, and won in the past two years China Corporate Social Responsibility "Green Environmental Protection Award" granted by the China Social Responsibility 100 Forum. JA Solar perseveres with practical actions to help the construction of global ecological environment and the popularization of green electricity.



## 环境风险辨识 ENVIRONMENTAL RISK IDENTIFICATION

公司严格遵守国家环境保护法律法规和政策规范，不断完善环境管理，依法实施清洁生产，主要污染物排放均符合国家相关标准。公司定期和不定期地对全场所开展环境风险辨识活动，有效控制环境风险。

The Company strictly abides by national environmental protection laws, regulations and policies, continuously improves the environmental management, implements clean production in accordance with the law and discharges major pollutants in compliance with relevant national standards. JA Solar performs environmental risk identification activities on all of its premises on a both regular and irregular basis to effectively control the environmental risks.



2020年，晶澳**100%**达到环境合规

In 2020, JA Solar environmental compliance achieved **100%**

公司面临的主要环境风险为废水、废气、危险废物以及可能发生的泄漏、火灾。公司通过相关培训、环保应急演练和预案不断增强全员识别风险、管控风险的能力，增强环境保护、节能提效的意识。在建设项目实施前，公司根据当地政府和其他有关机构的要求做各类报告，如环评报告、可研报告等，项目前期的评估考量涵盖对当地住民的影响等各个要素，事无巨细从源头践行环保承诺，规避环保风险。2020年，晶澳100%达到环境合规。

The main environmental risks that the Company have had to confront with are wastewater, exhaust gases, hazardous waste, possible leakages and fire. The Company has continuously enhanced the ability of all employees to identify risks, manage and control risks, and enhanced their awareness of environmental protection, energy conservation and efficiency improvement through relevant training, environmental protection emergency drills and plans. Before starting a construction project, the Company draws up various reports in accordance with the requirements of the local government and other relevant agencies, such as environmental impact assessment reports, feasibility study reports, etc. The preliminary evaluation of the project involves various elements such as the impact on local residents, etc. JA Solar fulfills environmental protection commitments and avoids environmental risks. In 2020, JA Solar environmental compliance achieved 100%.





## 绿色技术和绿色供应链 GREEN TECHNOLOGY AND GREEN SUPPLY CHAIN

晶澳始终以提升光伏发电的功率和可靠性为目标，推进光伏技术开发及工艺改进，引领带动光伏技术持续进步，助推光伏发电加速平价上网，实现全球绿电普及应用。2020年12月，国家发改委联合科技部、工信部等正式发布《绿色技术推广目录(2020年)》，晶澳申报的“高效PERC单晶太阳能电池及组件应用技术”通过专家评审，纳入目录并向社会推广。晶澳制造正以更大的步伐走进世界各地，造福全球民生。

JA Solar has always promoted photovoltaic technology development and process improvement, leading the continuous advancement of photovoltaic technology, boosting photovoltaic power generation to speed up the grid parity, and realizing the universal application of green power across the globe. In December 2020, the National Development and Reform Commission, together with the Ministry of Science and Technology, the Ministry of Industry and Information Technology, etc. officially released the “Green Technology Promotion Catalog (2020)”. The “High-efficiency PERC Process Monocrystalline Solar Cell and Module Application Technology” declared by JA Solar passed the expert review and was included in this catalog for social promotion. JA Solar Manufacturing is stepping into every household with greater steps to benefit livelihoods across the world.

晶澳不断践行“绿水青山就是金山银山”的绿色发展理念，关注产品全生命周期，将绿色环保理念贯穿于研发、生产、包装、物流和产品回收等环节，减少环境危害和资源消耗，全面推行ISO14001环境管理体系建设，致力于打造资源节约型和环境友好型企业。比如：

JA Solar continuously implements the concept of green development as “lucid waters and lush mountains are invaluable assets”, focuses on the whole product life cycle, implements the concept of green environmental protection in the R&D, production, packaging, logistics, product recycling and other links to reduce environmental hazards and resource consumption, and fully promotes the construction of ISO14001 environmental management system. JA Solar is committed to building a resource-saving and environment-friendly enterprise. For instance:



### 在设计环节 In the design process

电池采用碱抛工艺降低硝酸耗量及总氮处理；在机场环境使用防炫光组件防止组件光污染影响；在氨气盐雾沙尘等恶劣环境，采用符合氨气IEC 62716、盐雾IEC 61701、沙尘IEC 60068等相关测试标准设计要求的组件。

JA Solar has adopted alkaline polishing technology for solar cells to reduce nitric acid consumption and total nitrogen treatment; used anti-glare modules in the airport environment to prevent the impact of light pollution arised from modules; while in harsh environments such as ammonia, salt fog, and dust, has met the design demand of IEC 62716 (ammonia), IEC 61701 (salt Fog), IEC 60068 (sand and dust) and other related test standards.

### 案例



### 晶澳荣获中国企业社会责任“绿色环保奖” JA Solar won China Corporate Social Responsibility “Green Environmental Protection Award”

2020年11月12日-13日，由权威机构中国社会责任百人论坛主办的“第三届北京责任展”在北京举行，会议期间，中国社会责任百人论坛发布“2020年责任金牛奖”，晶澳科技荣获2020年中国企业社会责任“绿色环保奖”，这是继2019年后，晶澳第二次获此殊荣。

On November 12-13, 2020, “The Third Beijing Responsibility Exhibition” organized by the China Social Responsibility 100 Forum was held in Beijing. At the forum, the China Social Responsibility 100 Forum awarded the “2020 Golden Bull Award for Responsibility”. JA Solar won the China Corporate Social Responsibility “Green Environmental Protection Award”. This was the second time JA Solar won this award in the last two years.



### 在生产环节 In the production process

晶澳通过积极推进智能化改进和技术工艺优化（例如，采用一坩多棒拉晶技术，让已成为边角料的产品被重新利用，提高硅材料利用率）等方式有效提升效率和降低能耗、物耗等。

JA Solar has actively promoted intelligent improvement and technological process optimization (i.e. the use of one-crucible multi-rod crystal growing technology to allow side slabs and scraps to be reused and to increase the utilization rate of silicon materials) to effectively improve efficiency and reduce energy consumption, material consumption, etc.



### 在回收环节 In the recycling process

晶澳针对有健康安全隐患者产品设有召回流程，确保及时消除缺陷产品的危害风险。晶澳于2012年成为PV Cycle针对欧洲区的会员，2020年再次申请成为全球会员，所有组件回收均可以委托PV Cycle处理。

JA Solar has a recall process for products with potential health and safety hazards to ensure that the hazard risks of defective products are avoided in a prompt way. JA Solar became a member of PV Cycle for the European region in 2012 and applied to become a global member again in 2020. The recycling of all modules can be entrusted to PV Cycle for further treatment.



# 绿电供给和使用 GREEN POWER SUPPLY AND UTILIZATION

## 绿电供给 GREEN POWER SUPPLY



持有光伏电站**30**多个，  
年发绿电约**8.4**亿kWh  
并网项目合计装机规模近**440**MW  
JA Solar owns more than **30** photovoltaic power plants which generated about **840** million kWh of green power in 2020

The total installed capacity of grid-connected projects is **440**MW

晶澳立足主业优势，不断丰富业态布局，积极推进电站开发和电站运营维护等业务，推进光伏绿色能源全产业链发展。截至2020年底，晶澳持有博乐60MW光伏电站、大同50MW光伏电站、临城下峪42MW光伏电站等30多个项目，已并网项目合计装机规模近440MW。2020年晶澳持有电站年发绿电约8.4亿kWh。

JA Solar has continuously enriched its business layout, actively promoting power station development as well as operation and maintenance, and promoted the development of the entire industry chain of photovoltaic green energy based on its main business advantages. As of the end of 2020, JA Solar owns more than 30 projects including Bole 60MW photovoltaic power plant, Datong 50MW photovoltaic power plant, Lincheng Xiayu 42MW photovoltaic power plant, etc. The total installed capacity of the grid-connected projects is nearly 440MW. In 2020, all the power plants owned by JA Solar generated approximately 840 million kWh of green power annually.

### 案例 CASE 晶澳朝阳300MW光伏平价项目宣布开工 JA Solar's 300MW photovoltaic parity project in Chaoyang announced the start of construction

2020年7月9日，晶澳首个大型地面平价电站项目——朝阳300兆瓦光伏平价上网项目开工仪式在辽宁省朝阳市隆重举行。晶澳朝阳平价项目总投资约14.54亿元，电站运行期25年，年均发电量约5亿千瓦时，相当于减少标准煤燃烧395万吨。

On July 9, 2020, the opening ceremony of the first large-scale parity power plant project in Chaoyang, a 300MW photovoltaic grid-connected one, was held in Chaoyang, Liaoning. The total investment of this photovoltaic parity project by JA Solar was about RMB 1.454 billion. The power plant has a 25-year operation period and an average annual power generation of about 500 million kilowatt-hours, which is equivalent to reducing standard coal combustion by 3.95 million tons.



晶澳宁夏贺兰30MW光伏电站  
JA Solar's 30MW Photovoltaic Power Plant in Helan, Ningxia



晶澳新疆和丰30MW光伏电站  
JA Solar's 30MW Photovoltaic Power Plant in Hefeng, Xinjiang



晶澳山西大同50MW光伏电站  
JA Solar's 50MW Photovoltaic Power Plant in Datong, Shanxi



晶澳青岛太平货柜分布式电站  
JA Solar's Taiping Container Distributed Photovoltaic Power Plant in Qingdao



晶澳上海崇明离网项目  
JA Solar's Shanghai Chongming Off-Grid Project



晶澳青岛斐雪派克分布式电站  
JA Solar's Fisher & Paykel Distributed Photovoltaic Power Plant in Qingdao



晶澳合肥通彩分布式电站  
JA Solar's Tonsail Distributed Photovoltaic Power Plant in Hefei



## 绿电使用 GREEN POWER UTILIZATION

晶澳积极倡导绿色能源使用。晶澳曲靖基地位于云南省曲靖经济技术开发区，当地水资源丰富，根据云南省整体电力消费结构来计算，晶澳曲靖基地以水电为主的清洁能源使用占比超过85%。

JA Solar actively advocates the utilization of green energy. Qujing Manufacturing Base of JA Solar is located in the Qujing Economic and Technological Development Zone in Yunnan Province, where local water resources are rich. According to the overall power consumption structure of Yunnan Province, the clean energy based on hydropower used by Qujing Manufacturing Base of JA Solar occupies over 85%.

晶澳各基地积极利用自身闲置房顶、车棚、空地等，通过安装小型地面电站，屋顶分布式、水上悬浮式电站等多种形式自发自用、余电上网，不仅减少了对传统电力的依赖，还为基地办公、生产、生活提供了清洁的电力，减少了二氧化碳排放。

Various bases of JA Solar also make good use of their idle roofs, carports and open spaces, etc. to generate power for their own use and sell surplus power to the grid by installing small ground power stations, roof distributed, floating power stations and other forms. It not only reduces the dependence on traditional power, but also provides clean electricity for the office, production and living of the bases, and reduces carbon dioxide emissions.



邢台基地厂房分布式项目  
Plant Distributed Project in Xingtai Manufacturing Base



东海基地车棚分布式项目  
Carport Distributed Project in Donghai Manufacturing Base



扬州基地BIPV项目  
BIPV Project in Yangzhou Manufacturing Base

### 2020年晶澳基地分布式装机规模和发电情况

Distributed Installed Capacity and Power Generation of JA Solar Manufacturing Bases in 2020

生产基地	Base	并网装机量 (MW) Grid-connected installed capacity (MW)	并网发电量 (万 kWh) Grid-connected power generation (10000kWh)
邢台基地	Xingtai Manufacturing Base	2.90	396.83
合肥基地	Hefei Manufacturing Base	6.00	725.62
扬州基地	Yangzhou Manufacturing Base	2.74	128.00
宁晋基地	Ningjin Manufacturing Base	7.30	626.47
燕郊基地	Yanjiao Manufacturing Base	0.37	54.35
奉贤基地	Fengxian Manufacturing Base	4.88	347.60
东海基地	Donghai Manufacturing Base	4.36	356.33
合计	Total	28.55	2635.20

## 节能降耗和减少排放 ENERGY SAVING AND EMISSION REDUCTION



### 5个国家级绿色工厂

5 National Green Factories

晶澳始终秉承“环境友好，节约减排，高效持续发展”的环保理念，高标准推动节能、减排、治污、增绿等各项工作落实见效，精心打造世界一流标杆绿色工厂。目前，晶澳宁晋基地、合肥基地、邢台基地、上海奉贤基地和包头基地先后获得工信部授予的国家级“绿色工厂”称号，这不仅是晶澳作为行业先进标杆的体现，更是对全球可持续发展目标的积极响应。

JA Solar always adheres to a concept of “Environmental friendly, energy saving and emission reduction, efficient and sustainable development” for environmental protection and is committed to promoting several tasks such as energy conservation, emission reduction and green enrichment, etc. according to high standards in order to elaborately build a world-class benchmark green factory. At present, Ningjin Manufacturing Base, Hefei Manufacturing Base, Xingtai Manufacturing Base, Fengxian Manufacturing Base and Baotou Manufacturing Base have successively won the title of National “Green Factory” granted by the Ministry of Industry and Information Technology, which is not only the embodiment of JA Solar as an advanced benchmark in the photovoltaic industry, but also a positive response to the global target for sustainable development.



