



通威股份
TONGWEI CO., LTD.

2021 通威股份有限公司

环境、社会与公司治理报告

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



通威·为了生活更美好
FOR BETTER LIFE

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About this Report

This is the second Environmental, Social, and Corporate Governance (ESG) report (this “Report”) issued by Tongwei Co., Ltd. (the “Company”) to disclose and demonstrate its ESG performance and responses to important stakeholder concerns. This report has been reviewed by the Board of Directors of the Company which is responsible for the authenticity and validity of the information contained herein.

Reporting Period

The period covered by this Report is from January 01, 2021 to December 31, 2021 unless otherwise specified.

Scope

This Report covers Tongwei Co., Ltd. and its subsidiaries and branches, which is identical to the scope of its consolidated financial statements.

Data Sources

All information and data used in this report are from formal documents and publicly disclosed documents of the Company. Any conflict between financial data referenced herein and financial data contained in the annual report shall be subject to the annual report. All amounts are expressed in Chinese yuan unless otherwise stated.

Language

This report is issued in both Chinese and English and any conflict between the understanding of the two versions shall be subject to the Chinese text.

Basis

This Report has been prepared with reference to the Guidance on Social Responsibility (GB/T 36000), Guidelines for Environmental Information Disclosure of Listed Companies on the Shanghai Stock Exchange, Environmental, Social and Governance Reporting Guide of Stock Exchange of Hong Kong, Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (Fourth Edition) (“GRI G4”), and ISO 26000:2010 Guidance on Social Responsibility of the International Organization for Standardization (“ISO 26000”).

Designations

In this report, “Tongwei Co., Ltd.”, “Tongwei”, “Company” and “We” all refer to Tongwei Co., Ltd. For details of the other designations used in the report, please refer to Other Designations in Appendix II.

Form

This report is issued electronically and available in the Announcements under Investor Relations of the website of Tongwei Co., Ltd., (www.tongwei.com.cn) and the www.sse.com.cn.

Feedback from Readers

To enhance the Company's ESG management level, improve the quality of ESG information disclosure, and drive the Company to live the ESG development concept, the Company sincerely seeks for comments from readers (refer to Reader's Opinion Form in Appendix III for details). Please send your opinions and comments to twesg@tongwei.com.

Message from the Chairman



**Chairman
Xie Yi**

Kick-starting the 14th Five-Year Plan of China, 2021 was a critical year for the country to create a new development pattern and achieve its healthy economic development. Upholding the mission of Striving for Excellence and Contributing to Society, Tongwei has exerted great efforts into green agriculture and green energy through concerted work to steadily move forward a better life. In 2021, in the face of a complex and severe economic environment, the company firmly focused on the business policy of "gathering momentum, implementing in place, operating efficiently", and our business divisions have experienced stable operations. The Company recorded a revenue of 63.49 billion Chinese yuan in 2021, with a year-on-year growth of 43.64%, allowing it to rank the 256th place in the Fortune China 500 list.

Develop the Aquaculture-Photovoltaic Integration as a Green Driver. The Company took the lead in the Aquaculture-Photovoltaic Integration mode where solar panels are placed on water surfaces and aquaculture is performed underwater. This results in 1 ton safe aquatic products and 50,000 to 100,000 kWhs per mu fish farm per year. The Company makes every effort to be a world-class safe food supplier and a world-class clean energy operator, through this organic combination of aquaculture and solar power generation for improvements in aquaculture, electricity generation and environmental protection.

Social Responsibilities. While gaining a robust development, the Company is highly committed to the society with an enthusiasm for protecting the public interests by organizing its employees to be volunteers and other practices that live its purpose and demonstrate the image of honesty, responsibility, safety and harmony.

Improve Governance Structure for Green Development. The Company has been optimizing its governance structure with continuous improvements in its capabilities against risks, having created the Tongwei management mode to ensure the efficient management. The Energy Management Committee set by Tongwei is responsible for implementing the sustainable development to release the huge momentum of the Aquaculture-Photovoltaic Integration and safeguard the high-quality development of the Company.

Build a Talent Pool for Employee Development. The Company would not development without highly qualified people. Through the phased implementation of the "Talent Project", the Company tries to create great development opportunities for employees. Also, with continuous improvements in its employee incentive mechanism, the Company seeks to build a workplace where employees and the Company grow and develop together, and share wealth and value.

Despite all the great difficulties ahead, we are determined to make efforts to overcome all of them from today on. In 2022, around the national "14th Five-Year Plan", the Company will hold firmly to the green development idea led by innovations and give full play to the advantages of green agriculture and green clean energy to march toward its strategic objective, i.e., world-class healthy food supplier and world-class clean energy operator, and the beautiful vision, i.e., lush mountains and lucid waters are invaluable assets.

About Tongwei

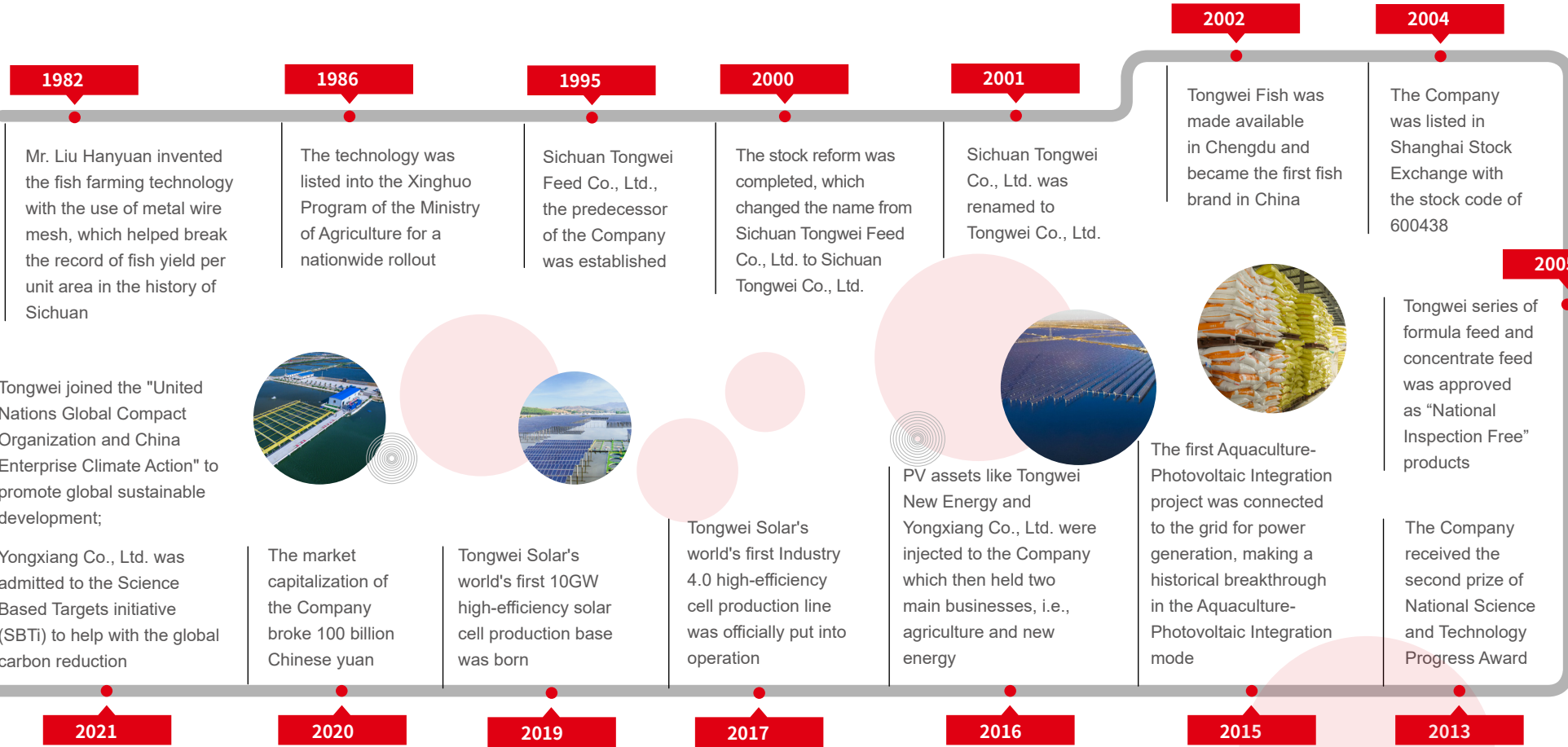
Founded in December, 1995 and headquartered in Chengdu, Tongwei Co., Ltd. is a large-size technology-driven listed company focusing on agriculture and new energy, with Tongwei Group Co., Ltd. as its holding shareholder.

With developments in leaps and bounds over the past years, the Company has become a nationwide leader in agriculture, a key producer of aquatic feed in the world, a global leader in high-purity silicon and a leading manufacturer of silicon crystal cells.

Based on the two main businesses, agriculture and new energy, Tongwei has created unique competitiveness from the Aquaculture-Photovoltaic Integration mode. For the future, it focuses on food safety and energy transition, two themes relating to the future of mankind, with the aim of becoming a world-class safe good supplier and a world-class clean energy operator.



