永祥股份
YONGXIANG CO.,LTD.

永创一流　祥和天下

Be Outstanding, Be Contributive

YONGXIANG 2025



通威集团 TONGWEI GROUP

FORTUNE GLOBAL 500 世界500强

通威股份 TONGWEI CO., LTD.

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刘汉元 /主席 *Chairman Liu Hanyuan*

全国人大代表	Deputy to the NPC
全国工商联副主席	Vice Chairman of All-China Federation of Industry and Commerce
通威集团董事局主席	Chairman of the Board of Directors of Tongwei Group

穿越寒冬，春天必将来临
Spring Will Surely Arrive After the Cold Winter

经过多年的发展，永祥打造出了一支来之能战、战之能胜，并不断走向新胜利的团队，为大家感到由衷的骄傲和自豪。

光伏行业的快速发展，对我国乃至全人类的能源转型来说都具有积极意义和必要性，我们要坚定地继续我们的事业。在行业周期性发展过程中，面对行情起伏，要思考，什么样的方式能让我们获得更大的发展空间，什么样的节奏能够使我们更好地把握发展中的机遇。永祥团队更要从多角度去深入思考，创新突破，敢想敢干，要进一步优化能耗、硅耗等核心指标，把降本增效做到更优；要勇于争先，迎接挑战，无论行情如何变化，始终保持行业领跑地位；要真正贯彻并践行“诚、信、正、一”的经营理念，从文化上、培训上、安全管理上进一步下功夫、出成效；要勤思多练，做好预案，推进安全自动化升级工作，落实好生态环境的保护，在企业发展的同时对员工负责，对社会负责；要坚定不移做大做强优势产业，科学稳步延链补链，以差异化优势争取在行业中领先的发展机会。

当前的产能过剩只是暂时现象，从长远来看，推动能源转型是行业发展的本质目标。在清洁能源时代，无论是产业规模、全球市场占有率，还是推动能源转型的力度，中国毫无疑问走到了世界前列，值得大家共同参与和推动。面对行业的周期性波动以及市场变化带来的不确定性，团队要冷静客观地研究生产设备及管理中存在的问题与瓶颈，集中资源解决关键难题，也要勇于尝试新方法、新技术，始终保持行业领跑地位；要秉持开放合作的心态，携手行业同仁，深化合作、并肩前行，共促产业科技创新。相信通过全体永祥人的共同努力，并不断提升自身实力，无论是应对当前的挑战，还是迎接未来的机遇，如春天的复苏、夏天的勃发、秋天的硕果，都需要我们做好准备。穿越寒冬，春天必将来临，届时我们将奔跑得更加欢畅、更加卓有成效。

After years of dedication, Yongxiang has forged a team capable of fighting and winning while consistently achieving new victories, which fills me with immense pride and joy.

The rapid development of the PV sector is of positive significance and necessity for the energy transition of our country and all mankind. We must remain steadfast in advancing our mission. In the cyclical development of the industry, we must contemplate how to secure greater development space and seize opportunities amidst market fluctuations. The Yongxiang team must delve into multi-faceted thinking, innovate, and dare to act. We must further optimize core indicators such as energy consumption and silicon consumption to achieve optimal cost reduction and efficiency enhancement. We must strive for excellence, embrace challenges, and maintain our industry-leading position regardless of market changes. We must genuinely implement and practice the business philosophy of "Sincerity, Trustworthiness, Integrity, and Unity," focusing on cultural development, training, and safety management to achieve tangible results. We must think diligently, practice extensively, prepare contingency plans, promote the upgrade of safety automation, and implement environmental protection. While developing the enterprise, we must be responsible to our employees and society. We must steadfastly expand and strengthen our advantageous industries, scientifically and steadily extend and supplement the industrial chain, and strive for leading development opportunities in the industry through differentiated advantages.

The current overcapacity is merely a temporary phenomenon. From a long-term perspective, driving the energy transition is the fundamental goal of industry development. In the era of clean energy, China is undoubtedly at the forefront of the world in terms of industrial scale, global market share, and the impetus for energy transition, which deserves our collective participation and promotion. In the face of cyclical fluctuations in the industry and the uncertainties brought about by market changes, our team must calmly and objectively study the problems and bottlenecks in production equipment and management, concentrate resources to solve key challenges, and also be brave enough to try new methods and technologies to always maintain a leading position in the industry. We must uphold an open and cooperative attitude, work with our industry colleagues, deepen cooperation, and move forward together to jointly promote industrial technological innovation. We believe that through the joint efforts of all Yongxiang people and the continuous improvement of our own strength, we will be well-prepared for both the current challenges and the future opportunities, like the revival of spring, the vigor of summer, and the fruits of autumn. After weathering the winter, spring will surely come, and we will run more joyfully and more effectively.



刘舒琪 *Liu Shuqi*

通威股份董事长、 CEO

Chairman and CEO, Tongwei Co., Ltd.

把握大势 • 坚定信心 • 勇往直前

Seizing the Trend • Staying Confident • Marching Forward with Courage

2024年，永祥股份两个全球单体产能最大的项目通威硅能源和云南通威二期项目实现了一次性开车成功，并快速达产达标，晶硅产量、市占率均保持行业第一。这些成绩的背后都蕴含着大家挥洒汗水的辛勤付出，也展现了永祥团队精气神与执行力。

当前，光伏行业正处于关键发展阶段，光伏产业供需严重失衡，行业“内卷”现象愈发严峻，低价竞争、知识产权保护乏力等问题依旧突出。但是，难走的路是上坡路，爬坡过坎是前进道路上的必修课。增强信心、保持定力、坚定底气，是战胜各种风险挑战的关键。我们不能仅仅看到当前的困境，更需要敏锐抓住其中的机遇。

展望未来，光伏行业仍是极具潜力、蓬勃发展的新兴增量市场。一方面，随着全球能源变革浪潮，“双碳”战略稳步实施，光伏行业市场前景将愈发广阔。另一方面，人工智能的兴起将带来庞大电力需求，也会为光伏行业发展提供强大动力。同时，随着技术不断进步，光伏成本还将不断降低，使得光伏在全球能源市场中的优势愈发凸显，全球光伏产业需求将持续增长。

尽管前方或许依然充满各种不确定性，但通威有着深厚底蕴，这是我们多年来在行业内深耕细作积累下来的宝贵财富，也是我们的根基所在。我们有着团结一心的优秀团队，大家在各自岗位上兢兢业业、拼搏奉献，汇聚成了推动公司前进的强大力量；更有着行业领先优势，技术研发、产品质量、市场份额等方面都处于行业前列，这些都是我们勇往直前的底气所在。希望大家既要把握大势、坚定信心，又要正视困难、保持清醒。只要上下一心，在各自岗位上把工作做深、做细、做实，相信2025年永祥股份必将在光伏行业续写华章，为全球清洁能源事业蓬勃发展再添强大助力！

In 2024, Yongxiang Co., Ltd. achieved a remarkable milestone that two of the world's largest single-capacity projects, Tongwei Silicon Energy and the second phase of Yunnan Tongwei, achieved successful one-time start-up. Both projects rapidly reached their target production capacity and quality, solidifying Yongxiang's industry-leading position in crystalline silicon output and market share. These accomplishments are a testament to the hard work and dedication of every team member, reflecting Yongxiang's unwavering spirit and execution excellence.

At present, the PV industry stands at a critical juncture. Severe supply-demand imbalances, intensifying competition, and challenges such as price wars and inadequate intellectual property protection have created a highly volatile environment. Yet, the toughest roads often lead to the greatest heights. Overcoming obstacles is an inevitable part of progress. In these times, confidence, resilience, and determination are our greatest weapons against challenges. Rather than dwelling on current challenges, we must sharpen our vision to identify emerging opportunities.

Looking ahead, the PV sector remains a highly promising and booming emerging incremental market. On the one hand, the global energy transition and steady implementation of "dual-carbon" strategies will continue to expand the industry's horizons. On the other hand, the rise of artificial intelligence will drive unprecedented electricity demand, which will also provide a strong impetus for the development of the PV sector. Meanwhile, technological advancements will keep reducing PV costs, reinforcing solar energy's competitive edge in the global energy market and fueling sustained global demand.

Although the future may still be full of uncertainties, Tongwei is backed by its rich experience, which is a valuable asset accumulated through the deep cultivation in the PV sector over the years, and is also where our foundation lies. We have an excellent team of unity and solidarity. Everyone works diligently and dedicates themselves to their respective positions, converging into a powerful force that drives the company forward. We also have industry-leading advantages, with technology research and development, product quality, market share, and other aspects all at the forefront of the industry. These are all our confidence to move forward. I hope that we will grasp the general trend, strengthen our confidence, and at the same time face difficulties squarely and remain clear-headed. As long as we stand united and execute our responsibilities with depth, precision, and steadfast commitment, I believe that in 2025, Yongxiang Co., Ltd. will surely compose a new chapter in the PV sector and provide even stronger momentum for the vigorous development of the global clean energy industry!

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四川永祥股份有限公司
SICHUAN YONGXIANG CO., LTD.