河北宁晋基地  
Ningjin Manufacturing Base, Hebei



内蒙古包头基地  
Baotou Manufacturing Base, Inner Mongolia



安徽合肥基地  
Hefei Manufacturing Base, Anhui



河北邢台基地  
Xingtai Manufacturing Base, Hebei



上海奉贤基地  
Fengxian Manufacturing Base, Shanghai



## 节约用水 WATER CONSERVATION

晶澳积极完善可持续水资源利用方案，持续降低单位用水需求。在生产厂区，通过使用可调节阀门、循环利用、纯水制取、浓缩水循环处理等措施，完善水资源利用方案；在生活区，晶澳倡导全员节约用水，共同建设节水、节能型企业；晶澳还积极探索废水回收利用项目，减少排放，节约用水。

JA Solar actively improves its sustainable water resources utilization scheme and reduces continuously unit water demand. In the production plant area, the water resources utilization scheme can be improved through the use of adjustable valves, recycling, pure water production, concentrated water circulation treatment and other measures. In the living area, JA Solar advocates that all employees save water and jointly build a water-saving and energy-saving enterprise. At the same time, JA Solar actively explores wastewater reuse projects, which not only reduces emissions but also conserves water.

公司均合法取水，并尽可能减少水资源利用。2020年，公司取水量共约1,372万吨，中水回用量约251万m<sup>3</sup>，南水北调取水约为395万吨。公司部分基地（如包头基地）位于缺水地区，该基地通过中水回用、节水设备等措施，有效减少了水资源使用和废水排放。

The Company has sourced water legally and minimized the usage of water resources as much as possible. In 2020, the company sourced about 13.72 million tons of water, about 2.51 million m<sup>3</sup> of reclaimed water and about 3.95 million tons of water from the South-to-North Water Transfer Project. Some of the Company's Manufacturing bases (e.g., the Baotou Manufacturing Base) are located in water-scarce areas. The Baotou Manufacturing Base has effectively reduced water usage and wastewater discharge through measures such as reclaimed water reuse and application of water-saving equipment.



水循环处理系统  
Water recycling and reuse equipment

### 主要在营生产型公司取水方式

Water Sourcing Methods of the Major Manufacturing Subsidiaries in Operation

序号 NO.	基地	Factory	取水方式	Water withdrawal methods
1	晶澳太阳能有限公司	JingAo Solar Co., Ltd.	地表水	Surface water
2	上海晶澳太阳能科技有限公司	Shanghai JA Solar Technology Co., Ltd.	市政供水	Municipal water supply
3	晶海洋半导体材料（东海）有限公司	Jing Hai Yang Semiconductor Material (Donghai) Co., Ltd.	市政供水	Municipal water supply
4	晶澳（扬州）太阳能科技有限公司	JA Solar Technology Yangzhou Co., Ltd.	市政供水	Municipal water supply
5	合肥晶澳太阳能科技有限公司	Hefei JA Solar Technology Co., Ltd.	市政供水	Municipal water supply
6	阳光硅谷电子科技有限公司	Solar Silicon Valley Electronic Science and Technology Co., Ltd.	市政供水	Municipal water supply
7	晶澳（邢台）太阳能有限公司	JA Solar (Xingtai) Co., Ltd.	市政供水	Municipal water supply
8	包头晶澳太阳能科技有限公司	Baotou JA Solar Technology Co., Ltd.	市政供水	Municipal water supply
9	河北晶龙阳光设备有限公司	Hebei Jinglong Sunshine Equipment Co., Ltd.	市政供水	Municipal water supply
10	邢台晶龙电子材料有限公司	Xingtai Jinglong Electronic Materials Co., Ltd.	市政供水	Municipal water supply
11	宁晋晶兴电子材料有限公司	Ningjin Jingxing Electronic Materials Co., Ltd.	地表水	Surface water
12	宁晋松宫电子材料有限公司	Ningjin Songgong Electronic Materials Co., Ltd.	地表水	Surface water
13	邢台晶龙新能源有限责任公司	Xingtai Jinglong New Energy Co., Ltd.	市政供水	Municipal water supply
14	曲靖晶龙电子材料有限公司	Qujing Jinglong Electronic Materials Co., Ltd.	市政供水	Municipal water supply
15	河北晶龙新材料科技有限公司	Hebei Jinglong New Materials Technology Co., Ltd.	市政供水	Municipal water supply
16	河北晶乐光电科技有限公司	Hebei Jingle Photoelectricity Technology Co., Ltd.	市政供水	Municipal water supply
17	邢台晶龙光伏材料有限公司	Xingtai Jinglong PV Materials Co., Ltd.	市政供水	Municipal water supply
18	晶澳（扬州）新能源有限公司	JA Solar New Energy Yangzhou Co., Ltd.	市政供水	Municipal water supply
19	义乌晶澳太阳能科技有限公司	Yiwu JA Solar Technology Co., Ltd.	地表水	Surface water
20	JA Solar Malaysia Sdn. Bhd.	JA Solar Malaysia Sdn. Bhd.	市政供水	Municipal water supply
21	JA Solar Viet Nam Company Limited	JA Solar Viet Nam Company Limited	市政供水	Municipal water supply



## 降低能耗 ENERGY CONSUMPTION REDUCTION

晶澳积极实施技改和智能化改造降低能源消耗，包括空调系统智能化改造、层压区空调分时段控制、真空泵站替代真空发生器、制热系统改善等；积极推进直供电项目，减少能源费用支出。

JA Solar actively implements energy-saving technological transformation and intelligent transformation to reduce energy consumption, for instance, intelligent transformation of air-conditioning system, time-segmented control of air-conditioning in laminated areas, replacement of vacuum generators with vacuum pump stations, improvement of heating systems, and so forth. JA Solar actively promotes the direct power supply projects and reduces energy expenditures.

为了更好地响应国家能源战略和全球能源发展趋势，晶澳积极推进能源管理体系建设，合肥基地、包头基地等已取得ISO50001证书，后续将进一步扩大对能源的审计。

JA Solar actively promotes the construction of an energy management system in order to better respond to the national energy strategy and global energy development trends. The Hefei and Baotou locations have obtained ISO50001 certificates and the audit of energy will be further performed in the future.

2020年，晶澳生产基地用电总量约224.9万MWh，同比增长36.7万MWh，主要源于新增产能。已达产项目单位产品耗电量有所下降，其中扬州基地电池单位耗电量下降15.5%、燕郊基地切片单位产品耗电量下降28.7%、包头基地拉晶单位产品耗电量下降23.6%。

In 2020, the total power consumption of the manufacturing bases of JA Solar was about 2.249 million MWh, with a year-on-year increase of 367,000 MWh mainly due to new production capacity. And the unit power consumption of all projects reaching the production capacity was reduced. Among them, the unit power consumption of the cell processing in Yangzhou Manufacturing Base decreased by 15.5%, the power consumption of the slicing per product in Yanjiao Manufacturing Base decreased by 28.7% and the power consumption of the ingot pulling per product in Baotou Manufacturing Base decreased by 23.6%.

## 减少排放 EMISSION REDUCTION

晶澳各基地通过日常人工监测及在线监测设备跟踪污染物的排放情况，确保环保治理设施正常有效运行，定期邀请第三方机构进行全面监测分析，有的放矢、多措并举地确保各项减排工作落到实处、见到实效。各基地的各类污染物排放均符合国家标准要求。

Through daily manual monitoring and online monitoring equipment, JA Solar manufacturing bases track the emissions of pollutants to ensure the normal and effective operations of environmental protection facilities, regularly invite third-party agencies to conduct comprehensive monitoring and analysis, take targeted as well as multiple measures to ensure that various emission reduction tasks are accomplished. The emissions of various pollutants at each manufacturing base are within the limits of national standards.



## 废水处理 Wastewater Treatment

晶澳严格执行国家和地方关于废水处理的排放标准，各基地安装废水治理设施，持续优化废水处理工艺，确保废水中COD、氨氮等主要污染物浓度达到排放标准。2020年，晶澳废水排放量759万m<sup>3</sup>，污水排放标准均符合国家《污水综合排放标准》、行业标准及地方标准。晶澳邀请有资质的外部专业机构对各基地进行环境水质监测，检测结果全部合格。

JA Solar strictly implements national and local wastewater treatment standards. Each manufacturing base has installed wastewater treatment facilities and continuously optimizes wastewater treatment processes to ensure that the concentration of major pollutants such as COD and ammonia nitrogen in the wastewater meet the discharge standards. In 2020, JA Solar discharged 7.59 million m<sup>3</sup> of wastewater, and the wastewater discharge standards were in line with the national "Integrated Wastewater Discharge Standard", industrial and local standards. JA Solar invited qualified external professional organizations to monitor the environmental water quality of each manufacturing base and the test results were all qualified.

### 2020年部分废水处理典型项目 Typical Wastewater Treatment Projects in 2020

基地名称 Base name	项目名称 Project name	项目简单描述 Project brief description	投入(万元) RMB 10 thousand	成果 Result
燕郊基地 Yanjiao Manufacturing Base	生产用水循环利用降本项目 Cost reduction project for production water recycling	结合公司现有资源进行重组改进，增加必要处理装置，实现自动化控制及在线监测，最终实现冷却液在线处理并回用。 Combining the Company's existing resources to reorganize and upgrade, adding necessary processing devices, realizing automatic control and online monitoring. Finally, the online processing and reuse of cooling waste liquid is achieved.	452	压滤水回用率约80%，年节约RO水约17万m <sup>3</sup> Reuse rate of filter-pressed water is 80%, saving 170,000 m <sup>3</sup> of RO water consumption annually
东海基地 Donghai Manufacturing Base	压滤水回用项目 Reuse project for filter-pressed water	线切机切片后产生的废水在室外废水池集中收集，通过自吸泵转到厂房浊液罐中，接着经过压滤机进行固液分离，分离后的清液经过精密过滤器回用线切车间，用于切割、冲洗机床和涮缸。 The wastewater generated after the wiresaw slicing machine processing step is collected in the outdoor wastewater tank and transferred to the turbid liquid tank of the workshop by the self-priming pump, then passes through the filter press for the solid-liquid separation. The separated clear liquid will be recycled through the precision filter and fed back to the workshop for cutting, washing machine tools and rinsing tanks.	650	压滤水回用率80.5%，节约RO水量23万m <sup>3</sup> Reuse rate of filter-pressed water is 80.5%, saving 230,000 m <sup>3</sup> of RO water consumption
扬州基地 Yangzhou Manufacturing Base	废水脱氮升级改造项目 Denitrification and upgrading project for waste water	通过对原废水系统的改造，在物化与生化系统之间增加高效脱氮系统，物化系统处理后的车间废水先进入高效脱氮系统，废水中的硝态氮去除率达90%以上。 A high-efficiency denitrification system was added between the physical and chemical systems through the transformation of the original waste water system. The waste water from the workshop will be treated by the physical and chemical system first and then enters the high-efficiency denitrification system. The removal rate of nitrate nitrogen in the wastewater is more than 90%.	800	硝酸废液满足100%自行处理，每年减少废酸危废7,200吨 Nitric acid waste liquid is 100% self-disposed, 7,200 tons of waste acid and hazardous waste reduced every year



主要在营生产型公司排污去向及排污标准

序号	基地	污水排放去向	污水排放依据标准
1	晶澳太阳能有限公司	污水处理厂	《污水综合排放标准》 《电池工业污染物排放标准》
2	上海晶澳太阳能科技有限公司	污水处理厂	上海《污水综合排放标准》 (DB31199-2018) 三级排放标准
3	晶海洋半导体材料(东海)有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准
4	晶澳(扬州)太阳能科技有限公司	污水处理厂	《电池行业污染物排放标准》
5	合肥晶澳太阳能科技有限公司	污水处理厂	西部组团进水标准
6	阳光硅谷电子科技有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准和当地污水处理厂进水水质要求
7	晶澳(邢台)太阳能有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准、当地污水处理厂进水水质要求
8	包头晶澳太阳能科技有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准
9	河北晶龙阳光设备有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准
10	邢台晶龙电子材料有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 二级排放标准
11	宁晋晶兴电子材料有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 二级排放标准
12	宁晋松宫电子材料有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准、当地污水处理厂进水水质要求
13	邢台晶龙新能源有限责任公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准
14	曲靖晶龙电子材料有限公司	污水处理厂	《污水排入城镇下水道水质标准》 GB/T 31962-2015
15	河北晶龙新材料科技有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准
16	河北晶乐光电科技有限公司	污水处理厂	《污水综合排放标准》(GB8978-1996) 三级排放标准
17	邢台晶龙光伏材料有限公司	在邢台晶龙电子材料公司院内，无工业污水	
18	晶澳(扬州)新能源有限公司	污水处理厂	《电池行业污染物排放标准》
19	义乌晶澳太阳能科技有限公司	污水处理厂	《电池工业污染物排放标准》 及浙江金华排污标准
20	晶澳太阳能马来西亚有限公司	污水处理厂	Standard B of Environmental Quality Act 2009
21	晶澳太阳能越南有限公司	直排	QCVN 40:2011/BTNMT A 级