History



Corporate Culture

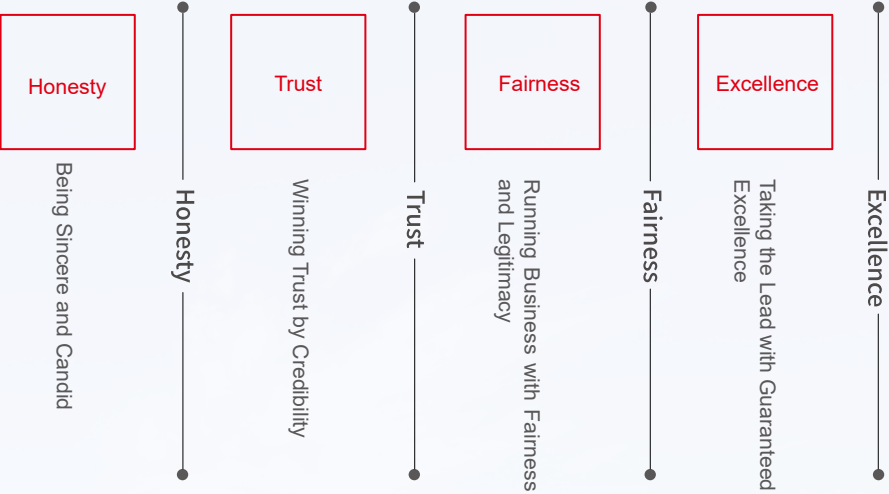
Vision

For better life

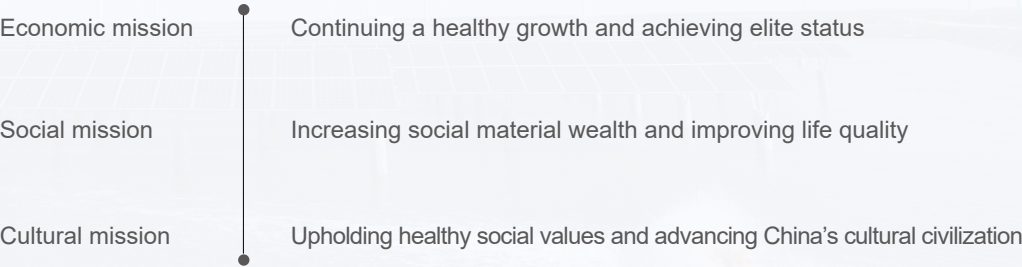
Purpose

Striving for Excellence
and Contributing to
Society

Management Philosophy



Missions



Business Development

Tongwei Co., Ltd. focuses on two main businesses, i.e., agriculture and new energy, which has resulted in a coordinated development mode with the integration of resources from agriculture and photovoltaics, and is committed to providing healthy and safe agricultural products and clean energy that have you assured.



Agriculture and Animal Husbandry

The agriculture and animal husbandry business focusing on the feed industry has been extended to aquaculture and livestock and poultry industry. With continuous efforts, it strives to create a green industry chain that is safe, healthy and traceable, thereby becoming a world-class healthy food supplier.



Feed Industry

In term of the feed business, the Company is engaged in research, production and sale of aquaculture feeds, and livestock and poultry feeds, having created unique health indices including raw material index, nutrition index, growth index, disease resistance index and transport resistance index. By the end of this reporting period, the annual capacity of the Company exceeded 10 million tons, which helped maintain its leading position in the global aquaculture feed industry.



Green Aquaculture

The Company maintains an intelligent aquaculture mode where all processes such as water quality monitoring, environment monitoring, water quality regulation, precise feeding, and regulation and management of growth status are digit-driven, precise, automatic and environment-friendly, and accelerates the development of modern information system for aquaculture to provide necessary conditions for the green aquaculture.



Food Processing

The food processing brand covers livestock and poultry and aquaculture areas, and performs the entire process quality monitoring from the source to table, via continuous improvements in species modifications, feed development, green feeding, food processing and sale, to enhance the value and competitiveness of the modern aquaculture chain.

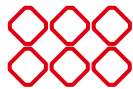


Sales Terminal

The company strives to build China's first brand fish "Tongwei Fish". By the end of this reporting period, it has owned the meat products of Tongwei fresh fish, Tongwei catfish, Tongwei fish home, Chunyuan cold fresh meat, Taifeng duck , and so on covering fishes, pigs, ducks , etc., and is committed to providing consumers with healthy and safe high-quality food.

PV Industry

The PV business mainly includes the production of high-purity silicon, efficient solar cells and PV power. In this business, the Company has developed a new energy chain from the production of high-purity silicon and efficient solar cells to the construction and operation of PV power stations, with the intent to become a world-class clean energy operator.



High-purity Silicon

Yongxiang has three bases, i.e., Baoshan in Yunnan, Baotou in Inner Mongolia and Leshan in Sichuan, has created an intelligent manufacturing line that has a large single scale, low comprehensive energy consumption, a new integration of technologies and high quality. By the end of this reporting period, the annual capacity for high-purity silicon reached 180,000 tons, with a world-leading position.



Solar Cells

Tongwei Solar has Hefei, Shuangliu, Meishan and Jintang facilities. By the end of this reporting period, the Company could produce 45 GW of efficient solar cells, making it the first in global efficient solar cells for many years in terms of scale and shipment.



PV Generation

Through the organic combination of PV generation and modern fishery, the Company practices the green reform that focuses both on aquaculture and power generation, having constructed 48 Aquaculture-Photovoltaic Integration sites in over 20 places with 2.7 GW connected to the grid.



Tongwei Data



Operating income

63.49 Billion yuan



Total assets

88.25 Billion yuan



Basic earnings per share

1.8234 CNY



Total tax

2.5 Billion yuan



Environmental protection

304.43 Million yuan



Annual capacity for feeds

10 Million tons



Annual capacity for high-purity silicon

180,000 Tons



Annual production capacity of solar cells

45 GW



Aquaculture-Photovoltaic Integration PV stations

48 Sets



Aquaculture-Photovoltaic Integration grid connection

2.7 GW

ESG Highlights

- Tongwei Co., Ltd. was rated ESG AA by Wind
- Tongwei Co., Ltd. was rated ESG AA by CCXGF
- Tongwei Solar (Hefei) Co., Ltd. received the honor of National Environment-Friendly Enterprise
- Yongxiang Co., Ltd. received the honor of National Environment-Friendly Enterprise
- Sichuan Yongxiang Polysilicon Co., Ltd. received the honor of Sichuan AAA Demonstration Enterprise in Quality Creditworthiness
- Sichuan Yongnxiang New Materials Co., Ltd. received the honor of 2021 State-level Demonstration Organization in Green Manufacturing

ESG

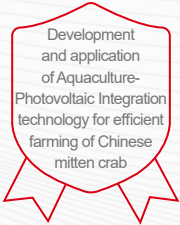
Honors



National Development and Reform Commission



Chengdu Municipal Bureau of Economic and Information Technology



Ministry of Science and Technology



Ministry of Science and Technology



Sichuan Provincial Economic and Information Commission



Administration Committee of Chengdu Hi-tech Industrial Development Zone



Organizing Committee of Annual Awarding Ceremony of Chinese Agricultural Brands



Chengdu Municipal Bureau of Economic and Information Technology



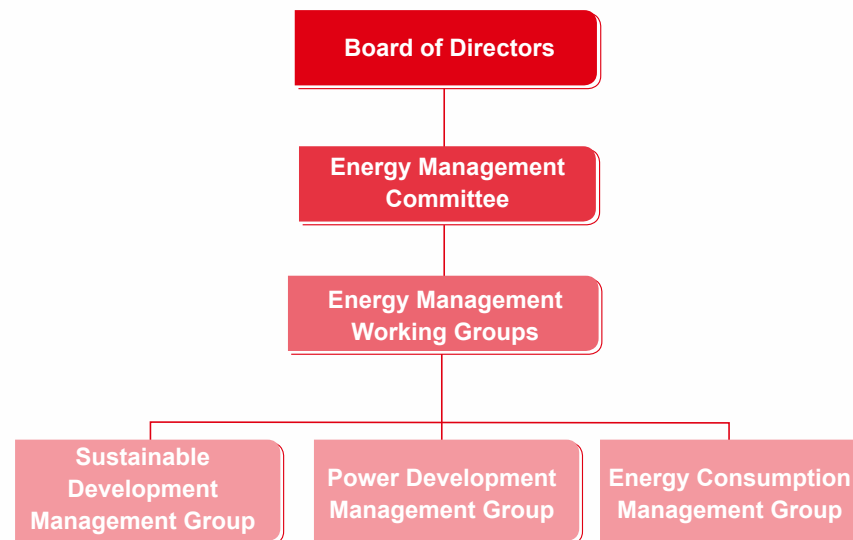
Fortune magazine

ESG Management

With the cultural concept of progress with responsibility, cooperation for creating excellence, and responsibility as priority in mind, Tongwei assessed significant themes identified from the stakeholder concerns, and clarified the key points of ESG management, and put efforts to improve its ESG management system by creating the ESG architecture, these were actual actions to drive the high-quality development of the Company.

ESG Governance System

To play a better role in promoting the sustainable development, Tongwei has set an Energy Management Committee under the Board of Directors, which has created a three-level governance structure where the Board of Directors makes decisions, the Energy Management Committee coordinates the management, and the Energy Management Working Groups execute tasks. This is to enhance the awareness of ESG and sustainable development by all departments, improve the Company's ESG management and steadily elevate the ESG governance system.



Decision-making level: Board of Directors

The Board of Directors, as the highest decision-making body for ESG governance, is responsible for reviewing and discussing ESG strategic planning and objectives, and making decisions and supervisions of significant ESG matters, and is the key to controlling ESG management risks and catching ESG development opportunities.

Management level: Energy Management Committee

The Energy Management Committee, composed of eight core executives from different businesses, is responsible for advancing the ESG management objectives, supervising the execution of ESG strategic plans and guiding the performance of ESG practices. It is able to give constructive proposals and guidelines for ESG risk management from the perspective of business development, to provide support for the Board of Directors in making decisions about ESG matters.