四川永祥股份有限公司是通威股份有限公司（股票代码：600438）旗下的一家大型民营科技型企业。公司位于四川省乐山市五通桥区。经过20多年的发展，永祥形成了四川乐山、四川广元、内蒙古包头、云南保山等生产基地。旗下拥有永祥多晶硅、永祥新能源、永祥能源科技、永祥硅材料、永祥光伏科技、永祥硅资源、内蒙古通威、通威硅能源（内蒙古）、通威绿色基材（内蒙古）、云南通威、通威绿色基材（广元）等分子公司，产品涉及工业硅、高纯晶硅、单晶硅棒、烧碱、聚氯乙烯、电石渣综合利用水泥等。

2024年，永祥各公司生产运行安全平稳，指标进一步提升，降本增效明显，2个20万吨晶硅项目相继投产，达茂旗工业硅项目一次性投产成功；永祥取得了第一个硅矿探矿权，实现了通威光伏全产业链布局。

2024年，向绿而行。永祥落地实现国内首个100万千瓦级风光储一体化新能源项目；国内首个30万千瓦级风储一体化新能源项目；国内首个绿电配置比例超50%风光耦合绿电制硅一体化项目。

2024年，永祥高纯晶硅产能规模突破90万吨，资产超700亿，员工1.52万人，晶硅产量国内市占率超31%，国际市占率超29%。

Sichuan Yongxiang Co., Ltd. is a prominent private technology enterprise under Tongwei Co., Ltd. (stock code: 600438), located in the Wutongqiao District of Leshan, Sichuan Province. Over the past two decades, Yongxiang has established production bases in Leshan and Guangyuan in Sichuan, Baotou in Inner Mongolia, and Baoshan in Yunnan. The company encompasses subsidiaries such as Yongxiang Polysilicon, Yongxiang New Energy, Yongxiang Energy Technology, Yongxiang Silicon Materials, Yongxiang PV Technology, Yongxiang Silicon Resources, Inner Mongolia Tongwei, Tongwei Silicon Energy (Inner Mongolia), Tongwei Green Substrate (Inner Mongolia), Yunnan Tongwei, and Tongwei Green Substrate (Guangyuan), with products spanning industrial silicon, high-purity crystalline silicon, monocrystalline silicon rods, caustic soda, polyvinyl chloride, and comprehensive utilization of carbide slag in cement.

In 2024, Yongxiang's operations across all subsidiaries maintained safety and stability, with further improvements in performance indicators and significant cost reduction and efficiency enhancement. Two 200,000-ton crystalline silicon projects were successfully put into operation, and the Damao Banner Industrial Silicon project was also successfully commissioned in one go. Moreover, Yongxiang secured its first exploration rights for a silicon mine, achieving a comprehensive layout of the Tongwei PV industry chain.

Green Development in 2024 Yongxiang has successfully implemented the country's first 1 million kilowatt-level integrated wind-solar-storage new energy project, the first 300,000 kilowatt-level integrated wind-storage new energy project, and the first integrated project for silicon production using wind-solar coupled green electricity with over 50% green power configuration.

In 2024, Yongxiang's high-purity crystalline silicon production capacity surpassed 900,000 tons, with assets exceeding RMB 70 billion and a workforce of 15,200 employees. The company's crystalline silicon output holds over 31% of the domestic market share and over 29% of the international market share.

国内市占率

超31%

DOMESTIC MARKET SHARE:
OVER 31%

产能

超90万吨

CAPACITY:
OVER 900,000 TONS



DEVELOPMENT HISTORY
发展历程

2002~2025

岁月峥嵘
砥砺前行

Forging Ahead Through
Glorious Years

启程 SETTING OFF

2002

11月，永祥树脂成立

In November, Yongxiang Resin was founded

2007

4月，进入晶硅领域
5月，永祥树脂更名为永祥股份

In April, Yongxiang broke into the crystalline silicon market
In May, Yongxiang Resin changed its name to Yongxiang Co., Ltd.

2011

9月，永祥多晶硅二期3000吨生产线投产
永祥晶硅产能达4000吨/年

In September, Yongxiang Polysilicon 3,000-ton production line commissioned
Annual crystalline silicon capacity reached 4,000 tons

追赶 CATCHING UP

2014

10月，永祥多晶硅冷氢化技改启动

In October, the Yongxiang Polysilicon cold hydrogenation technology reform was launched

2015

3月，永祥多晶硅第四次技改成功
永祥晶硅产能达1.5万吨/年

In March, Yongxiang Polysilicon successfully completed its fourth technological upgrading
Yongxiang's annual crystalline silicon production capacity reached 15,000 tons

2016

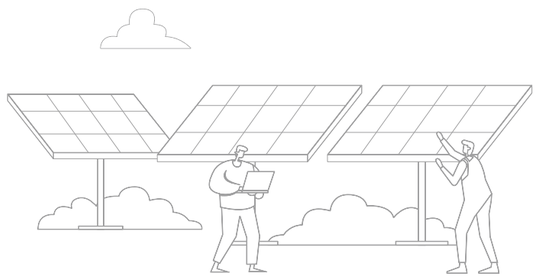
4月，永祥树脂15万吨离子膜烧碱技改成功

In April, Yongxiang Resins 150,000 tons of ionic membrane caustic soda was successfully upgraded

2017

永祥晶硅产能达2万吨/年
乐山、包头高纯晶硅项目启动建设

Yongxiang's annual crystalline silicon production capacity reached 20,000 tons
Leshan and Baotou high-purity crystalline silicon projects commenced



超越 SURPASSING

2018

乐山、包头两个高纯晶硅项目投产
永祥晶硅产能达8万吨/年，跻身全球第一军团

Two high-purity crystalline silicon projects in Leshan and Baotou were put into production
Yongxiang's annual crystalline silicon capacity surged to 80,000 tons, entering the global top tier

2019

2月，永祥新能源高纯晶硅正品出炉
8月，永祥新能源达产达标达能
10月，内蒙古通威达产达标达质达效
10月，永祥月出货量超过8000吨
巩固全球高纯晶硅行业龙头地位

In February, Yongxiang New Energy's high-purity crystalline silicon products were released
In August, Yongxiang New Energy reached its designed capacity and met the standards of quality and efficiency
In October, Inner Mongolia Tongwei reached capacity, quality, and efficiency standards
In October, Yongxiang's monthly shipments exceeded 8,000 tons
Its global leadership in the high-purity crystalline silicon sector was solidified

2020

11月，永祥新能源二期项目开工建设
11月，云南通威高纯晶硅项目开工

In November, the Phase II of Yongxiang New Energy project started construction
In November, the Yunnan Tongwei High-purity Crystalline Silicon project was started

领跑 LEADING THE WAY

2021

4月，永祥光伏科技开工建设
5月，内蒙古通威二期开工建设
8月，永祥能源科技挂牌启动

In April, Yongxiang PV technology started construction
In May, the Inner Mongolia Tongwei Phase II project was started
In August, Yongxiang Energy Technology was launched

2022

1月，云南通威一期达产达标
5月，内蒙古通威二期开车成功

In January, the Phase I of Yunnan Tongwei reached the capacity and quality standards
In May, the Phase II of Inner Mongolia Tongwei successfully commenced operations

2023

7月，内蒙古通威硅能源启动
9月，永祥能源科技投产
9月，启动内蒙古绿色基材
9月，启动永祥硅矿项目
11月，启动广元绿色基材

In July, Tongwei Silicon Energy (Inner Mongolia) launched
In September, Yongxiang Energy Technology commenced production
In September, the Inner Mongolia Green Substrate project was initiated
In September, the Yongxiang Silicon Mine project was launched
In November, the Green Substrate project in Guangyuan was started

2024

5月，云南二期投产
9月，通威硅能源内蒙古投产
11月，内蒙古绿色基材投产

In May, the second phase of Yunnan Tongwei was put into operation
In September, Tongwei Silicon Energy (Inner Mongolia) commenced production
In November, the Inner Mongolia Green Substrate project was put into operation

2025

2月，通威绿色基材广元投产
3月，硅资源阿拉善项目启动

In February, Tongwei Green Substrate (Guangyuan) went into production
In March, the Silicon Resources Alashan project was launched

HONORS AND AWARDS
荣誉奖项

荣誉加载
实力见证

Honors and Achievements:
A Testament to Strength

永祥股份的发展离不开各级党委、政府，各级领导，社会各界的关心与帮助，公司荣获了中国工程建设质量最高荣誉——国家优质工程奖，中国建筑行业工程质量最高荣誉——“鲁班奖”，“国家高新技术企业”“国家工信部绿色工厂”“国家知识产权优势企业”“中国专利优秀奖”“中国半导体材料专业十强”“四川省专利一等奖”“四川省专利创新创业奖”“四川省优秀民营企业”“四川省技术创新示范企业”“四川省成果转化示范企业“绿色企业管理奖”“节能减排先锋企业”等殊荣，并通过中国质量认证中心“能源管理体系认证”。凭借在技术上的持续创新突破，被中国石油和化学工业联合会授予科技进步一等奖，继“第五代永祥法”获评国际先进水平后，“第六代永祥法”被认定为“国际领先水平”。

The success of Yongxiang Co., Ltd. is attributed to the support and guidance from party committees and governments at all levels, as well as officials and individuals from various sectors. The Company has been honored with prestigious awards in China, such as China's highest honor for engineering construction quality—the National Quality Engineering Award, China's highest honor for construction engineering quality—the "Luban Prize," recognition as a "National High-tech Enterprise," "Green Factory of the Ministry of Industry and Information Technology," "National Intellectual Property Advantageous Enterprise," "China Patent Award of Excellence," "China's top ten semiconductor material professionals," "Sichuan Provincial Patent First Prize," "Sichuan Province Patent Innovation and Entrepreneurship Award," "Outstanding Private Enterprise in Sichuan Province," "Sichuan Provincial Technological Innovation Demonstration Enterprise," "Sichuan Provincial Achievement Transformation Demonstration Enterprise," "Green Enterprise Management Award," "Energy Saving and Emission Reduction Pioneer Enterprise," and numerous other accolades. Moreover, it has passed the "Energy Management System Certification" of China Quality Certification Center. Due to ongoing technological innovation and advancements, the Company was honored with the First Prize of Scientific and Technological Progress by the China Petroleum and Chemical Industry Federation. Following the rating of the "Fifth Generation Yongxiang Method" as an international advanced level, the "Sixth Generation Yongxiang Method" was acknowledged as attaining an international leading level.