Wastewater Discharge Direction and Standards of the Major Manufacturing Subsidiaries in Operation

No.	Factory	Wastewater discharged to	Discharge standard of wastewater
1	JingAo Solar Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard", "Pollutant Emission Standard of Solar Cell Industry"
2	Shanghai JA Solar Technology Co., Ltd.	Sewage treatment plant	Shanghai "Integrated Wastewater Discharge Standard" (DB31199-2018) Level 3 Discharge Standard
3	Jing Hai Yang Semiconductor Material (Donghai) Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard
4	JA Solar Technology Yangzhou Co., Ltd.	Sewage treatment plant	"Pollutant Emission Standard of Solar Cell Industry"
5	Hefei JA Solar Technology Co., Ltd.	Sewage treatment plant	Incoming Water Standard for Western Cluster
6	Solar Silicon Valley Electronic Science and Technology Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard and incoming water quality requirements of local sewage treatment plants
7	JA Solar (Xingtai) Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard and incoming water quality requirements of local sewage treatment plants
8	Baotou JA Solar Technology Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard
9	Hebei Jinglong Sunshine Equipment Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard
10	Xingtai Jinglong Electronic Materials Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 2 Discharge Standard
11	Ningjin Jingxing Electronic Materials Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 2 Discharge Standard
12	Ningjin Songgong Electronic Materials Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard and incoming water quality requirements of local sewage treatment plants
13	Xingtai Jinglong New Energy Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard
14	Qujing Jinglong Electronic Materials Co., Ltd.	Sewage treatment plant	"Water Quality Standard for Waste Water Discharged into Urban Sewers" GB/T 31962-2015
15	Hebei Jinglong New Materials Technology Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard
16	Hebei Jingle Photoelectricity Technology Co., Ltd.	Sewage treatment plant	"Integrated Wastewater Discharge Standard" (GB8978-1996) Level 3 Discharge Standard
17	Xingtai Jinglong PV Materials Co., Ltd.	It is located in the premises of Xingtai Jinglong Electronic Material Co., Ltd. and there is no industrial sewage	
18	JA Solar New Energy Yangzhou Co., Ltd.	Sewage treatment plant	"Pollutant Emission Standard of Solar Cell Industry"
19	Yiwu JA Solar Technology Co., Ltd.	Sewage treatment plant	"Pollutant Emission Standard of Solar Cell Industry" and Jinhua Waste Discharge Standard
20	JA Solar Malaysia Sdn. Bhd.	Sewage treatment plant	Standard B of Environmental Quality Act 2009
21	JA Solar Viet Nam Company Limited	Straightly discharged	QCVN 40:2011/BTNMT Grade A





## 废气处理 Exhaust Gas Treatment

晶澳产气环节的生产设备多为密闭设备，通过设备自带的集风系统，有效提高废气的收集效率。同时，有针对性的配备催化燃烧、有机废气净化塔、湿式除尘等一系列废气治理设施，并委托具备相应资质的权威第三方对设备进行监测，确保VOC的排放浓度符合国家和地方要求。

Most of the production devices in JA Solar's gas production process are closed and the air collection system of the equipment effectively improves the collection efficiency of exhaust gas. At the same time, a series of exhaust gas treatment facilities such as catalytic combustion, organic exhaust gas purification tower, and wet dust removal are equipped in a targeted manner, and an authoritative third party with corresponding qualifications is entrusted to monitor the equipment to ensure that the VOC emission concentration meets national and local requirements.

### 晶澳部分废气处理典型案例

Typical Exhaust Gas Treatment Projects by JA Solar

基地项目名称 Base name	项目简单描述 Project brief description	投入 Investment (RMB 10 thousand)	取得成果 Result
邢台基地 拉晶车间及线切车间 VOC 项目	VOCs 主要来自焊接工艺产生的助焊剂和层压工艺 EVA 胶膜加热产生的废气等，经评审认证，选定活性炭吸附 +RCO 的技术处理	2020 年投入 137 万元	年平均排放浓度 26.5-36.1mg/m <sup>3</sup> 降低为 <b>2.49-4.38</b> mg/m <sup>3</sup> ，VOCs 年排放量由 16.04t/a 降低为 <b>1.64t/a</b>
Xingtai Manufacturing Base VOC project of ingot pulling workshop and wiresaw slicing workshop	VOCs mainly arise from the flux generated by the welding process and the exhaust gas generated by the heating of the EVA film in the lamination process. The technical treatment of activated carbon adsorption + RCO is selected after the review and certification	RMB 1.37 million was invested in 2020	The annual average emission concentration is reduced from 26.5-36.1mg/m <sup>3</sup> to 2.49-4.38 mg/m <sup>3</sup> , and the annual VOCs emissions are reduced from 16.04t/a to 1.64t/a



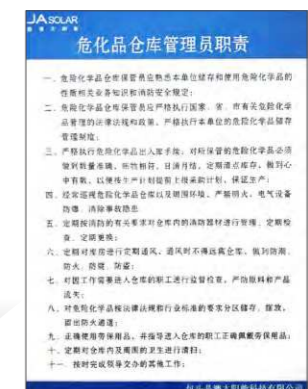
## 固废处理 Solid Waste Treatment

晶澳严格按照《固体废物污染环境防治法》等法律法规，结合ISO14001环境管理体系的要求，对生产经营活动中产生的固体废弃物进行分类处理。对于生活垃圾，晶澳委托环卫部门进行清运处理；对于一般固体废弃物，晶澳通过多种途径回收利用；对于危险废物，晶澳依据国家法律法规要求对危险废物仓库进行防晒、防渗漏、留观察窗等处理，严格按照危险特性进行分类收集存放，并委托有资质的单位对危险废物进行无害化处理，同时，公司严格执行危险废物转移申请和转移联单制度，通过固体废物动态信息平台自觉接受上级环保部门监管。

JA Solar strictly follows the "Solid Waste Pollution Prevention and Control Law" as well as other laws and regulations, combined with the requirements of the ISO14001 environmental management system, classifies and disposes of solid waste generated in its production and business activities. For domestic waste, JA Solar entrusts the environmental sanitation authorities to clean and transport; for general solid waste, JA Solar adopts various methods for the recycling; for hazardous waste, JA Solar obeys national laws and regulations to provide sun protection, anti-seepage and observation windows etc. in hazardous waste warehouses, strictly follows the hazardous waste characteristics for classified collection and storage, entrusts qualified entities to perform harmless treatment of hazardous waste. In the meantime, the Company strictly implements the hazardous waste transfer application and transfer order system, consciously accepts the supervision of the higher-level environmental protection department through the solid waste dynamic information platform.



危险废物环境防治责任制度  
Environmental Prevention and Control Responsibility System for Hazardous Waste



危化品仓库管理员职责  
Responsibilities of Warehouse Specialist for Keeping Hazardous Chemicals



## 绿色办公和绿色理念传播 GREEN OFFICE AND GREEN CONCEPT COMMUNICATION

### 绿色办公

#### GREEN OFFICE

晶澳将绿色理念融入企业基因，与员工达成环保共识。公司通过培训、媒介宣导等各种方式，推动员工树立积极的环保理念，倡导员工践行无纸化办公、双面打印、控制空调温度、节约用水、人走灯关、绿色出行等“低碳生活”方式，让环保成为员工的一种“习惯”。

JA Solar has embedded the green concept into its DNA and reached a consensus on environmental protection with its staff. Through various methods such as training and media promotion, the Company encourages employees to establish a positive environmental protection concept and advocates them to practice paperless office, double-sided printing, air conditioning temperature control, water saving, turning off lights after leaving and green mobility. The “low-carbon life” style makes environmental protection a “habit” of employees.

晶澳各基地持续开展节能巡检，对工厂各区域照明、空调以及其它电器设备使用情况进行监督，张贴提醒标识对不环保行为进行教育引导。公司每年组织“绿色出行”“植树造林”等活动，以活动为载体传递环保正能量，爱护自然、保护自然的晶澳形象在潜移默化中影响着更多的人。

All JA Solar's manufacturing bases continue to perform energy-saving inspections, supervise the use of lighting, air-conditioning and other electric equipment in various areas of the factories, post reminders to guide staff and correct non-environmental behavior. The Company organizes activities such as “Green Mobility” and “Forest planting” every year, makes activities a carrier to convey positive energy of environmental protection. The image of JA Solar loving and protecting nature has a subtle influence on more and more people.



邢台基地徒步走活动  
Hiking activity of Xingtai Manufacturing Base



宁晋基地骑行活动  
Cycling activity of Ningjin Manufacturing Base



包头基地植树造林活动  
Forest planting activity of Baotou Manufacturing Base

### 绿色理念传播

#### GREEN CONCEPT COMMUNICATION

晶澳积极与政府机构、高校等开展合作，通过对外展示、支持竞赛、支持社会实践等，推动绿色理念深入人心。自2011年以来，晶澳已赞助北京大学、清华大学、同济大学、北京交通大学等多所知名院校参与国际太阳能十项全能竞赛（SD大赛），与参赛队伍分享太阳能光伏前沿技术，促进太阳能光伏建筑一体化加速发展。晶澳作为国内领先的绿色能源制造企业，每年跨越六大洲，在全球参加几十场展会，将中国先进的光伏技术产品展现给全世界，唱响践行绿色发展、建设美丽地球的晶澳声音。

JA Solar cooperates with government agencies, universities, etc. through external exhibitions, support for competitions and social practices actively, so as to promote the green concept to be deeply rooted in the hearts of people. JA Solar has sponsored many well-known universities such as Peking University, Tsinghua University, Tongji University, Beijing Jiaotong University to participate in the International Solar Decathlon Competition (SD Competition) since 2011, shared cutting-edge solar photovoltaic technology with participating teams, promoted Photovoltaic building integration accelerating development. As a leading domestic green energy manufacturing company, JA Solar participates in dozens of exhibitions on six continents every year and presents China's advanced photovoltaic technology products to the world, revealing JA Solar's commitment for practicing green development and building a beautiful planet.



晶澳举办“晶澳与澳洲携手，实现碳中和目标”线上研讨会  
JA Solar hosts “JA Solar and Australia in Unison, Achieving the Goal of Carbon Neutrality” Online Seminar



晶澳承办2020中国光伏行业年度大会  
JA Solar hosts 2020 Annual Conference of China Photovoltaic Industry



晶澳参展中东阿布扎比世界未来能源峰会暨展览会  
JA Solar participates in the World Future Energy Summit and Exhibition in Abu Dhabi, Middle East



# 安全经营

## 守护善的基础

### SAFE OPERATIONS TO BUILD THE FOUNDATION OF GOODNESS

我们秉持安全须臾不可放松的生产理念，坚持做到警钟长鸣，防微杜渐，把安全意识融入生产领域全过程各方面。不断强化安全管理，落实安全监管，防范安全风险，抓实安全教育，以一系列严而又严、实而又实、细而又细的安全生产实践稳定发展大局。

We uphold the production philosophy that safety is top priority and insist on keeping our guard up, preventing minor failures and integrating safety awareness into all aspects of the production process. JA Solar continuously strengthens safety management, implements safety supervision, prevents safety risks, pays attention to safety training and stabilizes the overall situation with a series of strict, practical, detailed safety production practices.

78 安全风险识别  
Safety Risk Identification

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Safety Training and Competition

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Occupational Health

83 应急演练  
Emergency Drills

84 信息安全管理  
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85 防疫抗疫  
Anti-epidemic Efforts

联合国2030年可持续发展目标 (SDGs)

UN SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)





## 安全风险识别 SAFETY RISK IDENTIFICATION

公司始终坚持“宁可不生产，不可不安全”的管理理念，将安全作为企业可持续发展的头等要务。各级管理层签署《安全生产目标管理承诺书》，严格执行各项安全规章制度，有效防范各类安全生产事故的发生。

The Company has always adhered to the management concept of “Better safe than sorry” and regarded safety as the top priority of the corporate sustainable development. The management at all levels has signed the Safety Production Target Management Commitment, strictly implemented various safety rules and regulations, and actively prevented any kind of safety production accidents.

公司各基地构建了双重预防体系。通过制度的建立、全员宣传教育、自下而上的逐级风险辨识，并使用风险清单、隐患台账、风险识别卡、四色分布图等管理工具，实现了风险的精细分级管控和隐患的精准排查治理，做到了全员、全过程、全方位的综合风险管控治理。

All manufacturing bases of the Company have built a dual prevention system. Through the establishment of the system, publicity and training of all staff, bottom-up risk identification and the application of management tools such as risk checklists, hidden danger ledgers, risk identification cards, four-color distribution maps, etc., a fine mechanism of hierarchical management and control of risks as well as a precise mechanism of investigation and management of hidden dangers is established, and comprehensive risk management and control of all employees, whole process and all dimensions is achieved.