Execution level: Energy Management Working Groups







There are three working groups responsible for different functions under the Energy Management Committee. The Sustainable Development Management Group is responsible for information disclosure regarding ESG, execution and implementation of ESG matters and improvement of ESG management.

Main Duties of Sustainable Development Management Group

- ESG information disclosure**
 - Keep communications with internal and external stakeholders
 - Ensure the authenticity, accuracy and timeliness of the Company's ESG information disclosure
- ESG execution**
 - Establish ESG risk management processes: identify, assess and prevent ESG risks in daily work so that risks are be prevented, controlled or reviewed.
 - Execute other ESG matters: Implementation of ESG strategy, establishing a defined plan of action, conducting ESG training to improve employees' ESG awareness
- ESG improvement**
 - Create a self-check and feedback mechanism: annually reflect and summarize the performance of ESG matters and make improvement plans for identified weaknesses
 - Report to decision-making level and management level on a regular basis

Communications with Stakeholders

During this reporting period, the Company kept communications with stakeholders via many channels to understand and respond to their expectations and needs which are taken considered into the ESG management, to achieve the bi-way communication between the Company and its stakeholders for a win-win result.

Stakeholders	Topic	Communication and response	
 Governmental bodies and regulators	<ul style="list-style-type: none"> Compliance Tax payment Industrial Development 	<ul style="list-style-type: none"> Operate with honesty Pay taxes on time Participate in developing standards 	
 Investors	<ul style="list-style-type: none"> Return on investments Stable and robust operation Communication channels 	<ul style="list-style-type: none"> Profit distribution Enhance risk management Shareholders meeting 	<ul style="list-style-type: none"> Regular reporting Performance briefing http://sns.sseinfo.com/
 Employees	<ul style="list-style-type: none"> Protection of interests Career development Training and education Occupational health 	<ul style="list-style-type: none"> Employee representatives' meeting Employee satisfaction survey Improve promotion mechanism 	<ul style="list-style-type: none"> Enrich training content Organize occupational health examinations
 Clients	<ul style="list-style-type: none"> Protection of interests Product quality 	<ul style="list-style-type: none"> Client satisfaction survey Optimize product quality management system Improve the after-sale service 	
 Suppliers	<ul style="list-style-type: none"> Business ethics Cooperation for win-win 	<ul style="list-style-type: none"> Optimize supplier management system Develop supplier code of conduct 	
 Communities	<ul style="list-style-type: none"> Volunteering 	<ul style="list-style-type: none"> Organize volunteering activities 	

Analysis of Significant Topics

20 ESG significant topics were identified from two aspects, i.e., significance to the Company and significance to stakeholders, and then ranked to create the key points of ESG management.

Determination of Significant Topics



Identification

ESG significant topics were identified during this reporting period given national macro policies, industrial benchmarking, feedback from stakeholders and the Company's strategic planning



Sequence

Topics were analyzed quantitatively with their impacts on the operation assessed, and were sequenced according to impact levels

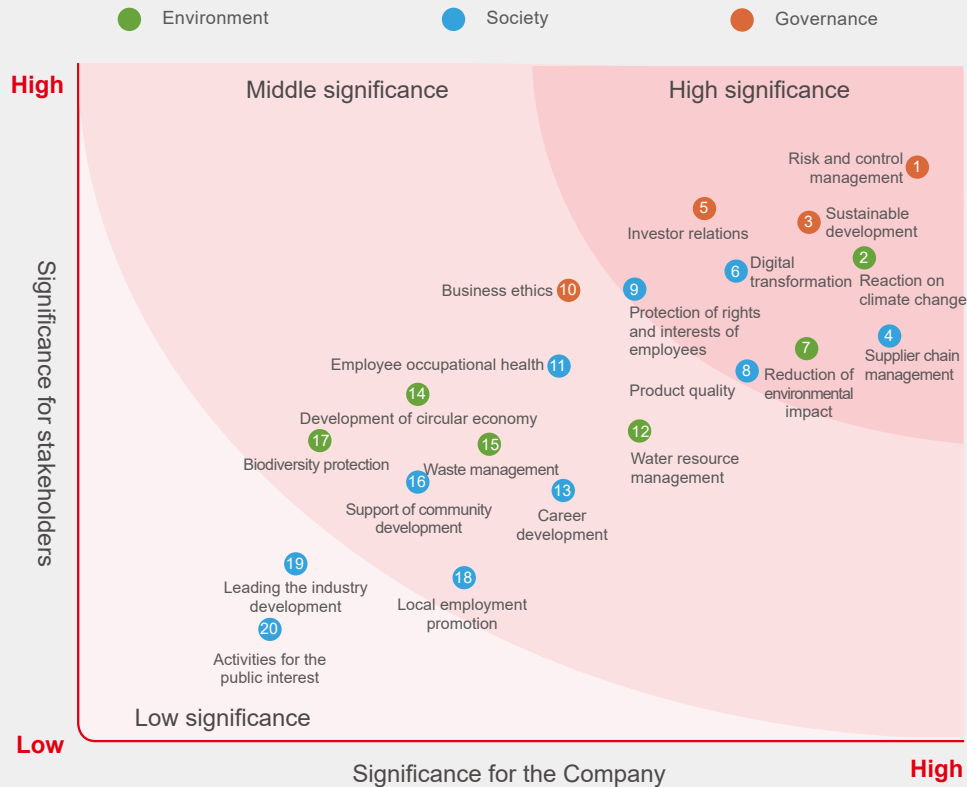


Confirmation

Subject to review of significant topics by the management level, Tongwei 2021 Matrix of ESG significant topic was finalized

2021 Matrix of ESG Significant Topics

Upon identification, sequence and confirmation, Tongwei presented the significance level of 20 topics in the form of a matrix where highly significant topics are placed in the top right corner, increasingly significant topics in the middle and less significant topics in the bottom left corner.



2021 Tongwei Significance Matrix of ESG Topics

Shareholder Return

The Company profoundly safeguards the interests of shareholders and actively shares economic results with them.

In May 2021, the Company
distributed

0.241 CNY(inclusive of tax)



total cash distribution

1,084.87 Million yuan



the 2020 net profit attributable to
shareholders of listed company

30.07%



Topic

Tongwei Contributes to Carbon Neutrality for A Better Life

“

While achieving sustainable development of enterprises, how to stand at the height of the times and closely integrate the development of enterprises with national expectations and social needs is a problem that Tongwei will continue to respond to in the future development.

-Liu Hanyuan, Founder of Tongwei Co., Ltd.

”



Climate change is at a critical tipping point, leaving the world with very limited time to act, which requires coordinated efforts and resources from countries, governments, businesses and social groups to develop a reasonable and fair global climate governance system for a higher level of sustainable development.

China has made a firm commitment that the country strives to reach emission peak by 2030 and carbon neutrality by 2060. China will take about three decades to achieve carbon neutrality from emission peak, the highest reduction of carbon emission in the world, which fully demonstrates its leadership and ownership in the global climate stage. In addition, the “Dual Carbon” goals means systematic reforms in demand, production, technology and culture in all sectors.

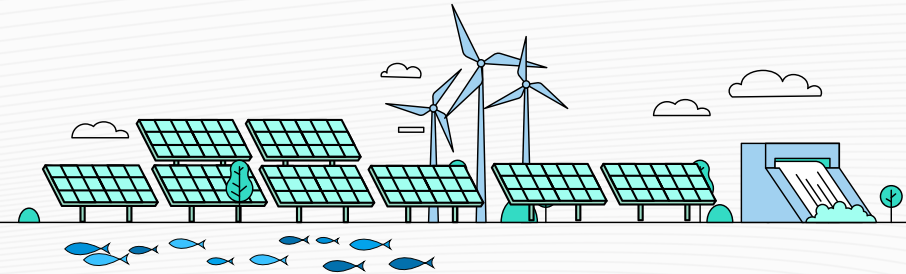
Among the technological routes toward carbon neutrality, PV technology is the best solution that can meet more energy demand with less carbon emission and one of the important supports for the transformation from clean energy to low carbon energy.

“For a better life” is the vision of Tongwei and the sincerest yearning of people at Tongwei, which is aligned with the objective of achieving carbon neutrality and building a beautiful China.

We have deeply understood the severity and urgency of global climate change, as well as the strategic significance of the “Dual Carbon goals” in pushing China’s high-quality development, thereby feeling the historical mission and duty that we shoulder. We will put every effort to green development by being as the pioneer, calibrator, cornerstone and booster. We will hold firmly to ensure the energy security.

“Pioneer” Aquaculture-Photovoltaic Integration PV stations

Aquaculture-Photovoltaic Integration PV stations developed by the Company are distributed over 20 provinces for a total installed capacity of over 2.7 GW, provide clean and high-quality PV power to households, increase carbon storage by ecosystems and speed up the carbon neutrality process.



“Calibrator” development of carbon neutrality standards

During this reporting period, the Company played a leading role in developing Carbon Neutrality Assessment Requirements for PV Manufacturing and Carbon Neutrality Assessment Methods for PV Projects, as guidelines for carbon neutrality activities and assessments pertaining to producers of solar polycrystalline silicon, silicon wafers, solar cells and PV components and their products, from the perspectives of businesses and products in PV industry.



“Cornerstone” Silicon materials and solar cells production capacity

Through rounds of technological renovations in the upstream new energy industry, the Company can produce 180,000 high-purity silicon per year. All silicon materials are used for the construction and operation of photovoltaic terminal power plants, which can avoid generating about 50 million tons of carbon emissions per year. The company is deeply engaged in the research and development, manufacturing and promotion of core equipment and products for solar power generation, achieving an annual production capacity of 45 GW of solar high-efficiency batteries, and the electricity emitted by its products every year is equivalent to the output energy of 15 million tons of crude oil.