中国工程建设质量最高荣誉
国家优质工程奖
China's highest honor for engineering construction quality
—the National Quality Engineering Award

中国建筑行业工程质量最高荣誉
鲁班奖
China's highest honor for construction engineering quality
—the "Luban Prize"

国家高新技术企业
National High-tech Enterprise

国家工信部绿色工厂
Green Factory of the Ministry of Industry
and Information Technology

国家知识产权优势企业
National Intellectual Property Advantageous Enterprise

中国专利优秀奖
China Patent Award of Excellence

中国半导体材料专业十强
China's top ten semiconductor material professionals

四川省专利一等奖
Sichuan Provincial Patent First Prize

四川省专利创新创业奖
Sichuan Province Patent Innovation and Entrepreneurship Award

四川省优秀民营企业
Outstanding Private Enterprise in Sichuan Province

四川省技术创新示范企业
Sichuan Provincial Technological Innovation
Demonstration Enterprise

四川省成果转化示范企业
Sichuan Provincial Achievement Transformation
Demonstration Enterprise

绿色企业管理奖
Green Enterprise Management Award

节能减排先锋企业
Energy Saving and Emission Reduction
Pioneer Enterprise

中国质量认证中心“能源管理体系认证”
"Energy Management System Certification"
of China Quality Certification Center

中国石油和化学工业联合会授予科技进步一等奖
the First Prize of Scientific and Technological Progress by the
China Petroleum and Chemical

继“第五代永祥法”获评国际先进水平后
“第六代永祥法”被认定为“国际领先水平”
Following the rating of the "Fifth Generation Yongxiang Method"
as an international advanced level, the "Sixth Generation
Yongxiang Method" was acknowledged as attaining an
international leading level



LEADERSHIP CARE
领导关怀

不负嘱托
砥砺前行

Living Up to Expectations
and Forging Ahead

各级领导的高度认可与大力支持，让永祥股份坚定信心，只争朝夕，不用扬鞭自奋蹄。在永祥股份走向全国、走向世界的历程中，得到了各级政府、各界领导的悉心指导和大力支持。

从一粒种子成长为参天大树，永祥股份在关怀下不断发展，在发展中心怀感恩，从不辜负每一份期望和嘱托，不断用令人瞩目的成绩回馈每一份关爱与帮助。在打造世界级清洁能源供应商的征途上，勇往直前！

The unwavering recognition and robust support from leaders at all levels have fortified Yongxiang's resolve, spurring us to seize every opportunity and strive relentlessly. During its expansion across the country and around the world, Yongxiang has gained support from the governmental authorities and the leaders of various sectors.

From humble beginnings to the current prominent position, Yongxiang has been developing continuously under the care and being grateful in the development. It is committed to living up to expectations and continuously delivering outstanding results as a way of giving back. On our path to becoming a world-class clean energy supplier, Yongxiang advances with unwavering determination!





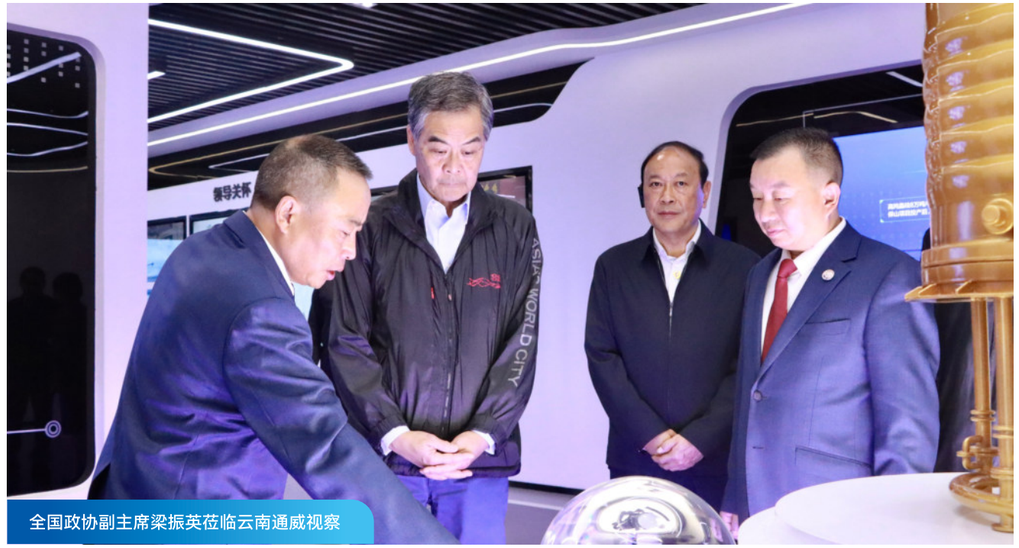
中共二十届中央政治局委员、中央书记处书记，十四届全国政协副主席，中央组织部部长石泰峰莅临内蒙古通威视察

Shi Taifeng, Member of the Political Bureau of the 20th CPC Central Committee, Secretary of the Secretariat of the CPC Central Committee, Vice Chairman of the 14th CPPCC National Committee, and Head of the Organization Department of the CPC Central Committee, visited Inner Mongolia Tongwei



全国人大常委会副委员长、民建中央主席郝明金莅临永祥股份视察

Hao Mingjin, Vice Chairman of Standing Committee of the National People's Congress and Chairman of CNDCA Central Committee, visited Yongxiang Co., Ltd.



全国政协副主席梁振英莅临云南通威视察

Liang Zhenying, Vice Chairman of the CPPCC National Committee, visited Yunnan Tongwei



十九届中共中央政治局委员、十三届全国人大常委会副委员长王晨莅临内蒙古通威视察

Wang Chen, Member of the Political Bureau of the 19th CPC Central Committee and Vice Chairman of the 13th NPC Standing Committee, visited Inner Mongolia Tongwei



十一届、十二届全国人大常委会副委员长，民建中央原主席陈昌智现场了解永祥高纯晶硅

Chen Changzhi, Vice Chairman of the 11th and 12th Standing Committees of the National People's Congress and former Chairman of the Central Committee of the China National Democratic Construction Association (CNDCA), visited Yongxiang Co., Ltd. to assess its progress in high-purity crystalline silicon



四川省委书记、省人大常委会主任王晓晖莅临通威绿材（广元）调研

Wang Xiaohui, Secretary of CPC Sichuan Provincial Committee and Director of the Standing Committee of Sichuan Provincial People's Congress, visited Tongwei Green Substrate (Guangyuan)



云南省委书记、省人大常委会主任王宁莅临云南通威调研

Wang Ning, Secretary of the CPC Yunnan Provincial Committee and Director of the Standing Committee of the Yunnan Provincial People's Congress, visited Yunnan Tongwei



吉林省委书记、省人大常委会主任黄强莅临永祥新能源调研

Huang Qiang, Secretary of the CPC Jilin Provincial Committee and Director of the Standing Committee of the Jilin Provincial People's Congress, Visited Yongxiang New Energy



四川省委副书记、省长施小琳莅临永祥股份调研

Shi Xiaolin, Deputy Secretary of the CPC Sichuan Provincial Committee and Governor of the People's Government of Sichuan Province, visited Yongxiang Co., Ltd.



云南省委副书记、省长王予波与刘汉元主席举行工作会谈

Wang Yubo, Deputy Secretary of the CPC Yunnan Provincial Committee and Governor of the People's Government of Yunnan Province, held a work meeting with Mr. Liu Hanyuan



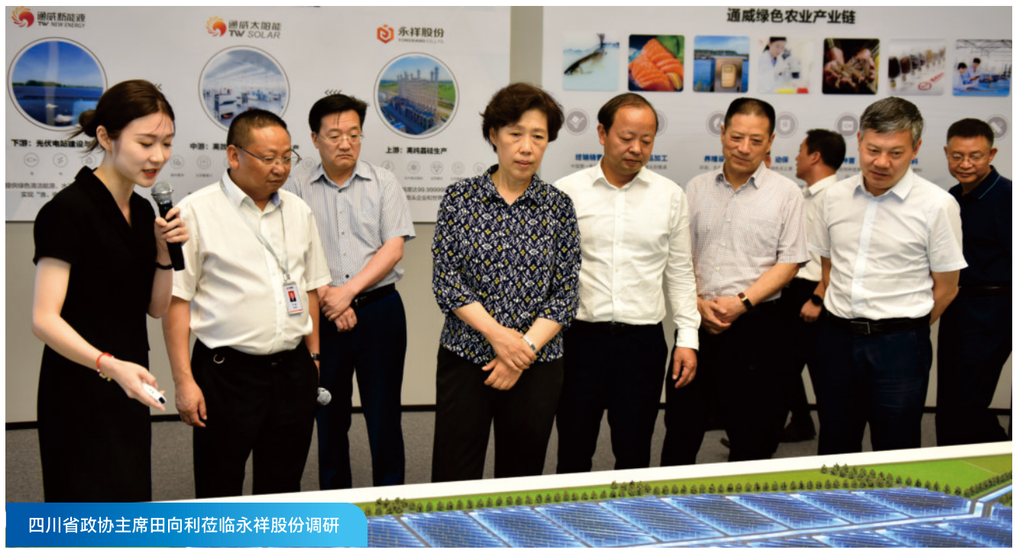
农业农村部党组成员、副部长张治礼莅临云南通威调研

Mr. Zhang Zhili, Member of the Party Leadership Group and Vice Minister of Ministry of Agriculture and Rural Affairs, visited Yunnan Tongwei



国家市场监督管理总局副局长白清元莅临内蒙古通威调研

Mr. Bai Qingyuan, Deputy Director General of the State Administration for Market Regulation, visited Inner Mongolia Tongwei



四川省政协主席田向利莅临永祥股份调研

Tian Xiangli, Chairwoman of the CPPCC Sichuan Provincial Committee, and her delegation visited Yongxiang Co., Ltd.



广东省委副书记、深圳市委书记孟凡利莅临内蒙古通威调研

Meng Fanli, Deputy Secretary of the CPC Guangdong Provincial Committee and Secretary of the CPC Shenzhen Municipal Committee, visited Inner Mongolia Tongwei



四川省委常委、统战部部长、省政协党组副书记、省总工会主席普布顿珠莅临永祥股份调研

Pubu Dunzhu, member of the Standing Committee and Head of the United Front Work Department of the CPC Sichuan Provincial Committee, Deputy Secretary of the Party Leadership Group of the CPPCC Sichuan Committee, and Chairman of the Sichuan Provincial Federation of Trade Unions, visited Yongxiang Co., Ltd.