2020年，公司全年无重大安全事故发生。邢台基地、合肥基地、东海基地、燕郊基地、扬州基地分别荣获“河北省安全文化建设示范单位”“安徽省安全文化建设示范企业”“连云港青年安全示范岗”“廊坊市青年安全示范岗”和“扬州经济开发区消防安全管理先进单位”等荣誉。

The Company had no major safety accidents throughout the year of 2020. The Xingtai Manufacturing Base, Hefei Manufacturing Base, Donghai Manufacturing Base, Yanjiao Manufacturing Base and Yangzhou Manufacturing Base were awarded as “Hebei Safety Culture Construction Demonstration Entity”, “Anhui Safety Culture Construction Demonstration Enterprise”, “Lianyungang Youth Safety Demonstration Post”, “Langfang Youth Safety Demonstration Post” and “Advanced Entity for Fire Safety Management in Yangzhou Economic Development Zone” among other honors.



2020年春节疫情期间董事长靳保芳指导安全工作  
Chairman Mr. Jin Baofang guided safety work during the 2020 Spring Festival when the nation was fighting against the COVID-19

## 安全培训和竞赛 SAFETY TRAINING AND COMPETITION



2020年开展安全培训**5,466**场次

应急演练**726**场次

**5,466** safety training sessions

**726** emergency drills

公司每年组织新员工入职安全培训，针对消防设施、交通安全、电气安全等进行专项培训，并开展消防演练、安全知识竞赛等活动，切实提高员工防范意识，筑牢安全底线。2020年公司开展各类安全培训共计5,466场次，应急演练726场次，实现了全员覆盖。

The company organizes on-boarding safety training for new employees every year, conducts special training on fire-fighting facilities, traffic safety, electrical safety, etc., and launches fire drills, safety knowledge contests and other activities to effectively improve employees' awareness of prevention and safety. In 2020, the Company carried out a total of 5,466 safety training sessions and 726 emergency drills, realizing a full coverage.

公司针对所有服务承包商（施工单位、物流供应单位等）均进行入厂前的安全培训或安全告知，并对发生在公司范围内的承包商事故进行考核，细究事故根源，避免危险重现。

The Company conducts safety training or notifications for all service contractors (construction units, logistics supply units, etc.) before entering its premises, assesses contractor accidents that occur on its premises, carefully investigates the root causes of the accidents and avoids the recurrence of dangers.

### 案例



#### 扬州基地举行安全季总结大会暨安全啄木鸟演讲总决赛

Yangzhou Manufacturing Base held Safety Season Summary Conference & Final of Safety Woodpecker Speech Contest

2020年10月30日，晶澳扬州基地举行安全季总结表彰大会暨安全啄木鸟演讲比赛总决赛，基地深化“安全啄木鸟”品牌文化建设，按安全季“十个一”活动方案开展了专题培训讲座、知识技能竞赛、应急演练、部门自查互查、征文比赛、演讲比赛等系列活动，形式多样，内容丰富。

On October 30, 2020, JA Solar Yangzhou Manufacturing Base held the Safety Season Conference and the Final of the Safety Woodpecker Speech Contest. The base deepened the construction of the brand culture “Safety Woodpecker” and carried out special training lectures according to the “Ten Ones” activity plan of the safety season. Series of activities were carried out in diversified forms and rich contents, including knowledge and skill competitions, emergency drills, departmental self-examination and mutual examination, solicited article contests, and speech contests.





 **基地安全培训和竞赛**  
Safety Training and Competition in Manufacturing Bases



越南基地安全知识培训  
Safety Training of Vietnam Manufacturing Base



义乌基地三级安全培训  
Level 3 Safety Training of Yiwu Manufacturing Base



宁晋基地用电知识培训  
Electricity Knowledge Training of Ningjin Manufacturing Base



邢台基地危险源识别和防控培训  
Hazard Source Identification, Prevention and Control Training of Xingtai Manufacturing Base



包头基地外来施工人员安全培训  
Safety Training for Migrant Construction Workers of Baotou Manufacturing Base



燕郊基地双控示范培训  
Dual-Control Demonstration Training of Yanjiao Manufacturing Base



燕郊基地安全演讲比赛  
Safety Speech Contest of Yanjiao Manufacturing Base



阳光设备防疫知识竞赛  
Epidemic Prevention Knowledge Competition of Sunshine Equipment Company



晶兴公司参加安全知识竞赛  
Safety Knowledge Contest of Jingxing Company

# 职业健康 OCCUPATIONAL HEALTH



截至2020年底，晶澳取得 TÜV 南德 ISO45001 职业健康安全管理体系和 ISO14001 环境管理体系认证的公司达到 **18** 家，占生产经营性质（在运营）公司的 **82%**

As of the end of 2020, **18** companies of JA Solar have obtained certifications of TÜV SÜD ISO45001 Occupational Health and Safety Management System and ISO14001 Environmental Management System, accounting for **82%** in production and operation companies (in operation)

晶澳总部及所有下辖公司均采用ISO14001和ISO45001的管理体系和方法。截至2020年底，晶澳取得TÜV南德ISO45001职业健康安全管理体系和ISO14001环境管理体系认证的公司达到18家，占生产经营性质（在运营）公司的82%。公司采用各基地直属负责、总部专业指导的管理方法，成立EHS管理委员会，负责审议、协调各组织层面的EHS管理事项。同时，各基地积极执行当地要求，进行安全标准化和双控体系建设，不断强化和完善公司的安全管理。晶澳EHS管理范围包括所有员工（100%全覆盖）和在公司法律要求范围内的供应商、承包商等所有访客。

The headquarter of JA Solar and all its subsidiaries adopt ISO14001, ISO45001 management systems and methods. As of the end of 2020, 18 companies of JA Solar have obtained certifications of TÜV SÜD ISO45001 Occupational Health and Safety Management System and ISO14001 Environmental Management System, accounting for 82% of production and operation companies (in operation). The Company adopts a management method that each base is directly responsible for related issues under the professional guidance of the headquarter and has established the EHS Management Committee which is to review and coordinate EHS management issues at the organizational level. At the same time, each base actively implements local requirements, carries out safety standardization and "dual-control" system construction, continuously strengthens and improves the company's safety management. JA Solar EHS management scope includes all employees (100% full coverage) and all visitors such as suppliers and contractors within the scope of the Company's legal requirements.

晶澳贯彻落实相关法律法规，制定《职业健康管理程序》《健康管理与职业病控制程序》等制度，并依法定期进行职业健康体检和工作场所职业危害监测。编制《个人防护用品管理制度》，根据现场职业危害因素浓度情况配发个人防护用品并及时更换，并监督员工按照规定佩戴、正确佩戴等。

JA Solar implements relevant laws and regulations, formulates "Occupational Health Management Procedures" and "Health Management and Occupational Disease Control Procedures" etc., conducts regular occupational health examinations as well as occupational hazard monitoring in the workplace in accordance with the law. JA Solar formulates "Personal Protective Equipment Management System" and distributes personal protective equipment according to the concentration of occupational hazard factors on the site and asks its staff to wear them properly in accordance with the regulations and replace them in time.





2020年公司组织各类职业健康培训

**3,068** 场次

In 2020, the Company organized **3,068** occupational health training sessions.

公司不断加强职业健康培训，提高员工职业病预防意识。2020年公司组织各类职业健康培训3,068场次，未发生职业病病例。

The Company continuously strengthens occupational health training to improve employees' awareness of occupational disease prevention. In 2020, the Company organized 3,068 occupational health training sessions, and no occupational disease cases occurred.



**职业健康相关培训**  
Occupational Health Trainings



包头基地职业健康培训  
Occupational health training of Baotou Malaysia Base



马来西亚基地职业健康培训  
Occupational health training of Malaysia Manufacturing Base



电站公司组织职业病危害制度宣贯  
The publicity and implementation of regulations on occupational disease hazards organized by the Power Generation Plant Company



曲靖基地职业健康培训  
Occupational health training of Qujing Manufacturing Base



合肥基地组织职业健康培训  
Occupational health training of Hefei Manufacturing Base



松宫公司组织心肺复苏演练  
CPR drills of Songgong Company

## 应急演练 EMERGENCY DRILLS



**基地应急演练**  
Emergency Drills at Manufacturing Bases

晶澳以“建设完善的应急管理机制，打造平安晶澳”为准则，定期开展涵盖火灾、危险品泄漏、有毒气体泄漏等方面的安全专项演练，以及环境方面的应急演练和综合演练等，设立24小时应急接警电话，不断总结经验，完善应急预案，确保有力有序有效处置各类突发事件。

JA Solar conducts regular special emergency drills and comprehensive drills covering fire, dangerous goods leakage, toxic gas leakage as well as emergency drills and comprehensive drills in aspect of environment, etc.; sets up 24-hour emergency phone calls to continuously summarize experience and perfect the emergency plan based on the principle of “constructing a sound emergency management mechanism and creating a safe JA Solar” in order to make sure JA Solar is able to deal with all kinds of emergencies in a strong, orderly and effective manner.



包头基地综合逃生演练  
Comprehensive escape drill at Baotou Manufacturing Base



马来基地消防应急演练  
Fire emergency drill at Malaysia Manufacturing Base



曲靖基地氩气泄露应急演练  
Argon leakage emergency drill at Qujing Manufacturing Base



燕郊基地冬季消防演练  
Firefighting winter drill at Yanjiao Manufacturing Base



邢台晶龙逃生演练  
Escape drill at Xingtai Jinglong Company



阳光设备公司消防大比武  
Firefighting competition at Sunshine Equipment Company



## 信息安全管理 INFORMATION SECURITY MANAGEMENT



员工信息安全培训比例达

**100%**

The proportion of employee training on information security up to **100%**

公司制定了信息安全管理制度，通过实施线上云课堂、线下会议培训及基地巡回培训等多种形式的培训加强员工信息安全意识，员工信息安全培训比例达100%。公司通过与相关方签订保密协议，保障双方信息安全；通过粉碎处理超出文档记录保存期限的纸质文件，格式化处理超过保存期限的电子记录等一系列措施，防止信息外泄。2020年公司未发生信息泄密等事故，未发生由于泄露信息而产生的纠纷；公司在针对信息安全组织的内审中，未发现重大漏洞。

The Company has formulated an information security management system and strengthened employees' information security awareness through the implementation of various forms of training such as online cloud classes, offline conference training and tour training at the base. The proportion of employee information security training has reached 100%. The Company has signed confidentiality agreements with related parties to protect the bilateral information security. The information leak is prevented through a series of measures such as shredding and disposing of paper documents, formatting and processing electronic records that have exceeded the retention period of document records, etc. In 2020, no accident had happened to the Company resulting from information leak, no dispute had arisen from information leak, nor had any major loopholes been found in the internal audit of the information security.

## 防疫抗疫 ANTI-EPIDEMIC EFFORTS



新冠疫情爆发后，公司高度重视，先后发布《关于做好新型冠状病毒肺炎预防工作的通知》《冠状病毒信息收集紧急救援通知》等，呼吁采取各种预防措施科学防范疫情，并引导员工及其家人落实政府防疫措施要求。公司总部和各基地分别成立疫情应急防控小组，采取各种措施保障员工的健康安全，包括全面执行佩戴口罩及进出测量体温等措施；安排专人对食堂、宿舍、卫生间等公共场所进行消毒。

Since the outbreak of COVID-19, the Company has put great emphasis on it and successively issued the "Notice on the Prevention of COVID-19" and the "Notice on the Emergency Rescue of Coronavirus Information Collection", etc., calling for various preventive measures to fight against the epidemic and guiding employees and their family members in implementing the government's epidemic prevention measures. The Company's headquarter and every base have set up COVID-19 emergency prevention and control teams, and taken various measures to ensure the health and safety of all employees, such as wearing masks and checking body temperature when entering and exiting the building; arranging special personnel to disinfect public places such as canteens, dormitories, and restrooms.



### 晶澳防疫抗疫期间体温检查和场地消毒

Temperature check and disinfection on-site of JA Solar during the fight against COVID-19





# 生态合作

## 构建善的网络

ECOLOGICAL COOPERATION  
ESTABLISHING A NETWORK OF GOODNESS

伴随着经济全球化大潮滚滚向前，晶澳全力构建命运共同体、利益共同体、责任共同体的伙伴关系，通过与上下游资源共享、优势互补、协同创效构筑共赢格局，以更具韧性的产业链体系积极应对全球风险挑战。

JA Solar makes every effort to build a partnership of a community of destiny, interests and responsibility, with the tide of economic globalization rolling forward. Through resource sharing, cooperation on complementary advantages and coordination in benefit-making with upstream and downstream solar PV players, a win-win situation and a more resilient industrial chain system are established, and JA Solar is thus able to take an active role in coping with the challenges of global risks.

88 可持续采购  
Sustainable Procurement

92 客户合作  
Customer Cooperation

94 经销商成长  
Dealer Growth

95 物流合作  
Logistics Cooperation

### 联合国2030年可持续发展目标 (SDGs)

UN SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)







晶澳以客户满意为宗旨，持之以恒以高标准、高质量向客户交付产品与服务。  
晶澳倡导与上下游合作伙伴建立更加紧密、持久的合作关系，一起构建共创、共享、共赢的生态系统。

JA Solar focuses on delivering products and services to customers with high standards and high quality for attaining continued customer satisfaction, advocates establishing closer and more lasting partnerships with upstream and downstream partners to build an ecosystem with co-creation, sharing and win-win situation.



## 可持续采购 SUSTAINABLE PROCUREMENT



2020年，晶澳新导入供应商

**143**家

累计供应商达到**899**家

In 2020, JA Solar introduced **143** new suppliers and the total number of suppliers reached **899**.