“Booster” Unveiled at COP26

The Company presented in COP26 its low carbon work plan for Use of Vapor in High-Purity Silicon Production Process without Carbon Emission, which through fuel substitution, increasing energy efficiency and use of renewable energy electricity, lowering the carbon emission caused by use of vapor in the production of polycrystalline silicon. This has provided a best practice for the industry and demonstrated China’s leadership in low carbon efforts.



01.

GOVERNANCE IMPROVEMENT

- CONTROLLING SHAREHOLDER AND ACTUAL CONTROLLER
- OPTIMIZE GOVERNANCE STRUCTURE
- DEEPEN RISK CONTROL AND COMPLIANCE MANAGEMENT
- UPHOLD “SUNSHINE” OPERATION
- MAINTAIN INVESTOR RELATIONS

Holding in awe of the market, the rule of law, professionalism, and risks, Tongwei continued to enhance the corporate governance level by optimizing governance structure, enhancing risk prevention and control, upholding the business ethics and maintaining investor relations. Considering robust and transparent governance as the cornerstone for an ever-growing business, Tongwei steps firmly toward the company’s vision “For a better life”.

Stakeholders: governments, regulators, authorities, investors



TIC 通威国际中心

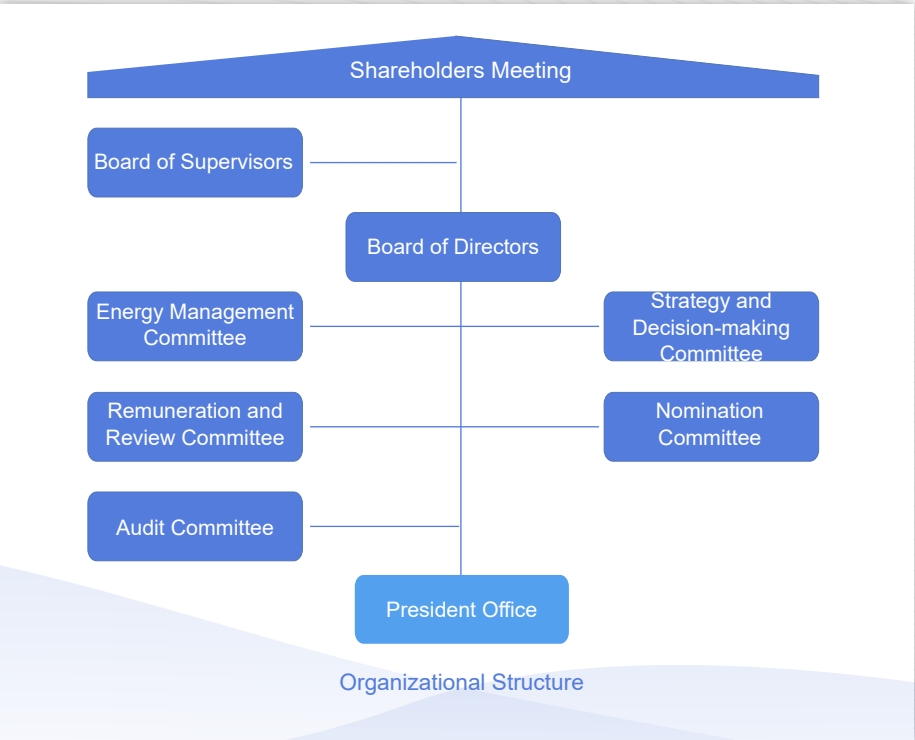
Controlling Shareholder and Actual Controller

By the end of this reporting period, the controlling shareholder and actual controller of Tongwei Co., Ltd. are Tongwei Group and Mr. Liu Hanyuan (domestic natural person) respectively. As the founder of the Company, Mr. Liu Hanyuan is the Founder of Tongwei Group and a director of the Seventh Board of the Company, a member of the 11th Standing Committee of CPPCC, an NPC deputy, the executive chairman of the New Energy Chamber of Commerce under the All-China Federation of Industry and Commerce and the vice executive chairman of the China Feed Industry Association.



Optimize Governance Structure

Tongwei has set a procedure-based legal entity governance structure consisting of the Shareholders Meeting, Party Committee Conference, Board of Directors, Board of Supervisors and management level that are running in coordination. This governance framework ensures the power body, decision-making body, supervision body and execution body have respective duties and authorities, work in coordination and counterbalance one another to ensure the stable and efficient functioning of the Company.



Shareholders Meeting

The Shareholders' Meeting is convened and held with the eligibility of attendees and voting procedures subject to laws, regulations and the Articles of Association of the Company to ensure the legitimate interests and rights of all shareholders.

During this reporting period

Annual Shareholders Meeting	Interim Shareholders Meeting	Proposals approved	Proposals under the separating voting mechanism for small and middle-sized shareholders
1	1	25	25

Board of Directors

Directors are elected in strict accordance with the Company Law of the People's Republic of China and the Articles of Association of the Company. During this reporting period, all directors, supervisors and senior managers other than one director who left for job reasons were not changed.

By the end of this reporting period

Directors	Internal directors	Independent non-executive directors	External directors
8	3	3	2
(including one female)			

The company's board of directors has always performed its duties around the corporate governance, carried out its work in strict accordance with the "Rules of Procedure for the Board of Directors of Tongwei Co., Ltd.", checked the company's major decisions, and led the company to scientific operation and healthy development.

By the end of this reporting period

Board of Directors meetings	Percentage of Directors attendance	Proposals approved
7	100%	44

The Company kept optimizing the governance structure of the Board of Directors by newly setting up the New Energy Management Committee which is responsible for ESG matters so as to enhance ESG ideas to the Board of Director level in addition to the existing Audit Committee, Nomination Committee, Remuneration and Review Committee, and Strategy and Decision-making Committee.



Table General Information of Tongwei Directors

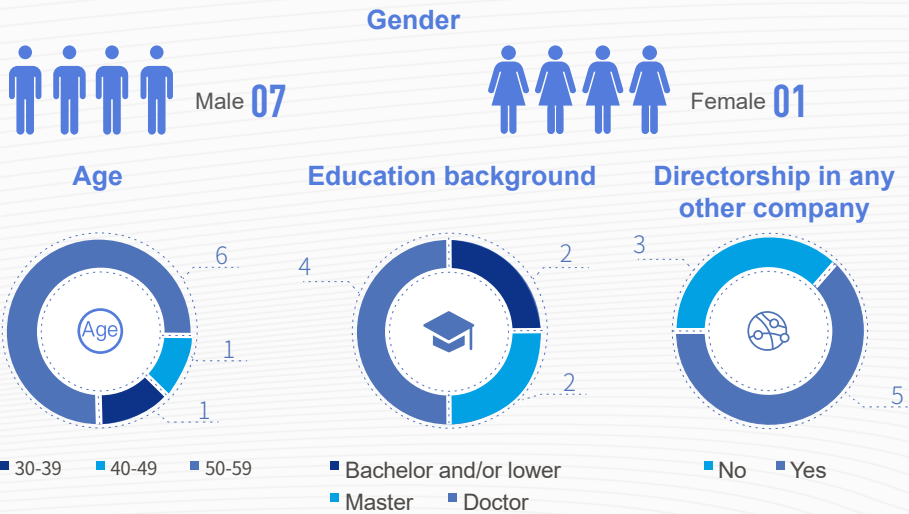


Table Background Information of Tongwei Directors

Name	Liu Han yuan	Xie Yi	Yan Hu	Wang Xiao hui	Ding Yi	Du Kun lun	Wang Jin	Fu Dai guo
Background								
Agriculture and Animal Husbandry	✓	✓	✓					
PV Industry	✓	✓		✓	✓		✓	
Finance		✓		✓	✓			
Financial Management			✓	✓		✓	✓	✓
Risk Management			✓		✓	✓	✓	✓
Investments	✓	✓		✓	✓			
Corporate Governance	✓	✓	✓			✓	✓	✓

Table Structure of Tongwei Board of Directors



Board of Supervisors

By the end of this reporting period, the Board of Supervisors had three supervisors, including one employee supervisor. All members of the Board of Supervisors fulfill their job responsibility diligently, honestly, and independently according to Company Law, Company Policy, and relevant regulatory requirements so as to ensure the standardized operation of the company and protect the interests of the company and its shareholders. The Board of Supervisors supervised the company's long-term development planning, operating activities, events of materiality, financial status, and duties fulfilled by the directors and senior executives so as to make the company act in compliance with laws and develop healthily.