云南省委常委、常务副省长赵俊民莅临永祥股份调研

Zhao Junmin, Member of the Standing Committee of the CPC Yunnan Provincial Committee and Executive Vice Governor of the People's Government of Yunnan Province, visited Yongxiang Co., Ltd.



四川省委常委、组织部部长靳磊莅临通威绿材(广元)调研

Jin Lei, Member of the Standing Committee and Head of the Organization Department of the CPC Sichuan Provincial Committee, visited Tongwei Green Substrate (Guangyuan)



海南省委常委、组织部部长纳云德莅临云南通威调研

Na Yunde, Member of the Standing Committee and Head of the Organization Department of the CPC Hainan Provincial Committee visited Yunnan Tongwei



内蒙古自治区党委常委、包头市委书记丁绣峰莅临通威硅能源(内蒙古)调研

Ding Xiufeng, Member of the Standing Committee of the CPC Inner Mongolia Autonomous Region Committee and Secretary of the CPC Baotou Municipal Committee, visited the Tongwei Silicon Energy (Inner Mongolia)



内蒙古自治区党委常委、通辽市委书记孟宪东莅临内蒙古通威调研

Meng Xiandong, Member of the Standing Committee of the CPC Inner Mongolia Autonomous Region Committee and Secretary of the CPC Tongliao Municipal Committee, visited Inner Mongolia Tongwei



四川省人大常委会副主任祝春秀莅临永祥股份调研

Zhu Chunxiu, Deputy Director of the Standing Committee of the Sichuan Provincial People's Congress, visited Yongxiang Co., Ltd.



四川省人大常委会副主任王菲莅临永祥股份调研

Wang Fei, Deputy Director of the Standing Committee of the Sichuan Provincial People's Congress, visited Yongxiang Co., Ltd.



云南省人大常委会副主任、党组副书记宗国英莅临云南通威二期项目调研

Zong Guoying, Deputy Secretary of the Party Leadership Group and Deputy Director of the Standing Committee of the Yunnan Provincial People's Congress, visited the Yunnan Tongwei Phase II Project



四川省政协副主席、党组成员杜和平莅临通威绿材(广元)调研

Du Heping, Vice Chairman and Member of the Party Leadership Group of the CPPCC Sichuan Provincial Committee, visited Tongwei Green Substrate (Guangyuan)



四川省政协副主席林书成莅临永祥股份调研

Lin Shucheng, Vice Chairman of the CPPCC Sichuan Provincial Committee, visited Yongxiang Co., Ltd.



乐山市委书记赵波莅临永祥硅材料调研

Zhao Bo, Secretary of the CPC Leshan Municipal Committee, visited Yongxiang Silicon Materials



广元市委书记何树平莅临通威绿材（广元）调研

He Shuping, Secretary of the CPC Guangyuan Municipal Committee, visited Tongwei Green Substrate (Guangyuan)



保山市委书记杨军莅临云南通威调研

Yang Jun, Secretary of the CPC Baoshan Municipal Committee, visited Yunnan Tongwei



生态环境部环境影响评价与排放管理司司长王志华莅临永祥股份调研

Wang Zhihua, the head of the Department of Environmental Impact Assessment and Emission Management of the Ministry of Ecology and Environment, visited Yongxiang Co., Ltd.



中国工业节能与清洁生产协会会长王小康莅临永祥股份调研

Wang Xiaokang, President of China Industrial Energy Conservation and Cleaner Production Association, visited Yongxiang Co., Ltd.



四川省应急管理厅党委委员、副厅长、政治部主任、机关党委书记张劲莅临永祥股份调研

Zhang Jin, Member of the Party Committee, Deputy Director, Director of the Political Department, and Secretary of the Party Committee for Organs of the Sichuan Provincial Department of Emergency Management, visited Yongxiang Co., Ltd.



四川省生态环境厅一级巡视员赵乐晨莅临永祥股份调研

Zhao Lechen, Level I Bureau Rank Official of Sichuan Ecological Environment Department, visited Yongxiang Co., Ltd.



奋进 永祥
Yongxiang's Endeavor

延伸布局工业硅 重点发展高纯晶硅
Expanding the Industrial Silicon Layout, with a Focus on High-Purity Crystalline Silicon

永祥股份拥有四川乐山、内蒙古包头、云南保山、四川广元四大生产基地，高纯晶硅年产能超90万吨，2021年以来，蝉联全球市占率及出货量第一（数据来源：InfoLink统计）。公司产品涵盖了电子级和太阳能级，实现高纯晶硅“中国智造”。

通威绿色基材（内蒙古）项目、通威绿色基材（广元）项目先后投产，永祥股份延伸布局工业硅取得重大进展，产业版图不断拓展，持续巩固提升全球高纯晶硅龙头地位。

With four major production bases in Leshan of Sichuan, Baotou of Inner Mongolia, Baoshan of Yunnan, and Guangyuan of Sichuan, Yongxiang Co., Ltd. boasts an annual production capacity of over 900,000 tons of high-purity crystalline silicon. Since 2021, the Company has consecutively held the top position globally in market share and shipments (Source: InfoLink statistics). The Company's products span both electronic-grade and solar-grade silicon, embodying the "Intelligent Manufacturing in China" excellence in high-purity crystalline silicon.

The successive commissioning of the Tongwei Green Substrate (Inner Mongolia) project and the Tongwei Green Substrate (Guangyuan) project marks significant progress in Yongxiang's industrial silicon expansion. This strategic move continuously broadens the Company's industrial footprint, further solidifying and enhancing its leading position in the global high-purity crystalline silicon market.





四川乐山基地
LESHAN BASE, SICHUAN

乐山是通威高纯晶硅的起源地。从永祥树脂一家公司出发，永祥股份四川乐山基地现在已拥有永祥新能源、永祥能源科技、永祥光伏科技、永祥多晶硅、永祥树脂、永祥硅材料、永祥多晶硅（新材料）等公司，形成了完整的化工与新能源结合的循环经济产业链，实现了提质降耗、低碳发展。

Leshan stands as the birthplace of Tongwei's high-purity crystalline silicon. Starting from Yongxiang Resin, the Sichuan Leshan Base of Yongxiang Co., Ltd. now boasts eight companies, including Yongxiang New Energy, Yongxiang Energy Technology, Yongxiang PV Technology, Yongxiang Poly-silicon, Yongxiang Resin, Yongxiang Silicon Material, Yongxiang Poly-silicon (New Material), and Tongwei Green Energy. They have formed a complete circular economy industry chain that combines chemicals and new energy, achieving quality improvement, consumption reduction, and low-carbon development.

四川广元基地
GUANGYUAN BASE, SICHUAN

通威绿色基材（广元）项目总体规划建设年产40万吨绿色硅生产线及配套设施，一期20万吨工业硅项目，集成了永祥二十多年的技术研发成果和安全生产管理经验，采用国内外先进的生产工艺技术，解决传统硅行业高耗能、高污染发展瓶颈。同时，为满足工业硅生产硅石需求，通威硅资源（广元）成立，为通威光伏新能源产业链的绿色可持续发展增强动力，进一步巩固永祥全球高纯晶硅龙头地位。

Tongwei's Green Substrate (Guangyuan) project is planned to construct a 400,000 t/a green silicon production line and supporting facilities. Phase I, a 200,000t industrial silicon project, integrates Yongxiang's more than 20 years of technology R&D achievements and safety production management experience. It adopts advanced production technology from home and abroad to address the high energy consumption and pollution issues that have been bottlenecks in the conventional silicon sector. Meanwhile, to meet the demand for silica in industrial silicon production, Tongwei Silicon Resources (Guangyuan) Co., Ltd. was established, enhancing the momentum for the green and sustainable development of Tongwei's PV new energy industry chain and further consolidating Yongxiang's leading position in the global market for high-purity crystalline silicon.





内蒙古包头基地
BAOTOU BASE, INNER MONGOLIA

内蒙古包头基地以永祥股份省外布局的首家高纯晶硅公司——内蒙古通威为基础，持续发展，现已拥有内蒙古通威、通威硅能源（内蒙古）、通威绿材（内蒙古）三家公司，为包头建设世界绿色硅都注入了澎湃动能。

This base continues to develop based on Inner Mongolia Tongwei, the first high-purity crystalline silicon company established by Yongxiang Co., Ltd. outside Sichuan Province. With three subsidiaries, namely, Inner Mongolia Tongwei, Tongwei Silicon Energy (Inner Mongolia), and Tongwei Green Substrate (Inner Mongolia), it is injecting powerful momentum into Baotou's construction as a world green silicon capital.



云南保山基地
BAOSHAN BASE, YUNNAN

作为云南省的重大招商引资项目，云南通威一期从打桩到投产，历时355天，刷新了行业项目工程建设最快纪录。2024年5月1日，云南通威二期20万吨高纯晶硅项目实现一次性开车成功。首批产品顺利出炉，通过质量检测，各项指标达到N型电子级标准，产品纯度达99.999999999%，进一步夯实全球高纯晶硅龙头地位。

As a significant investment attraction project in Yunnan Province, Yunnan Tongwei Phase I was completed from pile driving to operation in 355 days, setting a new record for the fastest project construction in the sector. On May 1, 2024, the 200,000t High-Purity Crystalline Silicon Project of Yunnan Tongwei Phase II, achieved a one-time successful startup. The first batch of products was successfully produced and passed the quality test, with all indicators meeting N-type electronic grade standards and product purity of 99.999999999%, further enhancing its leading position in the global market for high-purity crystalline silicon.