晶澳的供应商类别涉及硅材、电池、组件和电池辅材、拉晶和切片辅材、物流等不同类型的企业或机构，随着晶澳产能的不断扩大，供应商数量逐年增加。2020年，晶澳新导入供应商143家，累计供应商达到899家。

JA Solar's supplier portfolios cover businesses ranging from silicon materials, solar cells, modules and cell&module auxiliary materials, ingot pulling and slicing auxiliary materials, logistics and other different types of enterprises or institutions. With the continuous expansion of JA Solar's production capacity, the number of suppliers has increased year by year. In 2020, JA Solar introduced 143 new suppliers, and the total number of suppliers reached 899.

## 供应商战略 SUPPLIER STRATEGY

晶澳采取动态评价的方式，从质量、商务、技术、供应、配合度等多个维度对供应商进行细项评分，促使供应商不断提升自身实力；对供应商给予协助，帮助供应商改进质量、加快产品开发进度；以长期信任合作取代短期合同，进而提高效率、降低交易与管理成本；与供应商建立长效信息交流沟通机制，共同推进产业进步。

JA Solar adopts a dynamic evaluation method to score suppliers from multiple dimensions such as quality, business, technology, supply and cooperation, so as to encourage suppliers to continuously improve their own capabilities; assists the suppliers and helps them improve quality and speed up product development; replaces short-term contracts with long-term trust cooperation, establishes a long-term information exchange and communication mechanism through improving efficiency, reducing transaction and management cost, and jointly promotes industrial progress.

## 供应商选择 SUPPLIER SELECTION

晶澳制定《供应商考核及评分制度》《新供应商开发管理制度》等一系列供应商管理制度，严格按照质量控制程序要求，根据供应商产品质量、产品价格、市场信誉、供货及时性、自身实力等因素确定合格供应商，并对供应商进行动态评价和管理；在供应商的引入评估阶段，将供应商是否通过ISO9000、ISO14000认证作为重要参考，规定部分重点行业供应商须通过ISO45001的认证，合格供应商纳入《合格供应商目录》（含组件&电池辅材、硅材料、电池片合格供应商）。截至2020年底，晶澳A、B、C、D类供应商的比例分别为70%、27%、3%和0%。

JA Solar has formulated a series of supplier management systems, such as Supplier Assessment and Scoring System and New Supplier Development Management System. In strict accordance with the requirements of quality control procedures, the Company determines qualified suppliers based on product quality, product price, market reputation, promptness of supply, their own strengths, and other factors, carries out dynamic evaluation and management of suppliers. In the evaluation stage of supplier inclusion, JA Solar focuses on whether suppliers have passed ISO9000 and ISO14000 certification. It is stipulated that some key industry suppliers must pass ISO45001 certification. Qualified suppliers are included in the "Qualified Supplier Catalog" (including module, cell auxiliary materials, silicon materials and solar cells). As of the end of 2020, the proportions of JA Solar A, B, C, and D suppliers have reached 70%, 27%, 3% and 0, respectively.

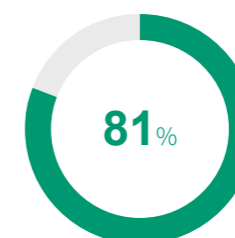


2020年组件辅材和电池片供应商获得相关认证情况  
Relevant Certification of Suppliers for Module Auxiliary Materials and Solar Cells

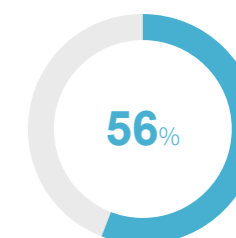
供应商通过**ISO9000**质量管理体系认证的比例  
Percentage of suppliers passing ISO9000 quality management system certification



供应商通过**ISO14000**环境管理体系认证的比例  
Percentage of suppliers passing ISO14000 environmental management system certification



供应商通过**ISO45001**职业健康安全管理体系认证的比例  
Percentage of suppliers passing ISO45001 occupational health safety management system certification





## 供应商行为准则及道德规范

### CODE OF CONDUCT AND ETHICS OF SUPPLIERS



公司制定了《晶澳科技可持续采购守则》，将环境、社会、道德、健康、人权等因素纳入到企业采购决策，通过对供应商进行EHS评鉴和风险识别、向供应商发布《供应商职业健康安全环境告知书》、要求供应商签署《社会责任承诺书》（内容包括人权、劳工关系、安全生产、环境保护、反腐败等议题）等方式，推动供应商加强自身社会责任实践。

The Company has formulated the "JA Solar Sustainable Procurement Code", which incorporates environmental, social, ethical factors as well as health, and human rights, etc. into corporate procurement decisions. JA Solar requires suppliers to receive EHS assessment and risk identification, issues "Notice on Occupational Health, Safety and Environment of Suppliers" to them, urges them to sign the "Social Responsibility Commitment Letter", which covers human rights, labor relations, production safety, environmental protection, anti-corruption and other issues, in order to strengthen the fulfillment of social responsibilities by the suppliers.

其中，晶澳对涉及冲突矿产范围的供应商进行冲突矿产原产地调查，要求供应商提供冲突矿产声明、原产地证明、原料采购合同等材料，执行比例达到100%。此外，晶澳充分重视提升供应链中采购人员在社会和环境安全方面的管理意识，积极对供应商的采购人员实施相关培训和宣导。

JA Solar has conducted investigations on the origin of conflict minerals from suppliers involved and requires them to provide conflict mineral declarations, certificates of origin, raw material procurement contracts etc. The implementation ratio reaches 100%. In addition, JA Solar is fully committed to improving the management awareness of procurement personnel in the supply chain in terms of social and environmental safety, actively performs relevant training and publicity for procurement personnel of suppliers.

## 供应商交流和合作

### SUPPLIER EXCHANGE AND COOPERATION



2020年，与**20**个供应商签署协议

共组织技术交流**175**次

In 2020, JA Solar signed agreements with **20** suppliers,

and organized **175** technical exchanges.

2020年受新冠疫情、上游原材料厂事故影响，原材料供应紧张。晶澳携手供应商共克时艰，通过长期战略合作和技术协作，稳定供应链。2020年，晶澳与硅料、电池、玻璃、胶膜等环节20个供应商签署了战略合作协议或年度采购协议，共组织技术交流175次，确保辅材材料的供应稳定。

In 2020, due to COVID-19 and accidents in upstream raw material manufacturers, the supply of raw materials was scarce. JA Solar kept working with suppliers to overcome the difficulties and managed to stabilize the supply chain through long-term strategic cooperation and technical collaboration. In 2020, JA Solar signed strategic cooperation agreements or annual procurement agreements with 20 suppliers in the fields of silicon materials, solar cells, PV glass and EVA materials, organized a total of 175 technical exchanges to ensure a stable supply of auxiliary materials.

#### 案例



#### 晶澳与彩虹新能源建立战略合作关系

JA Solar and IRICO Group New Energy established a strategic partnership

2020年3月18日，晶澳与彩虹集团新能源有限公司通过“云签约”方式，就采购光伏玻璃产品及服务签订战略合作协议。此次双方建立战略合作关系，将进一步扩大合作的广度和深度，提升晶澳供应链的质量和安全性，携手推进全球光伏产业迈向先进低耗的产业新生态。

On March 18, 2020, JA Solar and IRICO Group New Energy Co., Ltd. signed a strategic cooperation agreement on the procurement of photovoltaic glass products and services through the "cloud-based signing" process. The establishment of the strategic cooperative relationship between the two parties will further expand the scope and depth of their cooperation, and improve the quality and safety of JA Solar's supply chain. The two entities will work together to promote the global photovoltaic industry towards a new industrial ecology of leading position and low resource consumption.





## 客户合作 CUSTOMER COOPERATION

晶澳秉承“以客户为中心”的服务理念, 不断完善客户服务体系建设, 规范合作过程管理, 不断提升客户对晶澳产品和服务的满意度。2020年, 公司先后与中国葛洲坝集团机电建设有限公司、南京电气(集团)有限责任公司、贵阳勘测设计研究院有限公司等签署战略合作协议, 建立长期合作关系。

JA Solar adheres to a “customer-oriented” service concept, constantly improves the construction of customer service system, standardizes the cooperation process management and effectively ensures customer satisfaction with its products and services. In 2020, the Company signed strategic cooperation agreements with China Gezhouba Group Mechanical & Electrical Construction Co., Ltd., Nanjing Electric (Group) Co., Ltd., GuiYang Engineering Corporation Limited, and so on.



截至2020年底,  
累计服务客户超**3.3**万个  
As of the end of 2020, JA Solar has  
served more than **33,000** customers

晶澳保证客户信息安全及知情权, 公司制定了《顾客财产管理程序》, 对于客户的个人信息, 接收部门禁止随意对外宣告; 未经许可, 不得查询客户信息。在各类交易中, 对涉及的隐私或商业秘密, 坚持签署《保密协议》, 保证客户信息安全。截至2020年底, 晶澳累计服务客户超过3.3万个, 未发生客户信息泄露相关的诉讼。

JA Solar guarantees the security of customer information and the right to be informed. The Company has formulated the “Customer Property Management Procedures”. Regarding the personal information of customers, the receiving department is forbidden to disclose them arbitrarily; the customer information is not allowed to be inquired without permission. JA Solar insists on signing the “Confidentiality Agreement” for the privacy or trade secrets involved in all types of transactions to ensure the security of customer information. By the end of 2020, JA Solar has served more than 33,000 customers in total and there is no any information leakage.



加入中非可再生能源合作创新联盟  
Joining the China-Africa Renewable Energy Cooperation and Innovation Alliance



与黄河水电开展合作交流  
Cooperation and exchanges with HHSD



与南京电气签署战略合作协议  
Signing a strategic cooperation agreement with Nanjing Electric



与华能清洁能源进行交流  
Exchanging with Huaneng Clean Energy



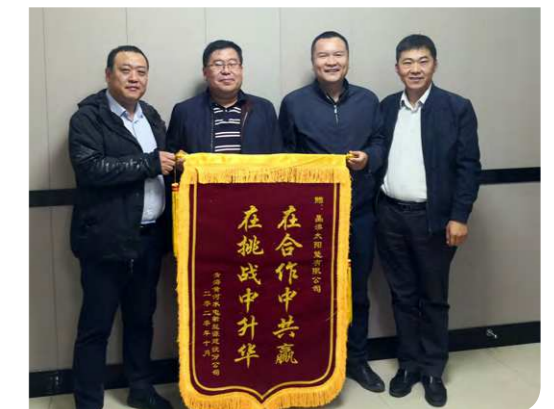
与中投海外进行交流  
Exchanging with CIC Overseas

### 案例 CASE 晶澳荣获客户锦旗致谢

Customer sent a banner to JA Solar in token of appreciation.

2020年10月, 黄河水电为晶澳送上“在合作中共赢 在挑战中升华”锦旗, 以表示对晶澳高品质组件的认可, 以及对晶澳及时完成供货、助力项目如期建成投产的感谢。由晶澳参与组件供货的国电投黄河水电海南州特高压外送通道配套电源项目建成投产, 标志着支撑全球首条±800千伏专为清洁能源外送而建设的特高压电源项目电源点正式通电。

In October 2020, Huanghe Hydropower Development Co., Ltd. (HHSD) sent JA Solar a banner of thanks with the characters “win-win in cooperation and sublimation in challenges” to express its recognition of JA Solar’s high-quality modules, gratitude to JA Solar’s timely completion of supply and helping the project to be put into production on schedule. The power supply project for the Hainan UHV transmission channel of HHSD of the State Power Investment Corporation, in which JA Solar participated in the supply of modules, was accomplished and put into production, marking the electric power point supporting the world’s first ±800 kV UHV power supply project built specifically for clean energy transmission is officially put into use.





## 经销商成长 DEALER GROWTH

晶澳经销商，主要包括海外产品销售经销商、国内分布式渠道产品销售经销商和海外户用系统推广经销商。

The dealers of JA Solar mainly include overseas product sales dealers, domestic distributed channel product sales dealers and overseas household system promotion dealers.



截至2020年底，

累计拥有经销商**583**家

海外产品经销商**430**多家，

占比超**70%**

As of the end of 2020, JA Solar owns **583** distributors of which more than **430** are overseas product sales distributors, accounting for more than **70%**

在经销商管理方面，晶澳对渠道产品进行分类，形成不同产品组合，以满足不同市场不同订单需求；力求保障渠道的供货时间及供货量，保证渠道常规产品型号的稳定性，提升经销商满意度与体验感，促进晶澳与经销商协同发展、实现共赢。晶澳与经销商签署《诚信廉洁合作协议》，要求经销商必须遵守廉洁协议的相关规定，承诺不主动向晶澳人员提供任何不正当利益，同时拒绝接受晶澳人员利用职务之便向其谋取不正当利益的要求。另外，各个海外销售区域的产品经理或技术支持经理，会针对海外经销商的诉求，随时随地进行技术指导、使用培训等沟通交流活动，以确保经销商的工作开展。

In terms of dealer management, JA Solar classifies channel products and forms different product combinations to meet different order demands of different markets. At the same time, JA Solar strives to guarantee the supply time and quantity of the channel, ensures the stability of supply of regular product types to the channels, and increases the support for the channel providers, so as to promote the coordinated development of JA Solar and dealers and to achieve win-win results. JA Solar has signed the "Honesty and Integrity Cooperation Agreement" with dealers that requires them to abide by the relevant provisions of the "Integrity Agreement" and promise not to actively provide any illegitimate benefits to JA Solar's personnel; at the same time refuse to accept the request of JA solar personnel using their power to seek illegitimate benefits from them. In addition, the product managers or technical support managers of various overseas sales areas will conduct technical guidance, use training and other communication activities anytime and anywhere in response to the demands of overseas dealers to ensure the progress of the dealers' work.