By the end of this reporting period

Supervisors	Employee supervisor	Board of Supervisors meetings	Proposals approved
3	1	7	43

Deepen Risk Control and Compliance Management

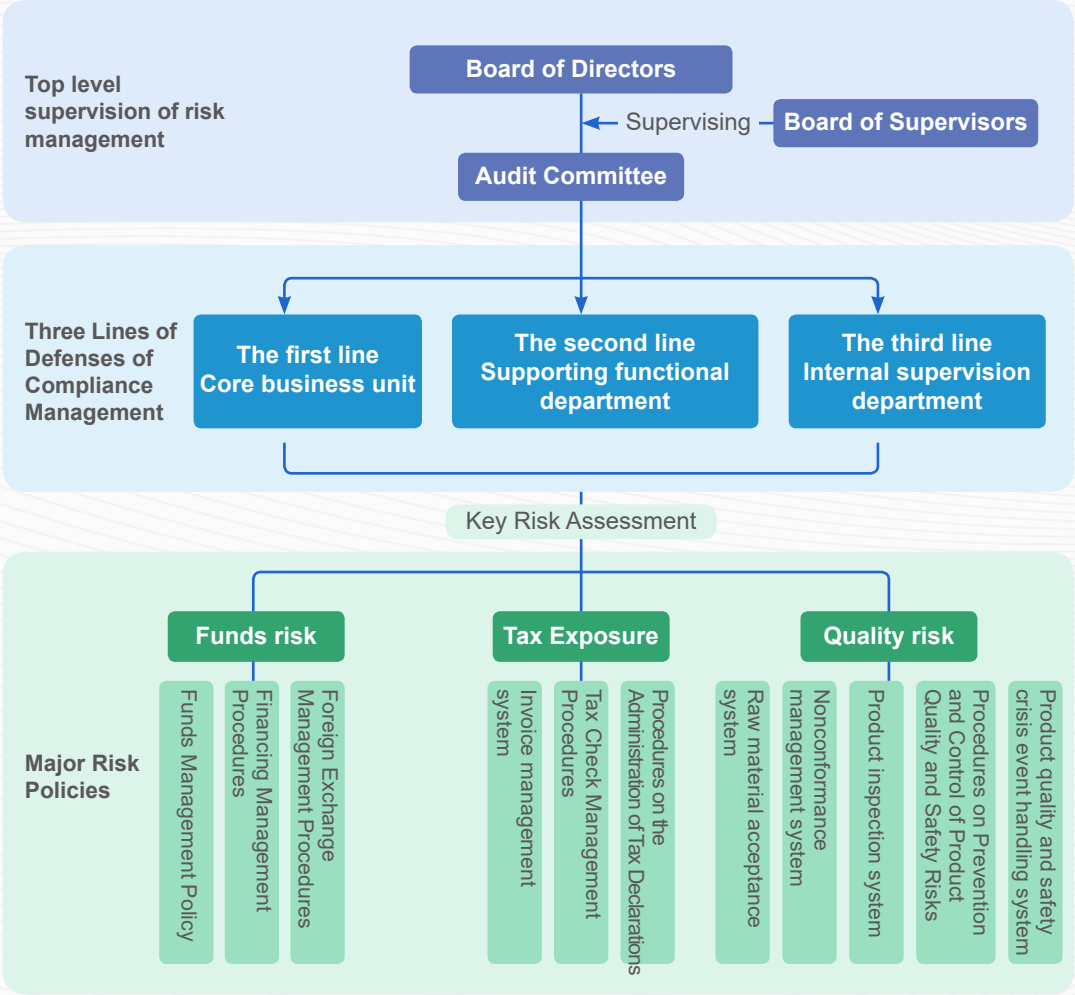
Tongwei places risk management and internal control in an important position in its operation. Through the formulation of the Tongwei Policy on Internal Control Evaluation and Risk Assessment, Tongwei tried to regulate the procedures for internal control evaluation and risk assessment, identify risks relating to operating activities and internal control objectives, timely develop risk strategies and ensure the smooth operation.

Risk Management System

Following the principle that duties, rights and interests are aligned, the Company kept optimizing the risk control and compliance management system by clarifying the specific duties of all levels in internal control evaluation and risk assessment, strengthening the coordinated management of three lines of defenses (business line, risk control function and internal audit function), which are considered in control of risk sources to continuously improve the company's ability of risk warning and risk control.



Risk Control and Compliance System



Risk Management Training

Focusing on operation risks, the Company employs its strength in firm-wide training by holding all kinds of risk management training events to enhance awareness on risk control and the overall risk management level.

During this reporting period

Risk control training events	Training hours	Training participants
3	5	359

Case

Financial risk control training held to deepen the risk awareness

In December, 2021, the Company held the annual meeting of financial managers. This was used as an opportunity to provide the themed training on “Risk Control in Financial Transformation” for over 200 management personnel via online and site modes. Around enterprise risk framework, risk management cases and financial functions, the training provided deep analysis and interpretation to further enhance their ability of risk identification and to optimize the internal financial management.



Risk Control in Financial Transformation” Training

Uphold "Sunshine" Operation

Upholding Honesty, Trust, Fairness and Excellence, the Company imposes high standards of business ethics onto itself, optimizes its diverse supervision system by continuously advancing the anti-corruption system, and improves the complaint mechanism to create a clean work environment.

Anti-Corruption

The Company treats anti-corruption as the first step in its ethical performance by conveying the importance of anti-corruption to internal and external stakeholders, intensifying the requirements for employees and suppliers, and optimizing the anti-corruption system.

Management Measures

For employees, the Company has developed Tongwei Employee Reward and Punishment Management Policy under which all employees are required to comply with applicable laws and regulations and occupational ethics in performing services and relevant activities, and all violations including corruption, and receipt or claim of bribes are subject to punishments according to the severity. The Company has arranged 31 full-time employees in the anti-corruption role and required that key positions like purchase, quality control, sale and finance sign the Letter of Undertaking on Compliance with Laws and Rules for Clean Performance, as part of the effort to enhance the prevention and control of corruption risk in employees.



Full-time employees in the anti-corruption role

31

For suppliers, the Company has taken targeted actions depending on the nature of each business.

Table Anti-corruption Actions on Suppliers

Agriculture
and Animal
Husbandry

- Formulated Tongwei Management Procedures on Suppliers of Raw Feed Materials which stipulated that all those suppliers that had committed bribery or other illegal acts in the process of cooperation will be blacklisted and any purchase from them will be terminated.
- All suppliers of raw materials were required to sign the Supplier Letter of Undertaking on Anti-Corruption and actions are taken to guide all suppliers to comply with business ethics and prevent any direct and/or indirect conflicts of interest.

PV
Industry

- Suppliers are required to sign the Agreement on Fair Cooperation and Competition to eradicate and oppose business corruption and any act in violation of fair competition
- Supplier management and control procedures have been established and suppliers which breach the Agreement on Fair Cooperation and Competition will be blacklisted and cooperation with which would be terminated immediately, ways to protect the legitimate interests of the Company in the course of business
- Purchase Management Policy has been developed to prohibit employees from receiving bribes or committing any act that may damage the interests of the Company
- The Company has signed the Anti-business Corruption Agreement with each supplier and encouraged suppliers to report any Company employee who claims improper interest during the purchase process with the reporting suppliers kept in confidence

Anti-Corruption Training

The Company attaches high importance to the development of an anti-corruption workplace by providing anti-corruption training to enhance employee awareness in this regard.

During this reporting period

Anti-corruption training events	Training hours	Anti-corruption training person-times
26	122	1,076

Case

Anti-corruption training provided to create a clean work atmosphere

In May, 2021, Sichuan Yongxiang Polysilicon Co., Ltd. held the “Thursday Lecture” on maintaining the clean bottom line in business practices, during which the Company’s anti-corruption rules were detailed and the “three red lines” were communicated to employees through three cases, and employees were urged to discipline themselves in their work.



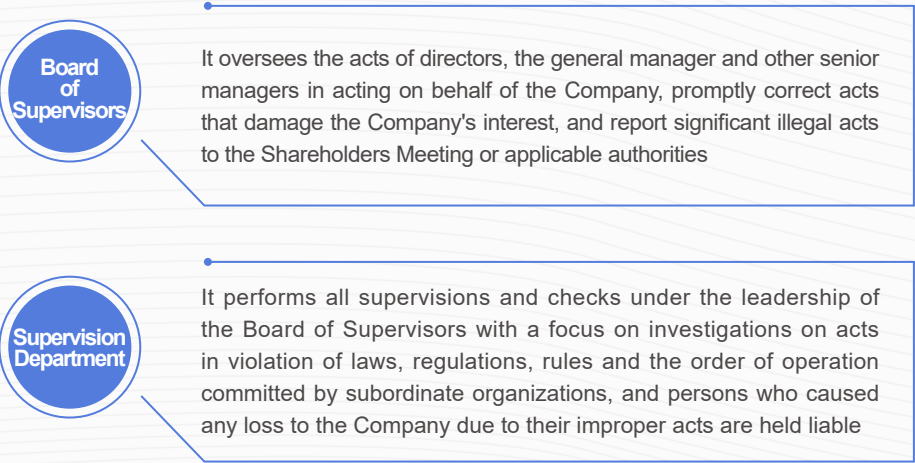
Maintaining the Clean Bottom Line in Business Practices” Training

Strict Supervision

The Company keeps “zero tolerance” toward violation of laws, regulations, rules and the order of operation by imposing supervisions and reviews on all levels of the Company. By the end of this reporting period, the Company punished 137 persons who had committed violations and dismissed 35 persons who had committed significant violations.

Comprehensive Supervision

The Company keeps optimizing its system of ethics and rules, having created a unique supervision mechanism under which the Board of Supervisors is responsible for the advancement and the Supervision Department performs checks. With clearly defined supervision scopes of all levels, the efforts for active supervision, combination of supervision and execution, and combination of supervision and publicity have been increased and the awareness on deepening supervision, comprehensive supervision, serving the operation and preventing risks have been enhanced.



Internal Audit

To increase the ethics level of the Company, the Company applies internal audits. The Audit Department assumes the responsibilities of supervising, assuring and evaluating the legitimacy, authenticity and completeness of ethical information and reports to the Audit Committee. The Audit Department specifies audit scopes in accordance with applicable national laws and regulations and Company bylaws, performs audits on environmental protection, protection of employee rights and interests, product quality management and other areas with relevant responsibilities as measures, and communicates audit results to internal stakeholders via three-level reviewed audit reports, to guide the sustainable development of the Company, and help the Company improve its overall ethics level and image.