SAFETY AND STABILITY
安全稳定

安全生产责任重于泰山。永祥股份安委会高度重视安全生产工作，始终坚持“安全第一、预防为主、以人为本、综合治理”的方针，严格落实安全生产责任制。

在安委会统筹指导下，永祥股份发力安全稳定，进一步诠释永祥特色安全管理体系，形成实施指南，安全管理体系越来越健全。以活动为导向，开展百日安全活动、消防安全月活动等，营造全员关注、全员参与的安全文化；每季度编制出版《前镜》期刊，打造思想交流阵地、工作展示窗口和业务指导工具；干部员工时时刻刻讲安全、学安全、用安全，安全氛围越来越浓。永祥安全管理得到各级政府及协会高度认可，安全管理影响力越来越大，装置安全运行天数不断刷新纪录。

Safety in production is of paramount importance. The Safety Committee of Yongxiang places utmost emphasis on safety production, consistently adhering to the principles of "Safety First, Prevention Foremost, People-Oriented, and Comprehensive Governance," and strictly implementing the safety production responsibility system.Under the overall guidance of the Safety Committee, Yongxiang Co., Ltd has made efforts in safety and stability, further refining the Yongxiang-specific safety management system and establishing implementation guidelines, thereby continuously improving the safety management system.Guided by activities, it carries out the "Hundred Days of Safety" campaign, the "Fire Safety Month" campaign, etc., to create a safety culture where all employees pay attention to and participate in safety. It compiles and publishes the journal Front Mirror quarterly, creating a position for ideological exchanges, a window for work display, and a tool for business guidance. Management and employees consistently emphasize, study, and apply safety practices, fostering an increasingly robust safety atmosphere. Yongxiang's safety management has received high recognition from governments at all levels and industry associations, with its safety management influence growing and the number of safe operating days for the facilities continuously setting new records.

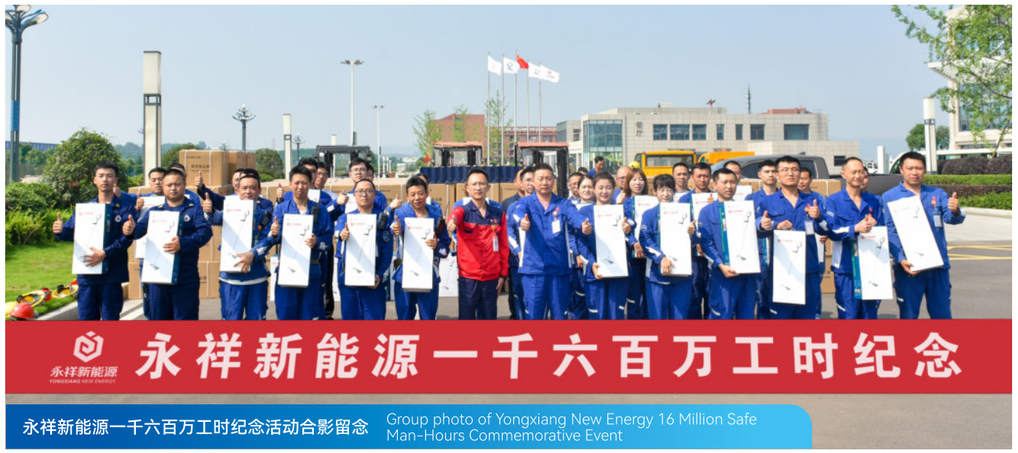
- 国家安全标准化二级企业
  NATIONAL SAFETY STANDARDIZATION GRADE II ENTERPRISE
- “十四五”节能减排先进企业
  ADVANCED ENERGY CONSERVATION & EMISSION REDUCTION ENTERPRISE IN THE 14TH FIVE-YEAR PLAN
- 四川省健康企业
  SICHUAN PROVINCE HEALTHY WORKPLACE ENTERPRISE
- 四川省清单管理示范企业
  DEMONSTRATION ENTERPRISE FOR CHECKLIST MANAGEMENT IN SICHUAN PROVINCE
- 中国化学品安全协会常务理事
  STANDING COUNCIL MEMBER OF CHINA CHEMICAL SAFETY ASSOCIATION
- 云南省灭火救援实训基地
  YUNNAN FIRE-FIGHTING AND RESCUE TRAINING BASE
- 2024年四川省环境友好型企业
  2024 SICHUAN PROVINCE ENVIRONMENTALLY FRIENDLY ENTERPRISE
- 四川省危险化学品协会先进单位
  DVANCED UNIT OF SICHUAN HAZARDOUS CHEMICALS ASSOCIATION



乐山市2024年“安全生产月”启动仪式 Launch ceremony of Leshan 2024 "Production Safety Month"



2024年安全专业性消防技能比武合影留念 Group photo of 2024 Professional Fire Safety Skills Competition



永祥新能源一千六百万工时纪念活动合影留念 Group photo of Yongxiang New Energy 16 Million Safe Man-Hours Commemorative Event



永祥新能源2024年度冬季百日安全活动表彰仪式现场 Award ceremony of Yongxiang New Energy 2024 Winter 100-Day Safety Campaign



CONTINUOUS IMPROVEMENT 改善提升

01 合理化建议 REASONABLE RECOMMENDATIONS

152100条
全年共提出
THE NUMBER OF PROPOSED RECOMMENDATIONS THROUGHOUT THE YEAR

143600条
实际采纳
RECOMMENDATIONS ACTUALLY ADOPTED

94%
采纳率
ADOPTION RATE

1.37亿
累计创效
CUMULATIVE GAINS

02 亮点收集与推广 HIGHLIGHTS COLLECTION AND PROMOTION

6304条
全年共收集
COLLECTED THROUGHOUT THE YEAR

2188条
专业线采纳
PROFESSIONAL LINES' ADOPTION

610条
分子公司推广应用
APPLICATION AND PROMOTION BY SUBSIDIARIES

永祥股份以提案为导向，把阿米巴经营与实际工作相结合，鼓励员工想办法、找措施，降本增效，员工更重视、更积极。合理化建议，已成为永祥每位员工的工作习惯，2024年全年共提出合理化建议15.21万条，实际采纳14.36万条，采纳率94%，累计创效1.37亿元；每条专业线都建立了“亮点收集与推广机制”，萃取的各种亮点，在各子公司进行推广应用，2024年共收集了6304条亮点，专业线采纳2188条，分子公司推广应用610条。以通威股份推行信息数字化4.0转型升级为契机，四十余套系统全面上线，把通威标准化管理融入系统，让管理插上信息化翅膀，进一步向“成本优、人效高、各项指标全球领先的智能化、智慧化、数字化全新5G工厂”迈进。

Yongxiang Co., Ltd. has implemented a suggestion-driven approach and integrated the Amoeba management model with practical work, encouraging employees to devise solutions and implement measures to reduce costs and enhance efficiency, fostering greater employee engagement and proactivity. The solicitation of reasonable recommendations has become an ingrained work habit for every Yongxiang employee. Throughout the year of 2024, a total of 152,100 reasonable recommendations were submitted, with 143,600 suggestions actually adopted, resulting in an impressive adoption rate of 94%. This initiative has cumulatively generated RMB 137 million in economic benefits. Furthermore, each professional line has established a "highlights collection and promotion Mechanism" which identifies and disseminates best practices across various subsidiaries. In 2024, 6,304 highlights were collected, with 2,188 adopted by professional lines and 610 implemented across subsidiaries. Taking the opportunity of Tongwei Co., Ltd.'s promotion of the Information Digitalization 4.0 transformation and upgrade, over forty systems have been fully launched. These systems integrate Tongwei's standardized management to empower management with information technology, propelling the Company towards a "new 5G factory" characterized by cost optimization, high personnel efficiency, and globally leading indicators of intelligence, wisdom, and digitalization.

TEAM DEVELOPMENT
团队建设

团队似舟、成员为帆，同频共振方能破浪前行至彼岸。2024年，永祥股份人才培养体系更加系统化、专业化，更具针对性和前瞻性。近四年的校招生朝阳计划，培养了一大批专业和技术骨干；技工等级评定，打造了一大批技能人才队伍；七级班长评定，促进了一大批基层管理干部成长；针对班组长能力提升开展扬帆计划，萃取提炼永祥二十多年的班组管理经验，形成精品课程，对437名班长进行培训提升；工段长启航计划，全面系统提升工段长管理能力，培养了321人；针对新项目开车，组建了永祥开车队，支援内蒙通威硅能源、内蒙绿色基材项目调试，同时，根据开车帮扶成功经验，形成开车标准，为后续新项目开车提供指南。永祥已为未来的发展充分做好了人力储备。面对市场和技术的快速变化，永祥已为产业升级与行业高质量发展充分做好了人才储备。

The team is like a ship, with each member a sail. Only through synchronized efforts can the team navigate the waves and reach the destination. In 2024, Yongxiang's talent development system is becoming increasingly systematic, professional, and targeted, with a forward-looking approach. The "Rising Sun Plan" for recent college graduates, initiated nearly four years ago, has cultivated a significant number of professional and technical experts. The skilled worker grading system has built a robust team of skilled professionals. The seven-level squad leader evaluation has fostered the growth of numerous grassroots management cadres. The "Sailing Plan," designed to enhance the capabilities of squad leaders, distills over two decades of Yongxiang's squad management experience into premium courses, training and developing 437 squad leaders. The "Voyage Plan" for section chiefs comprehensively and systematically enhances their management abilities, training 321 individuals. In preparation for new project startups, we have established the Yongxiang Startup Team to support the commissioning of the Tongwei Silicon Energy (Inner Mongolia) and Tongwei Green Substrate (Inner Mongolia) projects. Furthermore, based on successful startup support experiences, Yongxiang have developed startup standards to guide future new project launches. Yongxiang has built a robust talent pipeline, fully preparing for the future, especially the industry evolution and high-quality sector-wide development amid rapid market and technological changes.