### 案例 CASE | 共铸户用光伏卓越品牌，晶澳开启经销商大本营计划

Co-casting an outstanding brand of household photovoltaics; JA Solar launched "Dealer Base Camp Plan"

2020年4月，晶澳开启分布式渠道产品“经销商大本营计划”，并先后在山东济南、浙江杭州、广东广州等地举办系列活动，每场活动都会吸引上百位经销商参与。晶澳以“经销商大本营”为载体，通过线上线下培训、技术支持、售后服务等环节持续培养优秀经销商，帮助经销商在市场竞争中脱颖而出，共同铸就光伏卓越品牌。



In April 2020, JA Solar launched the "Dealer Base Camp Plan" for distributed channel products and successively held a series of events in Jinan Shandong, Hangzhou Zhejiang, Guangzhou Guangdong etc. Each event attracted over a hundred of dealers to attend. Taking "Dealer Base Camp" as a carrier, JA Solar has continuously cultivated excellent dealers through online and offline training, technical support, after-sales service etc. to help them stand out from the competition in the market and jointly create an excellent photovoltaic brand.

## 物流合作 LOGISTICS COOPERATION



晶澳总部设立仓储物流部，统筹整个公司的物流业务，各基地下设仓储物流团队负责具体的物流操作。现有物流方案涉及海运、陆运、空运、公铁联运、铁海联运、江海联运、国际班列、海外仓储等多种运输方式，同时晶澳与主流航运公司COSCO、MAERSK等，以及主要出运港口宁波港、青岛港等建立长期的战略合作关系。

JA Solar headquarter has set up a warehousing and logistics department to coordinate the logistics business of the Group. The warehousing and logistics team at each manufacturing base is responsible for specific logistics operations. The existing logistics program involves various modes of transportation, including sea transportation, land transportation, air transportation, highway-railway transportation, railway-sea transportation, river-sea transportation, international trains, overseas storage, etc. Meanwhile, it has established long-term strategic cooperation with COSCO and Maersk, which are the mainstream shipping companies, and main shipping ports in China, like Ningbo Zhoushan Port and Qingdao Port.

### 案例 CASE | “晶澳科技”号铁海快线实现首发

Debut of railway-sea express "JA Solar"

2020年12月29日，随着汽笛声响起，满载光伏组件产品的邢台——天津港“晶澳科技”号铁海快线，从河北邢台市徐徐启动，驶向本次海外发货的起运港——天津港。“晶澳科技”号铁海快线的开通，将实现晶澳邢台基地到天津港的铁海联运，有效降低物流成本，提升外贸竞争力，为全球更多客户提供绿色能源。

On December 29, 2020, blowing its whistle, the railway-sea express train "JA Solar" full of photovoltaic modules moved out, from Xingtai Station to Tianjin Port, the port of loading for the delivery of PV modules abroad. The opening of this express route will establish the rail-sea intermodal transportation from the Xingtai Manufacturing Base of JA Solar to Tianjin Port, effectively reducing logistics costs, enhancing foreign trade competitiveness and providing green energy to more customers worldwide.





# 社会公益

## 激发善的力量

### PUBLIC WELFARE RESULTS IN THE POWER OF GOODNESS

晶澳在稳步推动企业发展、为全球输送绿色清洁产品和能源的同时，践行企业担当，积极参与抗击疫情、扶贫济困、支持教育事业、开展志愿者服务等一系列慈善公益活动，播撒晶澳阳光，传递晶澳温暖，并受到社会各界的广泛认可。

While steadily promoting corporate development and delivering green and clean products as well as green energy to the world, JA Solar practises corporate responsibility, actively participates in a series of public welfare and charitable activities such as fighting against the COVID-19, alleviating the poverty, supporting the development of education and putting together volunteer services. JA Solar's positive messaging conveys the warmth of JA Solar and is widely acknowledged by all sectors of society.

99 疫情捐助  
Donation during COVID-19

101 光伏扶贫  
Photovoltaic Poverty Alleviation

103 三大惠民工程  
Three Major Benefiting Projects

105 支持教育事业  
Support for Education Cause

106 志愿者活动  
Volunteer Activities

#### 联合国2030年可持续发展目标 (SDGs)

UN SUSTAINABLE DEVELOPMENT GOALS 2030 (SDGs)





## 疫情捐助 DONATION DURING COVID-19

2020年，晶澳先后获得  
国务院扶贫办“中国企业精准扶贫案例50佳”  
中华慈善总会“全国慈善会爱心企业”  
中国社科院“企业抗疫优秀案例”  
公益时报“2020中国公益企业”等荣誉



In 2020, JA Solar won the "Top 50 Targeted Poverty Alleviation Cases for Chinese Enterprises" by the Poverty Alleviation Office of the State Council, the "National Charity Association Caring Enterprise" by the China Charity Federation, the "Excellent Enterprise Cases against COVID-19" by the Chinese Academy of Social Sciences and "2020 China Charity Enterprise" by the China Philanthropy Times.



于2020年1月26日向武汉疫区捐赠

**1,000**万元

截至2020年底，

累计捐赠各类口罩超过**20**万副，

防护服和隔离服**840**套等

A donation of RMB **10** million was sent to the Wuhan epidemic area on January 26, 2020

As of the end of 2020, more than **200,000** sets of masks and **840** sets of protective and insulation suits had been donated

疫情的持续蔓延构成全球风险，各国抗疫情、稳经济、保民生之路任重道远。晶澳高度关注疫情进展，积极投身抗疫大局，尽己所能为疫情中的世界带去希望与力量。晶澳于1月26日向武汉疫区捐赠人民币1,000万元，是第一家通过河北省慈善总会对外疫情捐赠的爱心企业，也是光伏行业中捐赠最早的企业之一。

The continued spreading of COVID-19 has posed a global risk, and there is a long way to go for countries to fight against the epidemic, stabilize the economy and safeguard people's livelihood. JA Solar has paid great attention to the progress of COVID-19, actively participated in the battle against it, and done its best to bring hope and strength to the world during this period. JA Solar donated RMB 10 million to the infected area of Wuhan on January 26, 2020 and was the first company to send donations to the infected areas through the Hebei Charity Federation as well as one of the earliest companies in the photovoltaic industry.

除此之外，晶澳通过各种渠道，积极寻找医用口罩、防护服及护目镜等防疫物资，第一时间将筹集到的防疫物资赠送给各地医疗机构、一线抗疫人员、海外学子和合作伙伴等。截至2020年底，晶澳累计捐赠各类口罩超过20万副、防护服和隔离服840套等。

In addition, JA Solar has actively searched various sources for epidemic prevention materials such as medical masks, protective clothes and goggles, immediately donated the raised epidemic prevention materials to medical institutions, front-line workers fighting against the epidemic, overseas students and partners etc. As of the end of 2020, JA Solar has donated more than 200,000 masks, 840 sets of protective clothes and quarantining clothes.



晶澳荣获中国企业抗疫优秀案例  
JA Solar is awarded "Excellent Enterprise Cases against COVID-19"





晶澳向国内外捐赠资金和医疗物资  
JA solar donates funds and medical supplies in and out of China



东海基地捐赠  
Donation from Donghai Manufacturing Base

向武汉捐款1000万元  
A donation of RMB 10 million to Wuhan epidemic area



向河北省宁晋县红十字会捐赠医用物资  
JA Solar donates medical supplies to the Red Cross Society of Ningjin County, Hebei Province



向河北省邢台市经济开发区管委会捐赠医用物资  
JA Solar donates medical supplies to the Management Committee of the Economic Development Zone of Xingtai City, Hebei Province.



向合肥市高新区蜀麓派出所捐赠一次性口罩  
JA Solar donates disposable masks to the Shulu Police Station in Hefei High-tech Zone, Anhui Province



马来基地捐献防护服及眼罩给槟城医院  
JA Solar Malaysia Manufacturing Base donates protective clothes and eye masks to Penang Hospital

# 光伏扶贫 PHOTOVOLTAIC POVERTY ALLEVIATION



累计为当地提供扶贫资金超过

**4,450**万元

惠及**4,055**户贫困家庭

其中2020年提供扶贫资金

**970.2**万元

JA Solar provided poverty alleviation funds to the local area with a total of more than RMB **44.5** million,

benefiting **4,055** poor families.

In 2020, RMB **9.702** million was provided for poverty alleviation

产业是脱贫之基、富民之本、致富之源。晶澳依托产业链优势、产品技术优势、生态合作优势等在地实施光伏扶贫工程，走出一条产业扶贫、生态发展扶贫和清洁能源建设扶贫相结合的“造血式”扶贫新路。

Industry is the foundation of poverty alleviation, for enriching the people and the source of prosperity. Relying on the advantages of its industrial chain, product technology, ecological cooperation, etc., JA Solar has implemented photovoltaic poverty alleviation projects in many places and has embarked on a new “blood-making” poverty alleviation road that combines poverty alleviation with industry, ecological development and clean energy construction.

截至2020年底，晶澳先后在宁夏盐池、河北临城和康保等地建设光伏扶贫电站，累计为当地提供扶贫资金超过4,450万元，惠及4,055户贫困家庭，其中2020年提供扶贫资金970.2万元，圆满完成扶贫计划。

By the end of 2020, JA Solar has managed to build photovoltaic poverty alleviation power stations in Yanchi Ningxia, Lincheng and Kangbao in Hebei etc., and provided poverty alleviation funds to the local area with a total of more than RMB 44.5 million, benefiting 4,055 poor families. In 2020, RMB 9.702 million was provided for poverty alleviation and the poverty alleviation plan was successfully completed.



晶澳河北康保20MW光伏扶贫电站  
JA Solar's photovoltaic poverty alleviation power station in Kangbao, Hebei Province (20MW)



晶澳宁夏盐池光伏扶贫电站  
JA Solar's photovoltaic poverty alleviation power stations in Yanchi, Ningxia



为 **10** 余所小学捐赠了光伏产品  
解决 **3,000** 多名师生的用电需求

Photovoltaic products were donated to more than **10** primary schools

The electricity demand for more than **3,000** teachers and students was met

除了扶贫电站开发建设和运营外，晶澳还积极开展光伏捐赠活动，用源源不断的光电见证人民生活的“美丽蝶变”。截至2020年底，晶澳除了向江苏连云港、西藏日喀则、辽宁朝阳等地区捐赠光伏系统外，还先后为10余所小学捐赠了光伏发电系统或组件，有效解决了贫困地区3,000多名师生的用电需求。

Apart from the development, construction and operation of poverty alleviation power stations, JA Solar is also actively performing photovoltaic donation activities, using a steady stream of light and electricity to witness the “beautiful changes in people’s lives”. By the end of 2020, in addition to the donation of photovoltaic systems to Lianyungang in Jiangsu, Xigaze in Tibet, Chaoyang in Liaoning, JA Solar has also donated photovoltaic power generation systems or modules to more than 10 primary schools, which has effectively met the electricity needs of more than 3,000 teachers and students in poverty-stricken areas.

**案例** CASE1 晶澳为云南6所学校捐赠光伏组件  
JA Solar donated solar modules for six schools in Yunnan

2020年10月，晶澳为云南省红河州绿春县6所学校屋顶光储项目捐赠高效光伏组件，该项目包含6套15kW离网式光伏储能发电系统和1套30kW并网光伏发电系统，预计年平均发电量达15万kWh，项目解决了长期困扰这些学校的用电难题，有效改善了当地师生的工作生活环境。

In October 2020, JA Solar donated high-efficiency photovoltaic modules to the rooftop solar storage project of six schools in Luchun, Honghe, Yunnan. The project included six sets of 15kW off-grid photovoltaic energy storage power generation systems and one set of 30kW grid-connected photovoltaic power generation system. It is estimated that the annual average power generation will reach 150,000kWh. The project has solved the electricity bottleneck that has plagued these schools for a long time and effectively improved the working and living environment of local teachers and students.



## 三大惠民工程 THREE MAJOR BENEFITING PROJECTS

自2007年起，晶澳联合同一实控人旗下的晶龙集团先后发起实施“百所希望小学捐建工程”“救助贫困白内障患者光明工程”和“万名贫困学子救助工程”三大惠民工程。

JA Solar and Jinglong Group owned by the same actual controller have launched three major projects for the benefit of the people since 2007, namely, the “donation and construction project of 100 hope primary schools”, the “bright project of helping the poor cataract patients” and the “aid project for 10,000 poor students”.