During this reporting period, the Audit Department performed 67 special audits covering employee birthday benefits, holiday benefits, employee salaries, manager salaries, environment expenditure, work safety and product quality, without finding any severe violation of ethics.

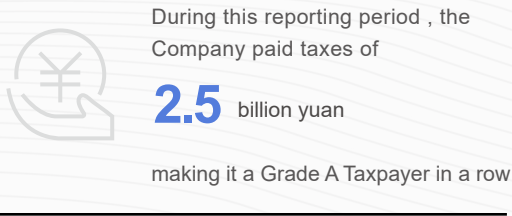


Encourage Whistle-blowing

To effectively implement the supervision mechanism, the Company has set an open complaint center available to all employees, suppliers and clients. The Company encourages employees to report case risks in the Company and/or its branches and subsidiaries by developing informant protection measures in accordance with Tongwei Employee Reward and Punishment Management Policy to protect their legitimate rights and interests actively, under which reporting information is strictly forbidden to be disclosed and rewards are given to the informants who have provided valuable information.

Pay Tax under Laws

The Company complies with applicable laws and regulations including the Law of the People's Republic of China on Enterprise Income Tax, performs its taxpayer obligations, and opposes tax evasion to make contributions to social benefits.



Maintain Investor Relations

With the commitment to safeguard the legitimate rights and interests of its shareholders, creditors and other stakeholders, Tongwei has developed Tongwei Investor Relations Management Policy to regulate and strengthen its effective communications with investors and potential investors, and actively presents work performance to investors with authenticity, completeness and fairness, to promote the sustainable and healthy development of investor relations.

Investor Management Structure

The Company has established a clear and reasonable investors management structure that the specific duties of all levels in investor relation management are defined to pave a solid foundation for maintaining great investor relationships.

Table Investor Management Structure

Level	Duties
<div>Board of Directors</div>	<ul style="list-style-type: none">Decision-making body for investor relation managementThe Chairman of Board is the first responsible person for investor relation management
<div>Secretary of the Board of Directors</div>	<ul style="list-style-type: none">The person in charge of investor relations managementResponsible for planning, leading and organizing activities for investor relation management
<div>Securities Department</div>	<ul style="list-style-type: none">The function for investor relation managementResponsible for everyday matters associated with investor relation management and planning, organizing and coordinating relevant activitiesKeep contacts with investors, receive investor visits, respond to investor queries, collect and aggregate opinions and comments from investors and submit them to Secretary of the Board and the Board of Directors
<div>Branches and Subsidiaries</div>	<ul style="list-style-type: none">Promptly report matters that meet the information disclosure standard in accordance with Tongwei Policy on Internal Reporting of Important Information

Smoothen Communication Channels

The Company makes much account of the communications and interactions with investors, actively broadens the communication channels with investors for bi-way communication.

Table Exchanges with Investors during This Reporting Period

April 2021

In the 2020 Tongwei performance briefing organized by the Shanghai Stock Exchange, the Company responded to investor concerns regarding strategic development, market conditions, business situation through interactive live streaming

May 2021

In the “Go to Tongwei” organized by CAPCO, the company and investors had the deep level of communication in terms of corporate governance, information disclosure, inside information management and development vision

June 2021

In the ESG session of “International Investors Go to SSE Listed Companies” organized by the Shanghai Stock Exchange, the Company exchanged and communicated with other listed companies and international investors regarding carbon peak, carbon neutrality, and energy efficiency and emission reduction

November 2021

In the International Investors Visit SSE Listed Companies Online organized by the Shanghai Stock Exchange, the Company had the opportunity to further enhance its connections with international investors

September 2021

The Company explained its businesses to investors on 2021 Group Reception Day for Investors of Listed Companies in Sichuan organized by Sichuan Securities Regulatory Commission

August 2021

In the Tongwei performance briefing H1 2021 held by Shanghai Stock Exchange, the Company communicated with investors in respect to operating results and financial measures of the first half-year of 2021 via interactive online form



In addition, the Company has set up everyday communication channels for investors including investor hot line and <http://sns.sseinfo.com/> to keep contact with investors to increase its market presence. During this reporting period, the Company responded to 308 queries from investors on the <http://sns.sseinfo.com/>.

Regulate Information Disclosure

For better information transparency, the Company has created Tongwei Information Disclosure Management Procedures to ensure the timeliness, lawfulness, authenticity and completeness of information disclosure to safeguard investors' right to information.

During this reporting period, the Company published 105 announcements to investors, with 4 regular announcements and 101 interim ones, covering company performance, dividend distribution, employee share incentive plan, and other matters of materiality. The Company was rated A in NOTIFICATION OF EVALUATION RESULTS OF INFORMATION DISCLOSURE FROM 2020 TO 2021 by Shanghai Stock Exchange in its Disclosure Evaluation Result of Listed Companies in August, 2021.

Also, according to Tongwei Insider Registration Management Policy, the Company has created an Insider Register to regulate the inside information management. During this reporting period, the Company experienced no illegal acquisition of inside information or insider trading.

02.

EXPAND PRODUCT INNOVATION

Innovation is one of the sources of new opportunities. The product innovation management system consists of innovation in product development, product quality control, client rights protection, and protection of intellectual property rights, which would increase its core competitiveness.

- PRODUCT DEVELOPMENT INNOVATION
- PRODUCT QUALITY CONTROL
- PROTECTION OF CLIENT RIGHTS
- PROTECTION OF INTELLECTUAL PROPERTY RIGHTS
- DIGITAL TRANSFORMATION

Stakeholders: investors, clients, suppliers





Product Development Innovation

Taking product innovation as one of the drivers for business development, the Company has made Five -Year Technology Development Plan. It makes active efforts into the innovation of green products by participating in developing national, industrial and local standards and exploring business-education-research institution cooperation. During this reporting period, the Company invested 2,035.85 million yuan into product research and development for year-on-year growth of 96.64%.

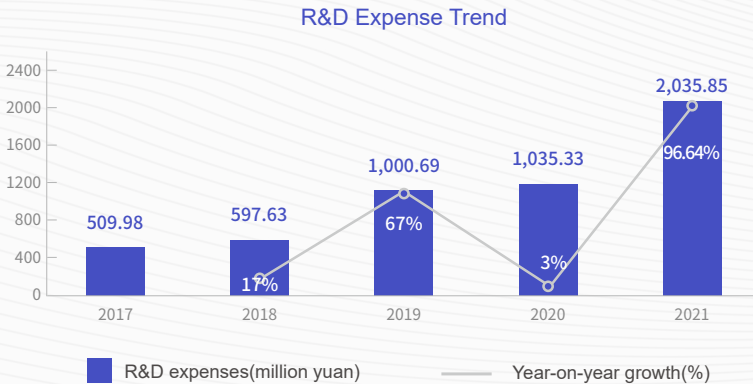


Table R&D Performance	
R&D expenses	R&D personnel
2,035.85 Million yuan	3,335 Person

Participate in Developing Standards

During this reporting period, Tongwei led and took part in developing 1 national standard, 2 industrial standards, 3 group standards and revision projects for 3 national standards.

National Standard Feed Materials: Fish Meal
the revision of which the Company took part in



Table Standards whose Development the Company Participated in

	<div><div>National Standards</div><div>Feed Materials: Fish Meal</div><div>Method for Determination of Moisture, Crude Protein, Crude Fat, Crude Fiber, lysine and Methionine in Feeds – Near Infrared Reflectance Spectroscopy</div><div>Determination of the Content of Fatty Acids in Feeds</div><div>Determination of the Content of Crude Fat in Feeds</div></div>
	<div><div>Industrial Standards</div><div>Determination of Sixteen Polycyclic Aromatic Hydrocarbons in Feeds – Gas Chromatography Mass Spectrometry (GC-MS)</div><div>Determination of Acid Detergent Fiber in Feedstuff (ADF)</div></div>
	<div><div>Group Standards</div><div>General Specification for Carbon Neutralization of Photovoltaic Power Station Construction</div><div>General Specification for Carbon Neutralization of Photovoltaic Power Station Operation</div><div>General Technical Specification for Construction of Aquaculture-Photovoltaic Integration System</div></div>

Dedication to Green Technology Innovation

The Company is dedicated to the development and application of low-carbon products. During this reporting period, the Company focused on the reduction of carbon emission and effective use of resources, with targeted efforts into developing low-carbon and efficient technologies in the agriculture and animal husbandry industry.

Low carbon and energy saving technologies

Study on microalgae photoautotrophy and its application system

Description

Microalgae has great potential to provide economic benefits and help carbon cycle, with its carbon capture and storage efficiency being 50 times of other plants. Tongwei has been dedicated to studies on conversion efficiency of microalgae, having constructed a fully enclosed photo-reaction system that generates microalgae in 24 hours via automatic cycles. This system is used to convert electricity to light energy efficiently.

In addition, microalgae can provide nutrients and active substances as feeds of aquatic seedlings and even be converted to one of the main nutrition sources for human beings. This project has been applied in Sichuan, Ningxia and Jiangsu sites of Tongwei Agriculture and Animal Husbandry business.

Explore Business-Education-Research Cooperation

The Company has deepened the cooperation and exchange with nearly 30 top domestic universities and research institutes including Institute of Hydrobiology, Chinese Academy of Sciences, Tsinghua University, China Magisterial Energy Navigator, and Sichuan University to give full play to the benefits of business - education - research institution cooperation, and to create and convert high-level technological achievements.



Product Quality Control

To strengthen the product quality management system, and elevate the product quality and competitive advantage, Tongwei has established ISO 9001 compliant quality management system, with a commitment to providing high-quality products and services for clients. During this reporting period, its subsidiaries got GB/T 19001 - 2016 /ISO 9001: 2015 certified.