技术团队现场沟通讨论

Technical team's on-site communication and discussion



永祥股份扬帆计划首批内训师聘书颁发暨乐山 2 班结营仪式现场

Yongxiang “Sailing Plan” First Batch of Internal Trainer Appointment Ceremony and Leshan Class 2 Graduation Ceremony



永祥股份巡检技能提升训练营内训师聘书颁发暨巡检1班开营仪式现场

Yongxiang Inspection Skills Enhancement Training Camp Internal Trainer Appointment Ceremony and Inspection Class 1 Opening Ceremony



科技永祥
Yongxiang's Technology

科技创新 引领行业
Leading the Industry with Technological Innovation

一直以来，永祥股份持续不断地向晶硅光伏深水区、无人区挺进，聚焦公司运行难点痛点，配套单项攻关提案，以技术创新赋能公司高质量发展。公司拥有国际先进的技术人才团队和研发实力，成立了国家企业技术中心、多晶硅工程技术研究中心、高纯晶硅制备工程实验室、博士后创新实践基地。在冷氢化、反歧化、高效还原、大型精馏节能、尾气回收、热能梯级综合利用、氯氢元素闭路循环等技术领域拥有自主知识产权八百多项研究成果。具有自主知识产权的“永祥法”目前已经应用到第八代，研发储备到第九代，产品质量、综合技术指标、生产成本达到国际先进水平，产品涵盖了电子级和太阳能级，产品纯度达99.999999999%，实现高纯晶硅“中国智造”。

Yongxiang Co., Ltd. is pioneering the frontier of crystalline silicon and PV, addressing operational challenges and supporting innovative research proposals to drive high-quality development through technological innovations. Boasting a world-class technical talent team and R&D capabilities, Yongxiang has established the National Enterprise Technology Center, the Polysilicon Engineering Technology Research Center, the High-Purity Crystalline Silicon Preparation Engineering Laboratory, and the Postdoctoral Innovation Practice Base. The company leads the industry with over 800 research achievements in cold hydrogenation, anti-disproportionation, high-efficiency reduction, large-scale distillation energy saving, exhaust gas recovery, comprehensive thermal energy utilization, and closed-circuit circulation of chlorine and hydrogen. The widely adopted eighth-generation "Yongxiang Method" with independent intellectual property rights and the ongoing R&D work for the ninth-generation iteration has been pivotal in our accomplishments in product quality, comprehensive technical indicators, and production costs, all of which now align with international advanced standards. Our products, including electronic and solar grades, achieve 99.999999999% purity, propelling "Made in China" into the era of "intelligent manufacturing" in the high-purity crystalline silicon sector.

研发实力
R&D STRENGTH

国家企业技术中心、多晶硅工程技术研究中心
National Enterprise Technology Center, Polysilicon Engineering Technology Research Center

研究成果
RESEARCH ACHIEVEMENTS

800+

覆盖冷氢化、反歧化、高效还原、大型精馏节能、尾气回收、热能梯级综合利用、氯氢元素闭路循环等技术领域
The company has accomplished over 800 research achievements in cold hydrogenation, anti-disproportionation, high-efficiency reduction, large-scale distillation energy saving, exhaust gas recovery, comprehensive thermal energy utilization, and closed-circuit circulation of chlorine and hydrogen.

平台资质
PLATFORM QUALIFICATION

国家企业技术中心、四川省多晶硅工程技术研究中心、四川省高纯晶硅制备技术工程实验室、内蒙古自治区企业研究开发中心、云南省晶硅材料技术创新中心
National Enterprise Technology Center, Sichuan Polysilicon Engineering Technology Research Center, Sichuan High-Purity Crystalline Silicon Preparation Engineering Laboratory, the Enterprise R&D Center in Inner Mongolia Autonomous Region, and Yunnan Crystalline Silicon Materials Technology Innovation Center

YONGXIANG METHOD
永祥法

从“1”到“9”迭代 创新激发新动能
Iterating from "1" to "9," Innovation Fuels New Momentum

以科技创新之进，拓产业创新之路，成高质量发展之势。永祥股份20余年持续加大研发投入，不断攻克关键技术，自主研发高纯晶硅生产技术“永祥法”，实现“1 到9”的迭代升级。永祥股份高纯晶硅产品关键性杂质元素纯度达11个9，电子级多晶硅已出口海外，实现高纯晶硅"中国智造"。

Advancing technological innovation, paving the path for industrial innovation, and fostering the momentum of high-quality development. For over two decades, Yongxiang Co., Ltd. has consistently increased its R&D investment, continuously overcome key technological challenges, and independently developed the high-purity polysilicon production technology known as the "Yongxiang Method," achieving iterative upgrades from versions 1 to 9. The purity of critical impurity elements in its high-purity polysilicon products reaches 11 nines (99.999999999%). Its electronic-grade polysilicon has been exported overseas, demonstrating China's intelligent manufacturing capabilities in high-purity polysilicon production.

“永祥法”演变历程
The Evolution of the "Yongxiang Method"

第一代
The 1st Generation

2007年，建立200吨的实验线，从清华引进技术，戴自忠教授自创第一代“永祥法”，采用自主开发的三氯氢硅和四氯化硅混合法生产多晶硅，还原炉为自主开发的行业最大的18对棒还原炉。

In 2007, a 200-ton experimental line was established. Leveraging technology introduced from Tsinghua University, Professor Dai Zizhong pioneered the first generation of the "Yongxiang Method," which involved the use of a self-developed mixed method of trichlorosilane and silicon tetrachloride to produce polysilicon. The reduction furnace was an independently developed, industry-leading 18-pair-rod reduction furnace.

第二代
The 2nd Generation

2010年在第一代“永祥法”的基础上，通过对尾气回收装置进行大的技改升级，同时引入三氯氢硅合成和热氢化工艺，并自主开发了行业首台套24对棒还原炉，形成了全新的第二代“永祥法”。

In 2010, building upon the first generation of the "Yongxiang Method," significant technological upgrades were implemented for the tail gas recovery facility. Simultaneously, the trichlorosilane synthesis and thermal hydrogenation processes were introduced, and the industry's first 24-pair-rod reduction furnace was independently developed, resulting in the second generation of the "Yongxiang Method."

第三代
The 3rd Generation

2012年引入2万吨四氯化硅冷氢化成套工艺，将系统副产的四氯化硅转化为三氯氢硅，使系统形成完全的闭路循环，大幅度降低生产成本，形成了第三代“永祥法”。

In 2012, a 20,000-ton silicon tetrachloride cold hydrogenation complete set of processes was introduced, converting the by-product silicon tetrachloride into trichlorosilane, enabling a fully closed-loop system and significantly reducing production costs. This marked the advent of the third generation of the "Yongxiang Method."

第四代
The 4th Generation

在第三代“永祥法”基础上，通过对冷氢化工艺的深度优化，热能综合回收利用，同时将单套规模放大，大幅降低了冷氢化成本；另外开发了行业首创大型耦合精馏装置，将蒸汽单耗减少40%以上。同时还原开发了行业最新的36对棒还原炉，并对还原余热进行回收利用；对尾气回收装置进行深度优化改造，引入活性炭吸附工艺，产品质量达到太阳能特级品。通过一系列创新和技改升级，形成了第四代“永祥法”。

Based on the third generation of the "Yongxiang Method," the cold hydrogenation process was deeply optimized, and thermal energy was comprehensively recovered and utilized. At the same time, the scale of a single unit was expanded, significantly reducing the cost of cold hydrogenation. In addition, the industry's first large-scale coupled distillation device was developed, reducing steam consumption by over 40%. Besides, the latest 36-pair-rod reduction furnace was developed, and the residual heat from reduction was recovered and utilized. The tail gas recovery system was deeply optimized and upgraded, introducing an activated carbon adsorption process, resulting in product quality that met the standards for solar-grade silicon. Through a series of innovations and technological upgrades, the fourth generation of the "Yongxiang Method" was established.

第五代
The 5th Generation

在第四代“永祥法”基础上，开发了渣浆综合回收利用技术，使得硅耗、氯耗大幅度下降，同时污水处理费用大幅度减少。开发了行业首台套40对棒还原炉，还原电耗大幅下降，单炉产量从400吨提升至650吨以上；同时将还原热能利用率提升至85%以上。对冷氢化、精馏、尾气回收进行深度工艺优化，热能综合回收利用，将蒸汽消耗在第四代基础上进一步下降50%以上。将单体规模做到了3万吨，规模为行业最大。项目单位投资行业最低，生产成本行业最低。

On the basis of the fourth-generation "Yongxiang Method," Yongxiang have developed a comprehensive slurry recycling technology, which can significantly reduce the consumption of silicon and chlorine while substantially lowering wastewater treatment costs. The Company pioneered the industry's first 40-pairs-of-rod reduction furnace, dramatically decreasing reduction power consumption and increasing single-furnace output from 400 tons to over 650 tons. Simultaneously, it enhanced the utilization rate of reduction thermal energy to over 85%. Through in-depth process optimization of cold hydrogenation, distillation, and tail gas recovery, along with comprehensive thermal energy recycling, Yongxiang further reduced steam consumption by over 50% compared to the fourth generation. It scaled up single-unit production to 30,000 tons, the largest scale in the industry. This project boasts the lowest unit investment and production costs in the industry.

第六代
The 6th Generation

在第五代“永祥法”基础上，通过开发精馏全耦技术，还原炉筒水梯级闪蒸，低压蒸汽MVR加压等技术，蒸汽做到零消耗。同时开发了行业首创的废气吸附相关技术，实现了废气中氯硅烷的100%回收。开发了行业首台套大间距还原炉，还原电耗进一步下降，单炉年产量突破1000吨。第六代“永祥法”进一步使得单位投资成本和生产成本大幅度下降。

Building on the fifth-generation "Yongxiang Method," Yongxiang achieved zero steam consumption through the development of full distillation coupling technology, staged flash evaporation of reduction furnace cylinder water, and low-pressure steam MVR pressurization. Meanwhile, it developed the industry's first exhaust gas adsorption-related technology, realizing 100% recovery of chlorosilanes from exhaust gas. The Company introduced the industry's first large-gap reduction furnace, further reducing reduction power consumption, with single-furnace annual output exceeding 1,000 tons. The sixth generation of "Yongxiang Method" further reduces unit investment costs and production costs significantly.

第七代
The 7th Generation

在第六代“永祥法”基础上，进一步集成装置布局、生产技术运行及工艺指标管控经验，在信息化、智慧化方面进行数十项应用提升，单体产能规模达12万吨以上。

Based on the sixth generation of "Yongxiang Method," Yongxiang further integrated its experience in equipment layout, production technology operation, and process indicator control. It implemented dozens of applications to enhance information and intelligence, achieving a single-unit production capacity of over 120,000 tons.