1



截至2020年底，总计捐建希望小学 **65** 所

As of the end of 2020, JA Solar has built a total of 65 hope primary schools

“百所希望小学捐建工程”自2007年启动以来，有条不紊推进捐建工作。

Since the “Donation and Construction Project of 100 Hope Primary Schools” was initiated in 2007, the donation and construction have been carried out in an orderly manner. By the end of 2020, a total of 65 hope primary schools are built.

2



截至2020年底，晶澳累计帮扶白内障患者 **1,500** 余名

As of the end of 2020, JA Solar has helped more than 1,500 cataract patients

“救助贫困白内障患者光明工程”启动于2011年，旨在“复明一个人，幸福一家人”，减轻贫困白内障患者的就医负担。

The “Brightness Project of Helping the Poor Cataract Patients” launched in 2011 is aimed to “realize happiness of a family by restoring one’s brightness” and reduce the medical burden of poverty-stricken cataract patients. As of the end of 2020, JA Solar has helped more than 1,500 cataract patients in total.

3



截至2020年底，累计资助贫困学生超 **1,000** 名

As of the end of 2020, JA solar has subsidized more than 1,000 poor students

“万名贫困学子救助工程”于2017年启动，持续以各种形式资助、鼓励成绩优秀的贫困学子，帮助他们完成学业。

The “Aid Project for 10,000 Poor Students” launched in 2017 has continuously supported and encouraged poor students with outstanding achievements in various forms, helping them to finish their studies.



## 支持教育事业 SUPPORT FOR EDUCATION CAUSE

### 案例 CASE1 晶澳向国家“光明扶贫工程”捐赠首批资金30万元 JA Solar donated the first batch of RMB 300,000 to the "Bright Poverty Alleviation Project"

2020年10月14日，国家扶贫日“光明扶贫论坛”在北京举办，晶澳受邀参加论坛，并向“光明扶贫工程”捐赠首批资金30万元。

On Oct. 14, 2020, "Bright Poverty Alleviation Forum" was held in Beijing on the National Poverty Alleviation Day. JA solar was invited to participate in the forum, at which the Company donated the first batch of RMB 300,000 to the national "Bright Poverty Alleviation Project".



晶澳邢台地区助学金发放仪式  
JA Solar's granting ceremony of student subsidies in Xingtai area



晶澳东海地区助学金发放仪式  
JA Solar's granting ceremony of student subsidies in Donghai area



晶澳积极响应国家科技兴国号召，推动校企合作，联合培养光伏人才。公司已与北京大学、河北科技大学、河北工业大学、上海应用技术大学、上海电力大学等十余所高校建立长期战略合作关系。2020年，公司进一步与河北科技大学、内蒙古科技大学、西安建筑科技大学、曲靖师范学院、邢台学院、冀中能源高级技工学校等签订了校企合作协议。

JA Solar, in response to the national call to rejuvenate the country through science and technology, promotes school-enterprise cooperation and jointly cultivates photovoltaic talents. The Company has established in recent years a long-term strategic cooperation relationship with more than ten universities, including Peking University, Hebei University of Science and Technology, Hebei University of Technology, Shanghai Institute of Technology and Shanghai University of Electric Power. In 2020, the Company further signed school-enterprise cooperation agreements with Hebei University of Science and Technology, Inner Mongolia University of Science and Technology, Xi'an University of Architecture and Technology, Qujing Normal University, Xingtai University and Jizhong Energy Advanced Technical School.



2020年晶澳与多所高校签订合作协议  
JA Solar signed cooperation agreements with many universities in 2020



扬州基地校企合作  
School-enterprise cooperation at Yangzhou Manufacturing Base



松宫公司校企合作  
School-enterprise cooperation with Songgong Company



包头基地校企合作会议  
School-enterprise cooperation meeting at Baotou Manufacturing Base



包头基地校企合作授牌  
Awarding ceremony for school-enterprise cooperation at Baotou Manufacturing Base



扬州基地校企合作签约仪式  
Signing ceremony of school-enterprise cooperation at Yangzhou Manufacturing Base



燕郊基地洽谈校企合作  
School-enterprise cooperation discussions at Yanjiao Manufacturing Base



# 志愿者活动 VOLUNTEER ACTIVITIES

晶澳以分享阳光、传递爱心为出发点，组织志愿者团队开展拜访敬老院、慰问孤儿院和福利院、资助社区教育、志愿献血等多种形式的志愿爱心活动，为构建和谐友爱社会贡献力量。晶澳为社会带去的不仅是“光明”和“温暖”，还有机会和希望。

Based on the principle of sharing sunshine and delivering love, JA Solar has organized volunteer teams to carry out various forms of charity activities, such as visiting homes for the elderly, visiting orphanages and welfare homes, funding community education, voluntary blood donation, etc., which has contributed a lot to building a harmonious and friendly society. It is not only "brightness" and "warmth", but also opportunities and hope that JA Solar brings to society.



宁晋基地组织孤残儿童慰问活动  
Ningjin Manufacturing Base organizes caring activity for orphans and disabled children



邢台基地贫困家庭慰问活动  
Xingtai Manufacturing Base organizes caring activity for poor families



扬州基地举行助学奖教金发放仪式  
Yangzhou Manufacturing Base holds granting ceremony, giving financial aid to the teachers and students in need



曲靖基地爱心捐赠大海哨小学  
Qujing Manufacturing Base donates to Dashaishao Primary School



越南基地向北江省贫困区慈善捐赠活动  
Vietnam Manufacturing Base holds charity donation activity for poverty-stricken areas in Bac Giang Vietnam



马来基地向救世军孤儿院捐献床架  
Malaysia Manufacturing Base donates bed frames to Salvation Army Orphanage



阳光设备公司爱心捐款活动  
Sunshine Equipment Company holds caring donation activity



奉贤基地慰问消防支队  
Fengxian Manufacturing Base holds caring activity for the fire brigade



越南基地中部洪灾捐助活动  
Vietnam Manufacturing Base aids disaster-stricken areas in Vietnam



**案例** CASE1 晶澳各基地组织无偿献血活动  
JA Solar's voluntary blood donation activities

2020年1月，应河北邢台市中心血站血库告急的求助，晶澳宁晋基地组织无偿献血活动，短短2天时间内，集结600余名员工主动参与到献血活动中，献血总量超240,000毫升，有效缓解了血库告急的局面；除此之外，晶澳扬州基地、合肥基地、奉贤基地、马来西亚基地等，也分别组织自愿无偿献血活动，全面展现了晶澳人的奉献意识和责任担当。

In January 2020, in response to an urgent request from the blood bank of Xingtai Blood Center in Xingtai, Hebei, JA Solar's Ningjin Manufacturing Base organized a voluntary blood donation activity. More than 600 employees participated actively in the blood donation activity within 2 days and the total amount of blood donation was more than 240,000 ml, which has effectively alleviated the urgent situation of the blood bank; In addition, JA Solar's Yangzhou Manufacturing Base, Hefei Manufacturing Base, Fengxian Manufacturing Base, Malaysia Manufacturing Base, etc. also organized voluntary blood donation activities, which have fully demonstrated the awareness of responsibility and dedication of JA Solar staff.



宁晋基地志愿献血活动  
Voluntary blood donation activity of Ningjin Manufacturing Base



扬州基地志愿献血活动  
Voluntary blood donation activity of Yangzhou Manufacturing Base



马来基地志愿献血活动  
Voluntary blood donation activity of Malaysia Manufacturing Base



合肥基地志愿献血活动  
Voluntary blood donation activity of Hefei Manufacturing Base



奉贤基地志愿献血活动  
Voluntary blood donation activity of Fengxian Manufacturing Base



# 未来展望

## FUTURE OUTLOOK

2021年，新冠肺炎疫情的持续蔓延加速推进全球治理体系和国际经济秩序发生巨大变革。这是机遇与挑战并存的一年，也是希望与困难同在的一年。晶澳将继续秉承“真诚、质朴、敬畏、感恩”的企业精神，在建设成为世界一流光伏企业的道路上接续奋斗，再创高光！

**走真诚服务的待客之道。** 晶澳将继续贯彻“以客户为中心”的服务理念，不断优化售前、售中、售后服务体系，与客户建立真诚高效的沟通渠道，准确理解客户需求，及时满足客户需求，不断增强为客户持续创造价值的能力。

**走科技兴企的创新之道。** 顺应新一轮科技革命和产业变革兴起的时代趋势，坚持自立自强，瞄准先进、聚焦主业、做精做专，加快实施科研体系升级，促进产学研深度融合，优化成果转化机制，为实现可持续发展提供战略引领和科技支撑。

**走人才强企的人本之道。** 坚持以人为本，不断聚合人才优势，提升育人水平，全力培育德才兼备的高层次人才，提升员工幸福感、成就感与归属感，实现与员工的共成长，努力建成人才聚集之地、人才辈出之地、人才向往之地。

**走布局全球的共赢之道。** 继续拓展全球“朋友圈”，深化产业链和价值链的优化和资源整合，加强行业交流，建立互动机制，努力构建博观约取、厚积薄发的发展格局，推动本地化经营优势在应对国际竞争中发挥更大效用。

**走守护生态的绿色之道。** 助力国家“碳达峰、碳中和”目标，通过向公众普及绿电理念，推动环保设备升级，加大节能、降耗、减排力度，完善环保应急管理机制等绿色实践，全面打造资源节约型和环境友好型企业，将美丽的地球家园留给子孙后代。

**走传递爱心的普惠之道。** 继续以饱满的热情主动承担社会责任，用真情回报社会，造福国计民生。通过推进光伏扶贫项目，全力抗击疫情，投身“三大惠民工程”等社会公益活动，让晶澳阳光洒满人间，温暖千家万户。

峥嵘十五载，一路走来，我们越过激流险滩，穿过惊涛骇浪，辉煌来之不易！在这个千帆竞发、百舸争流的时代，前方是更美的风景，更大的舞台。我们将继续秉承“开发太阳能，造福全人类”的责任使命，为实现“做一个伟大的企业”的梦想行进不止，奋斗不息！

In 2021, the continuous spreading of COVID-19 has accelerated the tremendous changes in the global governance system and international economic order. It is a year of both opportunities and challenges as well as a year of hope and difficulties. JA Solar will continue to uphold the corporate spirit of “sincerity, simplicity, reverence and gratitude” and continue to work hard on the road to becoming a world-class PV enterprise and creating new glories!

### **Adhering to the philosophy of hospitality with sincere service.**

JA Solar will continue to implement the “customer-oriented” service concept, continuously optimize the pre-sales, in-sales, and after-sales service systems, establish a sincere and efficient communication channel with customers, understand customer needs accurately, fulfill customer demands in a timely manner and enhance our ability to create value for customers continuously.

### **Taking the innovative way of developing enterprises through science and technology.**

JA Solar will comply with the new round of scientific and technological revolution as well as the emerging trend of the industry, insist on self-reliance, aim at the advanced, focus on the main business, be refined and specialized, accelerate the implementation of the scientific research system upgrade, promote the deep integration of industry, universities and research, optimize the achievement transformation mechanism in order to provide strategic guidance and technological support for sustainable development.

### **Adopting the human-oriented approach of strengthening the enterprise with talents.**

JA Solar insists on the human-oriented approach, continues to aggregate talent advantages, improves the level of training, makes every effort to cultivate high-level talents with both ability and political integrity, enhances the happiness, sense of accomplishment and belonging of employees, achieves mutual growth with employees, strives to build a place where talents gather, emerge and yearn for.

### **Insisting on a global layout of Win-Win-Situation.**

JA Solar continues to expand its “friend circle” globally, deepen the optimization and resource integration of the industrial as well as value chain, strengthen industry exchanges, establish an interactive mechanism, strive to build a development pattern of broad-minded, accumulating and contract-based and promote localized operation advantages in playing a greater role in respond to the international competition.

### **Taking the green path of protecting the ecology.**

JA Solar contributes to the national objective of “carbon peak and carbon neutrality”, promotes environmental protection equipment upgrading by popularizing the concept of green power to the public, increases energy conservation, consumption and emission reduction, improves environmental protection emergency management mechanisms and other green practices, comprehensively creates an environment friendly enterprise with the pattern of resource conservation, so as to leave a beautiful planet we call home to future generations.

### **Sticking to the charitable path of passing love.**

JA Solar will continue to take the initiative to assume social responsibilities with full enthusiasm, and repay the society with true feelings and benefit the national economy and people’s livelihood. Through the advancement of photovoltaic poverty alleviation projects, we will make every effort to fight against COVID-19, participate in social welfare activities such as the “Three Major Benefiting Projects”, so that JA Solar’s sunshine can spread over the world and warm thousands of households.

After fifteen years of magnificence, we have crossed the rapids and turbulent shoals and broken the stormy waves along the way. Our glory is hard-won! In this era of competition among thousands of sails, ahead is more beautiful scenery and bigger stage. We will continue to uphold the responsibility mission of “develop solar power to benefit the entire human race” and continue to advance and strive for the vision of “being a great enterprise”!