ISO 9001: 2015 Quality Management System Certificate

Agriculture and Animal Husbandry

In this business, the Company has established entire process quality management with its material procurement, production process, and product warehousing performed in strict accordance with Feed Quality and Safety Management Procedures.

Material Procurement and Management

Attaching importance to the purchase and management of raw materials, the Company fully assesses the qualifications and quality assurance ability of material producers and distributors, having established the supplier assessment and re-assessment policy. Regular hygiene inspections are performed on raw materials; according to inspection results, safety assessments are conducted with inspection results and assessment reports recorded. Materials that are not compliant with acceptance criteria may not be received or used.

Production Process Control

Branches and subsidiaries prepare standard operation procedures for key positions according to their actual processes to ensure production quality. Additionally, the Company has developed production line cleaning procedures which specifies the cleaning principles, that workshop floors ,tools and instruments should be disinfected every day, that workers must wear uniforms and have hands disinfected before getting into workshops, and that use of cleaning agents must be recorded, including the agents used, work shift, use description, use time, and operator, to prevent cross-contamination during the production.

Client Complaint and Product Recall

The Company has established the product recall policy that specifies the recall process, identification and storage of recalled products, and recall records, information collection and recall grade, formation of recall teams, and destruction or harmless treatment of recalled products.

Case

Experts from the National Animal Husbandry Station guided quality management in Tongwei

In October 2021, experts from the National Animal Husbandry Station guided quality management in Tongwei. Learning about the implementation of Feed Quality and Safety Management Procedures in the Company, execution of quality policies, and standardization development, these experts checked warehouses of raw materials and finished products, production workshops, labs and other areas, took photos of all kinds of labels and original records. Finally, they praised the progress of Tongwei in standardization and intelligent development, and proposed to summarize and roll out highlights applicable to feed producers.



Experts from National Animal Husbandry Station visited Tongwei



PV Industry

Regarding this business, improvements of supply and procurement, product spot-check and management of toxic and harmful substances are combined to increase product quality and product optimization.

Supply and Procurement Management

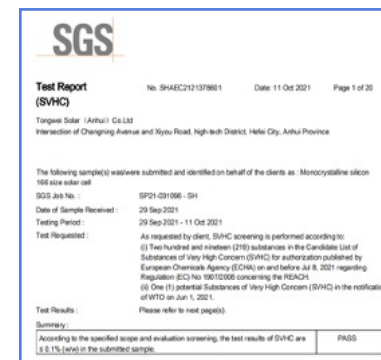
The Company insists on managing quality from the source by establishing the management procedures for new material introduction. Branches and subsidiaries in this business have developed Sample Introduction Standard Handbook, Supplier Quality Management Standard Handbook and other quality management policies. Upon received, raw materials must be inspected in accordance with IQC procedures. Materials that fail the inspection are subject to joint review by quality functions. This is to strictly control material quality in order to increase the quality and efficiency of product delivery.

Product Spot-check

The Company has developed complete product spot-check process. Specifically, branches and subsidiaries in this business have made Management Procedures on Product Component Reliability Testing, SPC and OCAP¹ Operating Procedures among others, to perform reliability testing on new products and key process parameters by sampling method, a way to ensure assembled products can meet performance requirements; and to deal with abnormal data of critical parameters out of specification, a way to provide reference for subsequent product quality control, process optimization and new product development. In addition, the Company has established the product recall mechanism for which, client requirements and risk impacts identified by production sites are considered, generally, an internal assessment of actions toward non-conforming products is performed, then communications with clients on the final treatment of these products, including return, replacement, rework, release (concession), repair and compensation, to effectively control safety risks.

Management of Toxic and Harmful Substances

Making much accounts of the management of toxic and harmful substances, the Company ensures products comply with ROHS² and REACH³. During this reporting period, the Company performed ROHS and REACH tests on products, required material suppliers to provide testing reports on toxic and harmful substances to ensure no harmful substance is contained or generated in the production and final products.



REACH Testing Report

¹ OCAP means out of control action plan

² RoHS Directive (Restriction of Hazardous Substances Directive 2002/95/EC) is an EU mandatory directive restricting the use of hazardous substances in electrical and electronic equipment

³ Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) is an EU regulation that aims to ensure the safely access to and use of chemicals in the EU market

Protection of Client Rights

Tongwei Co., Ltd. Always adheres to the word “sincerity” and firmly maintains the legitimate rights of clients by conducting client satisfaction surveys, tracking quality complaints in real time and enhancing client privacy management. Multiple actions are taken to improve the mechanism for protecting client rights and maintaining great client relationships.

Table Key Performance on Protection of Client Rights

Topic	Unit	Tongwei Agriculture and Animal Husbandry	Tongwei Yongxiang	Tongwei Components	Tongwei Solar
Client Satisfaction	%	91.80	92.90	94.88	98.15
Client Complaint Ratio	%	7.70	0.00	0.0005	0.13
Ratio of Client Complaints Resolved	%	100.00	100.00	100.00	100.00

Client Satisfaction Survey

The Company performs quarterly client satisfaction survey around product quality, after-sale services, product pricing and contract fulfillment via telephone, questionnaire and interview, collect client feedback promptly, and make special correction plans based on the feedback to increase the protection of client rights.

Client Complaint Management

Client Complaint Handling Process and Standard Handbook on Client Complaint Handling are developed to advance the management of client complaints. Upon receiving a client complaint, the Company promptly arranges for employees to track the handling process. Also, given client feedback, the Company tests product quality, design and production efficiency to ensure that product development and design are driven by client needs and accommodate market trends, to achieve mutual development with clients.

Client Privacy Protection

The Company attaches high importance to client privacy protection and strives to maintain the compliance with Internet information regulations. Through Tongwei Confidence Management Policy and Tongwei Information System Emergency Plan, the Company has specified the rules on collection, storage and use of client information and actions for prevention and reduction of negative impact and loss caused by emergencies to prevent and control information security risks to the largest extent. What is more, the Company has formed a dedicated department for IT management to continuously advance the data security management and fully perform the data security management obligation. During this reporting period, no data breach on client information occurred.

In addition, for enhancement of information security awareness, the Company provided information security training on Confidentiality and Management of Confidential Documents, the Confidentiality Management of Information Equipment and Information System, and Management of Confidential Meetings and Data Breach Liabilities with deep analysis and explanation to help attendees to build information security awareness and enhance their knowledge of information security.



During this reporting period

Information security training events

9



Training hours

27.50



Information security training person-time

2,996



Protection of Intellectual Property Rights

Tongwei has been improving its IPR management system with supervision, and audit and training to protect intellectual property rights and motivate employees to innovate.

IPR Management System

Attaching high importance to IPR protection, the Company has invested plenty of financial resources to advance the development of its IPR management system in accordance with the Enterprise Intellectual Property Right Management Regulation (GB/T 29490-2003).



Patent Certificate and Utility Model Certificate

During this reporting period



Table Key Performance on IPR Protection

Topic	Unit	Agriculture and animal husbandry	PV industry	Total
2021 patents authorized	/	4	5	9
2021 utility models authorized	/	60	92	152
2021 patent applications	/	13	23	36
2021 utility model applications	/	79	115	194

Agriculture and Animal Husbandry

Through Tongwei Patent Management Procedures, the Company has clarified the patent application process and information-based management to enhance its IPR risk prevention ability.

The Company has formed an internal IPR function with about 74 IPR managers in the technology center, R&D department and subsidiaries and branches who are responsible for supervising patent application process. The Administration Department has a position of IPR Risk Control Specialist, assumed by an attorney who is specifically responsible for IPR risk control and protection. Also, to increase IPR management efficiency through intelligent means, the Company has established IPR intelligent management system which connects data between CNIPA, agencies and the Company.

PV Industry

With IPR Management Procedures, IPR Reward Procedures and Confidentiality Treaty in place, the Company increases efforts to build its IPR system and motivate employees to apply for high-quality patents, and lower the risk of core technology leakage. The IPR Department in PV Technology Center is responsible for protecting intellectual property rights in the PV business, with senior patent engineers for specific management.

Training on IPR Protection

To have the IPR management cover all processes, increase the stability of system-based IPR management and regulate its IPR management capability, the Company has provided a raft of IPR management training sessions to help employees understand the importance of IPR protection and explore innovation points for patentable technologies.

IPR Management System Supervision Audit

The Company effectively assists external experts in supervision audit of its IPR management system to ensure the applicability and validity of the system.

Case Hefei Solar passed the supervision audit on IPR management system

In 2021, Hefei Solar experienced a supervision audit on IPR management system from third party certification institution. The audit team spot-checked IPR management in product development, production, sale, and purchase processes through field checks, document reviews, field questions and records in accordance with applicable laws and regulations, GB/T 29490-2013 and management system procedures of Hefei Solar, to assess the functioning of the management system. It was concluded that Hefei Solar's IPR management system functioned effectively.



The supervision audit on IPR management system

Case Tongwei Yongxiang provided High Value Patent Exploration and Protection training

In April, 2021, Tongwei Yongxiang successfully provided the training titled with High Value Patent Exploration and Protection that covered more than 150 technical staffs from Leshan, Baotou and Baoshan sites. Around five perspectives, i.e., the (combination) dimensions of high-value patents, their explorations, technology basis, document requirements and right protection, the training provided detailed and deep explanations that enhanced employees' knowledge of patent application, fee payment, document requirements and patent management, a way to advance the company's IPR management system.