第八代
The 8th Generation

在第七代“永祥法”基础上，进一步植入信息智能化手段，使得万吨投资率、人均效率、设备运行效率、关键指标水平大幅提升。单体产能规模可超20万吨。

Taking the seventh-generation "Yongxiang Method" as a basis, Yongxiang further integrated information and intelligent methods, significantly improving the investment rate per 10,000 tons, per capita efficiency, equipment operating efficiency, and key indicator levels. The single-unit production capacity can exceed 200,000 tons.

目前，“永祥法”应用到第八代，研发储备到第九代，产品纯度99.999999999%，产品质量、综合技术指标、产能规模全球领先。

Currently, the "Yongxiang Method" has advanced to the eighth generation, with research and development underway for the ninth generation. The product purity reaches 99.999999999%, and the product quality, comprehensive technical indicators, and production capacity scale are leading globally.

“永祥法“技术水平通过行业专家评价达国际领先水平，公司各项创新技术应用于高纯晶硅生产项目，实现产业化应用，技术成熟稳定。技术成果先后获得中国专利优秀奖2项、四川省专利一等奖1项、四川省专利创新创业奖1项、省部级科技进步奖一等奖1项、省部级科技进步奖二等奖3项。

The "Yongxiang Method" has been recognized by industry experts as being at a world-leading level. Various innovative technologies of the Company are applied in high-purity crystalline silicon production projects, achieving industrial application with mature and stable technology. These technological achievements have earned Yongxiang two China Patent Excellence Awards, one Sichuan Province Patent First Prize, one Sichuan Province Patent Innovation and Entrepreneurship Award, one First Prize and three Second Prizes in provincial and ministerial-level scientific and technological progress awards.

中国专利优秀奖
China Patent Excellence Awards

四川省专利一等奖
Sichuan Province Patent First Prize

四川省专利创新创业奖
Sichuan Province Patent Innovation and Entrepreneurship Award

省部级科技进步奖一等奖
First Prize in provincial and ministerial-level scientific andtechnological progress awards

省部级科技进步奖二等奖
Second Prizes in provincial and ministerial-level scientific and technological progress awards



ENTERPRISE-WIDE INNOVATION 全员创新

技术创新是发展之根本。2024年，永祥股份多项新技术成功应用，大幅提质降耗，硅耗、电耗、蒸汽消耗等生产指标及产品指标行业领先。新增科创项目672项，验收451个项目，已验收项目年化降本增效净收益8.3亿元；新增申请专利402件，授权专利163件；新发布标准3个（国家2个、团体1个），新增乐山市科学技术一等奖1项。截至目前，公司已获有效专利686件，科技类奖项共计9项，已发布标准28个。

Technological innovation is the cornerstone of development. In 2024, Yongxiang Co., Ltd. successfully applied multiple new technologies, significantly improving quality and reducing costs. Production indicators such as silicon consumption, electricity consumption, and steam consumption, as well as product indicators, have reached leading positions in the industry. Yongxiang initiated 672 new scientific and technological innovation projects, with 451 projects completed. The net annual cost reduction and efficiency gains from the completed projects reached RMB 830 million. In addition, it filed 402 new patent applications, with 163 patents granted, released three new standards (two national standards and one group standard), and received one First Prize of Leshan Science and Technology Awards. Up to now, the Company has been awarded 686 valid patents, a total of 9 science and technology awards, and has published 28 standards.

硅耗、电耗、蒸汽消耗等生产指标及产品指标行业领先
Industry-leading production and product indicators, including silicon, electricity, and steam consumption.

新增科创项目672项验收451个项目已验收项目年化降本增效净收益8.3亿元
672 new scientific and technological innovation projects initiated, with 451 projects completed, yielding a net annual cost reduction and efficiency gain of RMB 830 million.

新增申请专利402件，授权专利163件
402 new patent applications filed, with 163 patents granted

新发布标准3个（国家2个、团体1个）
3 new standards released (two national standards and one group standard)

截至目前公司已获有效专利686件科技类奖项共计9项已发布标准28个
As of now, the company holds 686 valid patents, has received a total of nine science and technology awards, and has published 28 standards.

DIGITAL INTELLIGENCE 信息智慧

数字无界 领航未来
Navigating the Future with Boundless Digital Technologies

为满足“规模倍增，产业协同，全球运营”新目标与挑战，支撑通威从千亿到万亿的业务规模发展、实现产业链一体化高效运营及支撑通威国际化运营。2024年，通威股份正式跨入数字化4.0的新征程。永祥股份作为通威光伏新能源产业链的重要环节，积极探索数字升级，构建实时在线，数据驱动，智能运营的数字永祥，智慧永祥。

To meet the new goals and challenges of "scaling up, industrial synergy, and global operations," and to support Tongwei's growth from a business scale of over RMB 100 billion to that of over RMB 1 trillion, achieve efficient integrated operations across the industrial chain, and facilitate Tongwei's international operations, Tongwei Co., Ltd. officially embarked on the new journey of Digital 4.0 in 2024. As a crucial part of Tongwei's photovoltaic and new energy industrial chain, Yongxiang Co., Ltd. actively explores digital transformation, building a real-time online, data-driven, and intelligently operated company with digitization and intelligence.

永祥数字化4.0项目 *Yongxiang Stock Digitalization 4.0*

ERP项目 ERP PROJECT

精细化管控，提质增效
Precision control, quality and efficiency nhancement

增强系统校验，防止资金风险
Enhanced system validation to prevent financial risks

一键成本运算，效率升级提速
One-click cost calculation, boosting efficiency and speed

主数据 MASTER DATA

构建精细化信息审批体系
Established a refined information approval system

实现数据管理自动化
Achieved automated data management

SRM

采购到货管理，效率提升50%
Procurement and delivery management, with a 50% efficiency increase

内部交易管理完全实现自动化，整体效率提升80%
Fully automated internal transaction management, with an 80% overall efficiency increase

发票云管理，取消多系统的发票校验，效率提升100%
Invoice cloud management, eliminating multi-system invoice verification, with a 100% efficiency increase

超收、财务暂估、代收代扣、结算付款等系统管控管理提升
Improved system control and management for over-receipts, financial provisional estimates, withholding, and settlement payments

HR

实现对下属各公司业务管理提升
Enhancing business management for all subsidiaries

全面预算 COMPREHENSIVE BUDGETING

更灵动、更精细、更统一、更真实
More flexible, more refined, more unified, and more authentic

HIGH-PURITY CRYSTALLINE SILICON,POWERED BY TONGWEI INTELLIGENT MANUFACTURING

高纯晶硅 通威智造

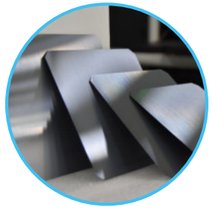
99.999999999%

产品关键性杂质元素纯度达
THE PURITY OF KEY IMPURITY ELEMENTS OF THE PRODUCT IS UP TO



90%+

N型单晶率
N-TYPE MONOCRYSTALLINE RATE



31%+

2024年晶硅产量国内市占率
THE DOMESTIC MARKET SHARE OF CRYSTALLINE SILICON PRODUCTION IN 2024 REACHES

永祥引进国外先进技术和设备，结合国内成熟工艺进行多晶硅新工艺开发和改进，成功研发“永祥法”并应用到第八代，研发储备到第九代。产品灰色金属光泽，密度2.32~2.34g/cm3，熔点1410℃，沸点2355℃，是半导体工业、电子信息产业、太阳能光伏产业的最重要的、最基础的功能性材料。电性方面，产品纯度可达到99.99999999%以上，满足P型单晶、N型单晶硅片及半导体使用要求。

现有高纯晶硅NS2A、高纯晶硅NS2C、高纯晶硅NS1、高纯晶硅D1、高纯晶硅D2、单晶小方锭-210N、单晶小方锭-210R、单晶小方锭-G10、单晶圆棒-210N、单晶圆棒-210R、单晶圆棒-G10、硅片-210N、硅片-210R、硅片-G10等产品，**产品质量、综合技术指标、产能规模全球领先。**

Yongxiang has introduced advanced foreign technology and equipment, combined with mature domestic processes for the development and improvement of new polysilicon processes, successfully developed the "Yongxiang Method" and applied it to the eighth generation, with research and development reserves for the ninth generation. The product has a gray metallic luster, a density of 2.32~2.34g/cm3, a melting point of 1410℃, and a boiling point of 2355℃. It is the most important and fundamental functional material for the semiconductor industry, the electronic information industry, and the PV industry. In terms of electrical properties, the product purity can reach over 99.99999999%, meeting the requirements for P-type monocrystalline, N-type monocrystalline silicon wafers, and semiconductor applications.The current product portfolio includes high-purity crystalline silicon NS2A, NS2C, NS1, D1, and D2, monocrystalline square ingot 210N,210R, and G10, monocrystalline round rod 210N, 210R, and G10, silicon wafer 210N, 210R, and G10, among others. These products lead the world in terms of quality, comprehensive technical indicators, and production capacity.