# 附录 APPENDIX

## 奖项/荣誉

### AWARDS / HONORS



奖项/荣誉	Award/Honor
“制造业单项冠军示范企业”	"Single Champion Model Enterprise in Manufacturing"
“中国企业精准扶贫专项案例 50 佳”	"Top 50 Cases of Targeted Poverty Alleviation by Chinese Enterprises"
PERC 技术纳入绿色技术《绿色技术推广目录》	PERC technology included in the Green Technology "Green Technology Promotion Catalog"
“工业企业知识产权运用试点企业”	"Pilot Enterprise for the Application of Intellectual Property in Industrial Enterprises"
“全国慈善会爱心企业”	"Caring Enterprise elected by China Charity Federation "
“全国文明单位”（邢台基地）	"National Civilized Unit" (Xingtai Manufacturing Base)
中国企业社会责任“绿色环保奖”	China Corporate Social Responsibility "Green Environmental Protection Award" for China's corporate social responsibility
“2020 年度突出贡献奖”	"2020 Outstanding Contribution Award"
2020 “中国民营企业 500 强”	2020 "Top 500 Chinese Private Enterprises"
“《财富》中国五百强”第 439 位	No. 439 in "Fortune China Top 500"
“2020 年电子信息百强企业”	"Top 100 Electronic Information Enterprises in 2020"
“企业抗疫优秀案例”	"Excellent Enterprise Cases against COVID-19"
“2020 中国制造业企业 500 强”	"2020 China's Top 500 Manufacturing Enterprises"
“2020 中国战略性新兴产业领军企业 100 强”	"Top 100 Leading Enterprises in China's Strategic Emerging Industries "
“2020 全球新能源企业 500 强”第 49 位	JA Solar ranks 49th. among the "2020 Top 500 Global New Energy Enterprise"
“科技创新企业 50 强”	"Top 50 Technological Innovation Enterprises"
“欧洲顶级光伏”	"Europe's Top Photovoltaic"
“2020 年度能源科创金榜 - 能源科创贡献企业”	"2020 Energy Technology Innovation Contribution Enterprise"
“2020 中国公益企业”	"2020 China Philanthropy Enterprise"
“光伏组件技术突破奖”	"Photovoltaic Module Technology Breakthrough Award"
“影响力光伏创新企业”	"Influential Outstanding Innovative Photovoltaic Innovative Enterprise"



颁发单位	Awarded by
工业和信息化部、中国工业经济联合会	Ministry of Industry and Information Technology of the People's Republic of China, China Federation of Industrial Economics
国务院扶贫办	Poverty Alleviation Office of the State Council
国家发改委	National Development and Reform Commission
工业和信息化部	Ministry of Industry and Information Technology
中华慈善总会	China Charity Federation
中央文明办	Civilization Office of the Central Communist Party Committee
中国社会责任百人论坛	China Social Responsibility 100 Forum
光伏行业协会	China Photovoltaic Industry Association
全国工商联	All-China Federation of Industry and Commerce
财富中文网	Fortune China
中国电子信息行业联合会	China Information Technology Industry Federation
中国社会科学院	Chinese Academy of Social Sciences
中国企业联合会、中国企业家协会	China Enterprise Confederation, China Enterprise Directors Association
中国企业联合会、中国企业家协会	China Enterprise Confederation, China Enterprise Directors Association
《中国能源报》、中国能源经济研究院	China Energy News, China Institute of Energy economics research
《中国能源报》、中国能源经济研究院	China Energy News, China Institute of Energy economics research
EuPD Research	EuPD Research
《能源杂志社》	The Magazine "Energy"
《公益时报》	"China Philanthropy Times"
国际能源网	International Energy Network
北极星太阳能光伏网	Polaris Solar Photovoltaic Network



## 关键绩效表

### KEY PERFORMANCE TABLE

指标	单位	2018 年	2019 年	2020 年
营业收入	亿元	196.5	211.6	258.5
归母净利润	亿元	7.19	12.52	15.07
资产负债率	%	76.27%	70.92%	60.21%
员工人数	人	20,003	22,162	25,183
年度绩效考核覆盖单位	%	100	100	100
识别核心人才数目	人	523	826	1,132
培训费用投入	万元	436.31	497.20	284.6
人均培训费用	万元	373.75	369.43	187.3
人均培训学时	小时	16	18	19
培训覆盖率	%	100	100	100
男性员工人数	人	13,981	15,641	18,128
女性员工人数	人	6,022	6,521	7,055
研究生及以上学历人数	人	231	242	313
本科学历人数	人	2,001	2,118	2,684
大专学历人数	人	3,684	3,916	5,190
中专及以下学历人数	人	14,087	15,886	16,996
≤ 30 岁员工数量	人	10,488	11,063	12,667
30 < 年龄 ≤ 50 岁员工数量	人	9,390	10,972	12,375
> 50 岁员工数量	人	125	127	141
客户投诉解决率	%	100	100	100
研发投入金额	亿元	9.9	11.2	14.5
研发投入占营业收入比例	%	5.04	5.28	5.62
国家级绿色工厂个数	个	2	3	5
光伏扶贫支付款项	万元	1,370.1	970.2	970.2
光明工程支出	万元	15	18	30
光明工程帮助人数	人	150	200	238
供应商数量 (不含设备)	家	688	811	899
专利数量	项	697	779	897

Indicator	Unit	2018	2019	2020
Operating revenue	(Unit: RMB 100 million)	196.5	211.6	258.5
Net profit attributable to mother company	(Unit: RMB 100 million)	7.19	12.52	15.07
Asset-liability ratio	%	76.27%	70.92%	60.21%
Annual performance appraisal coverage	%	20,003	22,162	25,183
Number of employees	Person	100	100	100
Number of identified core talents	Person	523	826	1,132
Training cost input	RMB 10 thousand	436.31	497.20	284.6
Training cost per person	RMB 10 thousand	373.75	369.43	187.3
Training hours per person	hrs	16	18	19
Training coverage	%	100	100	100
Number of male employees	Person	13,981	15,641	18,128
Number of female employees	Person	6,022	6,521	7,055
Number of employees with master's degree and above	Person	231	242	313
Number of employees with bachelor's degree	Person	2,001	2,118	2,684
Number of employees with college degree	Person	3,684	3,916	5,190
Number of employees graduated from technical secondary school and below	Person	14,087	15,886	16,996
Number of employees ≤30-year-old	Person	10,488	11,063	12,667
Number of employees 30 < age ≤ 50-year-old	Person	9,390	10,972	12,375
> Number of 50-year-old employees	Person	125	127	141
Customer complaint resolution rate	%	100	100	100
R & D investment amount	RMB 100 million	9.9	11.2	14.5
Proportion of R & D investment in operating revenue	%	5.04	5.28	5.62
Number of national green factories	pcs	2	3	5
Photovoltaic poverty alleviation payment	RMB 10 thousand	1,370.1	970.2	970.2
China Brightness Program expenses	RMB 10 thousand	15	18	30
China Brightness Program has helped	Person	150	200	238
Number of suppliers (excluding equipment)	pcs	688	811	899
Patent numbers	pcs	697	779	897



## GRI指标索引

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注：103 管理方法披露，涵盖 GRI103-1,103-2,103-3.

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Note: 103 Management Method Disclosure, covering GRI103-1,103-2,103-3.





## ASSURANCE STATEMENT

### SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE SUSTAINABILITY REPORT of JA Solar Technology Co.,Ltd. FOR 2020

#### NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS-CSTC Standards Technical Services Co., Ltd. (hereinafter as "SGS") was commissioned by JA Solar Technology Co.,Ltd.(hereinafter referred to as "JA Solar") to conduct an independent assurance of the 2020 Sustainability Report of JA Solar (hereinafter referred to as "the Report") .The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the text, and data in accompanying tables, contained in Chinese version of the Report, other disclosed date and information were not included in this assurance process. We verified the data and the information in the Report onsite which are obtained from JA Solar 's Head-Office which is located in Building 8, Noble Center, East Auto Museum Road, Fengtai District, Beijing, P.R. China.

The information in the Report is the sole responsibility of its management and relevant functional departments.

SGS did not involve in the preparation for 2020 Sustainability Report of JA solar.

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.

The SGS protocols are based upon internationally recognized guidance, including the Principles contained within the GRI STANDARDS for accuracy and reliability and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

This report has been assured at a moderate level of scrutiny using our protocols for:

- evaluation of content veracity;
- evaluation of the report against the GRI STANDARDS.

The assurance comprised a combination of pre-assurance research, interviews with relevant employees; documentation and record review and validation with external bodies and/or stakeholders where relevant.

Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

#### STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and verification, with a global service network operating in more than 140 countries. 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 of CSR lead assesor, CCAA registered ISO 9001, ISO 14001, ISO 50001, ISO 20121 auditor and SAAS registered SA8000 auditor.

#### VERIFICATION/ ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within the Report is accurate, reliable and provides a fair and balanced representation of JA solar sustainability activities in 2020.

The assurance team is of the opinion that the Report can be used by the Reporting Organisation's Stakeholders.

We believe that the organisation has chosen an appropriate option for the reporting.

#### GRI STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

In our opinion the Report is presented in accordance with the core option of GRI STANDARDS and fulfills all the required contents and reporting principles.

#### PRINCIPLES

##### Stakeholder Inclusiveness

JA solar adopted stakeholder engagement procedure, to identify and select key stakeholders, and performed stakeholder engagement activities, taken into account the reasonable expectations.

##### Sustainability Context

JA solar demonstrated its efforts in sustainable development from economic, environmental and social aspects, and demonstrated these performances in combination with the background of sustainable development.

##### Materiality

JA solar determined material topics and relevant disclosures, based on its significant impacts on economic, environment, and society and topics that raised by stakeholders.

##### Completeness

The Report shows sustainability performance of all identified material topics with their boundaries. Stakeholder can well understand JA solar's sustainability performance.

##### Balance

The Report discloses management approach and positive and part of negative performance of material topics.

##### Comparability

The Report discloses JA solar's sustainability performance indicators for 2020, together with some historical data, which enable stakeholders to visually compare and understand the performance of sustainability.

##### Accuracy

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

##### Timeliness

JA solar issues sustainability report timely every year.

##### Clarity

The Report is clear and can be understood by stakeholders who have a reasonable understanding of JA solar's sustainability effort. JA solar is taking into account the utilization and type of information, and using a number of descriptions, charts and pictures and case study while disclosure of information.



### Reliability

JA solar set up a reporting process. The data and information can be traced and verified by internal collection, recording, compiling, analysis and disclosure to ensure the quality and materiality of information.

### Management Approach

The report has disclosed the management approach of identified material topics.

### General Disclosure

The general disclosure requirements of the GRI STANDARDS core option in the report can all be met.

### Topic-Specific Disclosures

Topic-specific disclosures such as the importance of economic, environmental and social impacts on the organisation and the substantive impact on stakeholder assessments and decisions can be described in accordance with GRI core option.

### Findings and Recommendations

The good practices and the recommendations are reported in internal management report which submitted to JA solar's management for reference.

### Limitations of Assurance

We only onsite visited the head-office of the JA Solar for the assessment and verified the Report headquarters level. No external stakeholders are interviewed.

Signed:

For and on behalf of SGS-CSTC

David XIN Director  
Knowledge

16/F Century Yuhui Mansion, No.73, Fucheng Road, Beijing, China  
April, 27, 2021

WWW.SGS.COM

## 意见反馈

## FEEDBACK

为持续改进公司社会责任工作，不断提高履行社会责任的能力和水平，我们非常希望倾听您的意见和建议。恳请您协助完成反馈意见表中提出的相关问题，并选择以下方式反馈给我们。

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您的信息

姓名: \_\_\_\_\_

工作单位: \_\_\_\_\_

职务: \_\_\_\_\_

联络电话: \_\_\_\_\_

电子邮件 Email: \_\_\_\_\_

1. 您对公司社会责任报告的总体评价是?  
 高  较高  一般  较低  低
2. 您认为本报告是否能反映公司对经济、社会和环境的重大影响?  
 高  较高  一般  较低  低
3. 您认为本报告所披露信息、数据、指标的清晰、准确、完整度如何?  
 好  较好  一般  差  不了解
4. 您最满意本报告哪一方面?  
\_\_\_\_\_
5. 您希望进一步了解哪些信息?  
\_\_\_\_\_
6. 您对我们今后发布报告还有哪些建议?  
\_\_\_\_\_

In order to continuously improve the sustainable development work and continuously improve the ability and level of fulfilling sustainable development of the Company, we would like to listen to your comments and suggestions. We kindly ask you to answer the questions in the feedback form and send it back to us in the following ways.

Tel.: +86-10-63611888

E-mail: csr@jasolar.com

Add.: Building 8, Noble Center, East Auto Museum Road, Fengtai District, Beijing

Your Information

Name: \_\_\_\_\_

Work Unit: \_\_\_\_\_

Title: \_\_\_\_\_

Tel.: \_\_\_\_\_

E-mail: \_\_\_\_\_

1. What is your overall comment on the Sustainable development Report of the Company?  
 High  Relatively High  General  Relatively Low  Low
2. Do you think this Report can reflect the Company's significant impact on the economy, society and environment?  
 High  Relatively High  General  Relatively Low  Low
3. What do you think of the clarity, accuracy and completeness of the information, data and indicators disclosed in this Report?  
 Good  Relatively Good  General  Bad  I don't know
4. Which aspect of this Report are you most satisfied with?  
\_\_\_\_\_
5. What information would you like to learn more about?  
\_\_\_\_\_
6. What other suggestions do you have for our future report?  
\_\_\_\_\_