产品名称 PRODUCT NAME	尺寸 DIMENSION	参数 ARGUMENT	
高纯晶硅 NS2A High-purity crystalline silicon NS2A	5-50mm	导电类型：N型 电阻率：> 1000Ω.cm 少子寿命：> 1600μs 体金属杂质含量：< 0.5ng/g 表金属杂质含量：< 1ng/g 施主杂质：< 0.20ppba 受主杂质：< 0.05ppba	Conductive type: N-type Resistivity: > 1000Ω.cm Minority carrier lifetime: > 1600μs Bulk metal impurity content: < 0.5ng/g Surface metal impurity content: < 1ng/g Donor impurities: < 0.20ppba Acceptor impurities: < 0.05ppba
高纯晶硅 D1 High-purity crystalline silicon D1	6-45mm	导电类型：N型 电阻率：> 1000Ω.cm 少子寿命：> 1600μs 体金属杂质含量：< 0.5ng/g 表金属杂质含量：< 1ng/g 施主杂质：< 0.20ppba 受主杂质：< 0.05ppba	Conductive type: N-type Resistivity: > 1000Ω.cm Minority carrier lifetime: > 1600μs Bulk metal impurity content: < 0.5ng/g Surface metal impurity content: < 1ng/g Donor impurities: < 0.20ppba Acceptor impurities: < 0.05ppba
单晶小方锭-210N Monocrystalline square ingot-210N	210±0.25mm	导电型号:N 电阻率：0.6-1.6Ω 少子寿命:>1000μs 氧含量：< 12ppma 碳含量：< 1ppma	Conductive model :N Resistivity: 0.6-1.6Ω Minority carrier lifetime :>1000μs Oxygen content: < 12ppma Carbon content: < 1ppma
单晶圆棒-210N Monocrystalline round rod-210N	直径300±2mm Diameter 300±2mm	导电型号:N 电阻率：0.6-1.6Ω 少子寿命：>1000μs 氧含量：< 12ppma 碳含量：< 1ppma	Conductive model :N Resistivity: 0.6-1.6Ω Minority carrier lifetime :>1000μs Oxygen content: < 12ppma Carbon content: < 1ppma
硅片-210N Silicon wafer-210N	边长：210±0.25mm 对角线：295±0.25mm 垂直度：90°±0.12° 弧长投影：1.41±0.4mm Side length: 210±0.25mm Diagonal: 295±0.25mm Perpendicularity: 90°±0.12° Arc length projection: 1.41±0.4mm	导电类型：N型 电阻率：> 1000Ω.cm 少子寿命：> 1600μs 体金属杂质含量：< 0.5ng/g 表金属杂质含量：< 1ng/g 施主杂质：< 0.20ppba 受主杂质：< 0.05ppba	Conductive type: N-type Resistivity: > 1000Ω.cm Minority carrier lifetime: > 1600μs Bulk metal impurity content: < 0.5ng/g Surface metal impurity content: < 1ng/g Donor impurities: < 0.20ppba Acceptor impurities: < 0.05ppba

GREEN DEVELOPMENT
绿色发展

践行“双碳”行动 共建清洁世界
Practice the "carbon peaking and carbon neutrality" action to build a clean world

永祥股份坚持鼓励全员结合工作实际开展合理化建议和技术优化探索，促进绿色低碳发展，推动形成绿色生产生活方式，为通威的绿色低碳高质量发展注入绿色动力。

Yongxiang Co., Ltd. insists on encouraging all staff to carry out rationalization suggestions and technology optimization exploration in combination with work practice, promoting green and low-carbon development, promoting the formation of green production and life style, and injecting green power for the green, low-carbon and high-quality development of Tongwei.







节能降耗
Energy savings and consumption reduction

01 管理升级 MANAGEMENT UPGRADES

应用能源管理信息化系统，实现电力、MES、DCS系统能源数据集中管控，实时检测能耗数据并对异常情况发出预警。形成公司、工段、班组、设备多维度能耗管理，层层下沉，推动能源统计后控制转向能耗过程管控。

he energy management information system is applied to realize the centralized management and control of energy data from the electric power, MES and DCS systems, test energy consumption data in real time and issue early warnings for abnormal situations. Form a multi-dimensional energy consumption management of the Company, sections, shifts and equipment, sinking down from one layer to another, and promoting the control of energy statistics to the process control of energy consumption.

02 工艺优化 PROCESS OPTIMIZATION

优化还原工段智能控制程序，减少异常炉次，累计节约还原工段电耗超12万兆瓦时。

采用闭式冷却塔直接进行冷热交换，部分替代冰机，节省大量冷源电力消耗，实现节能约8,590兆瓦时/年。

The optimized intelligent control program of the reduction section reduces the number of abnormal furnaces and saves more than 120,000 MWh of electricity consumption in the reduction section.

The closed cooling tower is used to directly exchange cold and heat, partially replacing the ice machine, saving a lot of cold source power consumption and achieving energy savings of about 8,590 MWh/year.

03 设备改造 EQUIPMENT MODIFICATION

量身定制高效节能风机，提升风机运行效率，减少无效耗能，达到节能效果。

自主研发的“一种多晶硅冷氢化生产系统”专利，实现冷氢化系统热量的100%回收，不仅降低了系统能耗，还使公司年运行费用减少了约3700万元。目前，这项创新技术已在永祥股份多个子公司的新项目中推广应用。

Tailor-made high-efficiency energy-saving fans improve fan operating efficiency, reduce ineffective energy consumption, and achieve energy savings.

The self-developed patent of "a cold hydrogenation production system for polycrystalline silicon" realizes 100% recovery of heat in the cold hydrogenation system, which not only reduces the energy consumption of the system, but also reduces the Company's annual operating expenses by about RMB 37 million. At present, this innovative technology has been popularized and applied in the new projects of several subsidiaries of Yongxiang Co., Ltd.

04 技术研发 TECHNICAL R&D

自主研发“40对棒还原炉技术”“还原高温热水回收技术”与还原工艺“一键自动控制技术”，大幅降低多晶硅生产能耗。

蒸汽近零消耗，自主研发还原热能梯级利用工艺、热能精确匹配控制技术、系统蒸汽循环利用技术等，提高热能综合利用效率，降低蒸汽消耗量。

The self-developed "40-pair-rod reduction furnace technology", "high-temperature hot water reduction recycling technology" and reduction process "one-key automatic control technology" significantly reduce the energy consumption of polycrystalline silicon production.

Near-zero steam consumption, self-developed reduced thermal energy gradient utilization process, precise thermal energy matching control technology, systematic steam recycling technology, etc. improve the comprehensive utilization efficiency of thermal energy and reduce steam consumption.

魅力永祥
Appealing Yongxiang

光与绿交织的工业美学诗篇
A Poetry of Industrial Aesthetics Intertwined with Light and Green



当精密算法在管廊之间谱写光的乐章，机械臂在忙碌的生产中舒展优雅弧线……永祥以科技为笔、自然为墨，在工业文明的卷轴上写下诗意的注脚。步入这座花园工厂，四季轮转为厂区披上不同的画框。这里不仅是智造传奇的孵化器，更是人与自然和解的预言诗。

在这片科技与生态共舞的美好家园，永祥始终秉承“军队、学校、家庭”的作风，致力打造永祥特色家文化，丰富员工精神文化生活，不断增强员工幸福感与归属感，让全体员工始终能在温暖和谐的环境中工作生活。

永祥的故事，正从花园工厂的叶脉间，向着星辰大海舒展新的篇章。

As sophisticated algorithms compose symphonies of light amidst the pipe corridors, and robotic arms gracefully arc through the busy production lines, Yongxiang uses technology as its pen and nature as its ink, writing a poetic footnote on the scroll of industrial civilization. Entering this garden factory, the four seasons adorn the factory area with different frames. It is not only an incubator for the legend of intelligent manufacturing, but also a prophetic poem of reconciliation between humanity and nature.

In this harmonious home where technology and ecology dance together, Yongxiang adheres to the ethos of "military discipline, school-like learning, and family-like warmth," striving to build a unique Yongxiang family culture. By enriching employees' spiritual and cultural lives, the Company continuously enhances their sense of happiness and belonging, ensuring all staff can work and live in a warm, harmonious environment.

The story of Yongxiang is unfolding a new chapter—from the veins of its garden factory, reaching toward the sea of stars and beyond.

CULTURE IN YONGXIANG
文化永祥



演讲 SPEECH

台上激情演讲，台下热烈助阵

Passionate speeches on stage, enthusiastic cheers from the audience

运动会 SPORTS MEET

永祥股份春季职工运动会热力开赛

The Yongxiang Co., Ltd. Spring Employee Sports Meet kicks off with full energy





欢乐跑 FUN RUN

相聚永祥，欢乐跑起来

Gather at Yongxiang, run with joy



妇女节 INTERNATIONAL WOMEN'S DAY

巾帼绽芳华，致敬"她"力量

Celebrating the brilliance of women, honoring the power of "her"













1 520欢乐跑：哨声一响，全员快乐开跑
520 Happy Run: With the whistle's start, participants dash off in delight

2 植树节：根植永祥，共同成长
Tree Planting Day: Rooted in Yongxiang, growing together

3 朗诵：激情洋溢展现信仰的力量
Passionate Recitation: Participants deliver powerful recitations, embodying their steadfast beliefs

4 运动会：篮球比赛，激烈比拼
Sports Meet: Basketball matches, fierce competition

5 集体生日会：共度温馨生日
Collective Birthday Party: Share a heartwarming and delightful moment as we celebrate birthdays together



6 龙舟赛：永祥追光者龙舟队出征
Dragon Boat Race: The Yongxiang PV-Chasers Dragon Boat Team sets sail

7 演讲：激情演讲，坚定文化自信
Speech: Passionate speeches enhance cultural confidence

8 游园会：闹新春，享年趣
Garden Tour Party: Celebrate the New Year and relive the magic of this cultural experiences.



LIGHT AND SHADOW IN YONGXIANG 光影永祥



安全巡检 Safety inspections





机械臂伸展 Robotic arms extend



标准化、智能化车间 Standardized and intelligent workshops



科技树向上生长 The tree of technology grows upward



永祥股份朝霞灿 Yongxiang Co., Ltd. pervade with resplendent dawn glow



七彩通威 Colorful Tongwei



云南通威璀璨灯火 Yunnan Tongwei was ablaze with lights

做好、管好我们自己的事情
1%仰望星空，99%脚踏实地
朝着打造高纯晶硅的世界级龙头企业
和世界级清洁能源公司的宏伟目标砥砺奋进

Excel and manage our affairs diligently
Be both ambitious at 1% and down-to-earth at 99%
Forge ahead toward the grand ambition of becoming a world-class leading
producer of high-purity crystalline silicon
and a world-class supplier of clean energy.

And your eyes
on the stars

仰望星空

Keep your feet
on the ground

脚踏实地