IPR protection training at Tongwei Yongxiang

Digital Transformation

Leveraging technologies, the Company keeps technological reforms, planning a digital management system and a digital intelligence operation platform in the PV business to explore new application possibilities of digital products to product innovations, thereby providing technological support for product innovations.

Agriculture and Animal Husbandry

Tongwei agricultural and animal husbandry industry takes science and technology as the starting point, through the implementation of "facility fishery" , "intelligent fishery" and other application demonstrations, changes the traditional breeding concept and technology, builds a digital, scientific, standardized and refined modern breeding mode of the whole process of aquaculture, and strives to build an environmental, efficient and intelligent fishery ecological industrial park to meet the social demand for healthy and safe aquatic products.

We applied wireless transmission, sensor technology, software development and other technical solutions to the intelligent breeding mode, integrate a number of Internet of Things equipment, to achieve online monitoring and early warning of water quality, water quality regulation and water pollutant management, eliminate endogenous and exogenous pollution, and ensure the safety of aquatic products. At the same time, we take into account precise feeding, scientific regulation and automatic management of biological growth status to maximize labor efficiency and economic benefits.

Case

Unmanned factory intelligent farming of shrimp

In view of the current situation of low degree of automation, poor level of precision, labor consumption, serious waste of resources, unstable success rate and insufficient cleanliness in the current factory shrimp farming model, Tongwei Agriculture and Animal Husbandry Industry has overcome key technologies such as automatic drainage, automatic feeding, automatic spraying, automatic sampling, automatic observation, clean environment, tailwater treatment, and central control, and improved resource utilization. At the same time, Tongwei agricultural and animal husbandry industry develops and applies relevant automation equipment and intelligent control platform to realize the factory intelligent breeding of shrimp.



PV Industry

Digital Management System

In order to accelerate the intelligent manufacturing, wide applications of information technologies, build the development of safe, green, innovative, intelligent and efficient factories, we actively promote the implementation of digital management system, and realize the transparency and digitization of the whole process of workshop production through the integration of workshop management digitalization and automation. In order to accelerate the intelligent manufacturing, wide applications of information technologies, build the development of safe, green, innovative, intelligent and efficient factories, we actively promote the implementation of digital management system, and realize the transparency and digitization of the whole process of workshop production through the integration of workshop management digitalization and automation.



Case

Yongxiang New Energy creates a full-chain data channel

The control room of Yongxiang New Energy Center is equipped with advanced dispatching telephone system and handheld explosion-proof telephone to ensure the scheduling and operation of the production workshop. At the same time, the control system connects nearly 20,000 control points and 800 cameras in the factory to conduct real-time monitoring and automation control of the temperature, pressure, liquid level and flow rate of each production link, laying a solid and reliable automation protection network for safe production.

In order to effectively monitor the data in real time, Yongxiang New Energy upgraded the fourth-generation technology - MES production management system, connecting equipment management, production management, safety management and quality management, monitoring production and operation data online in real time, and creating a full-chain data path, so as to realize the wisdom of safety management.




Yongxiang New Energy Center Control Room

Case

Establishing centralized operation and maintenance platform to ensure the safe operation of power plants

In order to achieve real-time monitoring and efficient operation management of photovoltaic power plants, Tongwei New Energy has established a centralized operation and maintenance platform to collect and analyze the equipment operation data, weather data, environmental data and power data of the power station in real time, discover the abnormal operation information of the power station for the first time, timely feedback to the power station management and operation and maintenance personnel, realize the comprehensive visual management of the power station operation information, further improve the operation and maintenance efficiency of the distributed power station, reduce the equipment failure rate and the operation and maintenance cost of the power generation system, so as to ensure the safe and stable operation of the power station. Ensure that the power station reaches the expected power generation.



Centralized operation and maintenance system

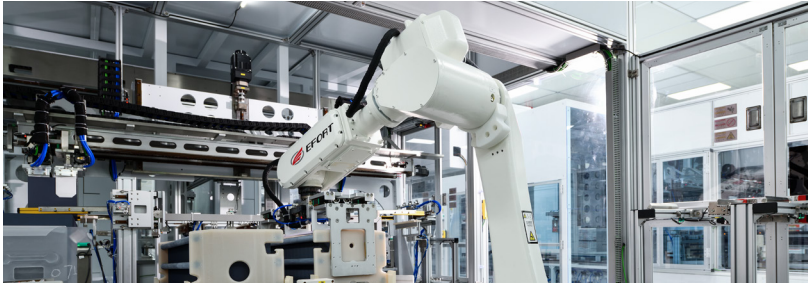
Smart Factory

With the rapid development of the photovoltaic industry, "photovoltaic manufacturing" is also changing to "photovoltaic intelligent manufacturing". As an industry pioneer, we have always adhered to the intelligent manufacturing route, actively created an innovative model for the production and manufacture of solar photovoltaic cells, introduced intelligent manufacturing into the photovoltaic cell link, established a fully automatic unmanned intelligent manufacturing production line, took the lead in realizing digital workshops and intelligent factories, and continuously promoted enterprises to reduce costs and increase efficiency, and enhance market competitiveness. In the future, the company will continue to lead the development of global solar photovoltaic intelligent manufacturing and continuously contribute to the "Made in China".

Case

Meishan solar energy empowerment "smart factory"

In order to further enhance lean management and optimize the process, the entire production process of solar cells is completed by various robots on the intelligent production line, and the robot will automatically plan the path and avoid obstacles after receiving the instructions issued by the production equipment, reach the designated location next to the production equipment, and accurately "feed" the materials required for production to the production equipment to achieve seamless docking, and truly achieve high efficiency, digitalization and intelligence.



Case

Hefei Solar won the title of "Digital Workshop in Anhui Province"

Hefei Solar vigorously promotes the construction of digital workshops and the transparency of the manufacturing process, adopts intelligent quality inspection equipment in key processes, realizes online automatic detection, alarm and diagnostic analysis of product quality, predicts quality trends more accurately, and controls quality defects more effectively. The workshop combines the Internet of Things and Internet technology to transmit data to the server in real time, analyze and improve the data of abnormal reactions, and carry out all-round monitoring and management of the production process.

In September 2021, Hefei Solar Photovoltaic Crystalline Silicon Cell Digital Workshop won the title of "Anhui Province Digital Workshop", marking the high intelligence and digitization of the company's manufacturing workshop.

03.

SUSTAINABLE SUPPLY CHAIN

Tongwei Co., Ltd. is committed to the sustainable management of suppliers by incorporating environmental and social factors into its supplier management mechanism with enhanced focus on suppliers' performance in environment protection, worker rights, safety and health, business ethics and alike, to seek for economic benefits while lowering the associated environmental and social risks. Also, Tongwei has been developing a sustainable supply chain to ensure the continuity of supplies through a series of management strategies including supplier access policy, sustainable management of suppliers, development of a green supply chain, and improving supply capabilities.

- OVERVIEW OF SUPPLIERS
- SUPPLIER ACCESS MANAGEMENT
- SUPPLIER CODE OF CONDUCT
- SUPPLIER PERFORMANCE EVALUATION
- SUPPLIER EXIT MANAGEMENT
- SUPPLIER CAPABILITY IMPROVEMENT

Stakeholders: suppliers, investors, communities

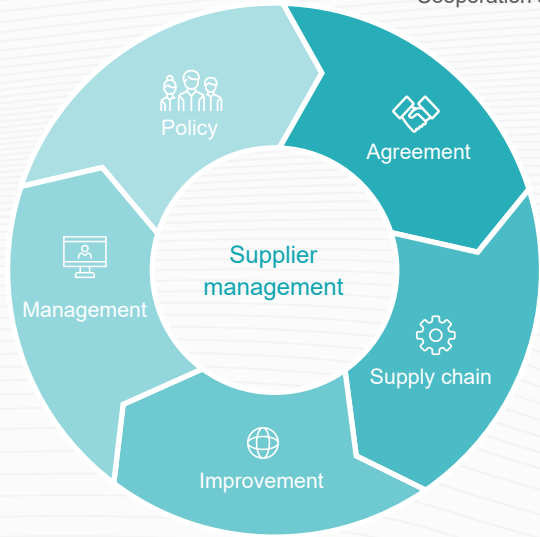


Supplier Access Policy

A potential supplier is qualified when it complies with the thresholds in fulfillment capability, service quality, fair management, good work environment and other areas.

Sustainable Management of Suppliers

Topics like worker rights, environment protection, safety and health are prioritized.



Improving supply capability

Training courses for suppliers are provided to enhance their supply capabilities.

Code of Conduct

Each supplier is required to sign the Agreement on Fair Cooperation and Competition.

Green Supply Chain Construction

Each supplier is required to sign Supplier/ Subcontractor Letter of Undertaking on Social Responsibilities, a way to drive the development of a green and low carbon supply chain.

Overview of Suppliers

Number of suppliers

2,524



Number of suppliers in agriculture and animal husbandry

637



Number of suppliers in the PV industry

1,887



Tongwei has a Supplier Relationship Management (SRM) system in place, based on which, a digital approach is used to increase its operation efficiency by ensuring the timely communication of business information regarding orders, inventories, settlements, invoices, claims, quotas and performances. This also helps with the comprehensive evaluation of supplier performance for enhanced delivery of goods and level of services.



Supplier Access Management

Tongwei Co., Ltd. has developed access policies depending on specific business. Subsidiaries in agriculture and animal husbandry have developed policies including the Management Procedures on Tongwei Suppliers regarding Animal Feed Materials and Supplier Access Policy - Company Credit Certificate; subsidiaries in the PV industry have created policies such as Survey Form and Access Criteria for Developing Suppliers of Various Categories to assess the main raw materials from suppliers and products sold by them on behalf of others regarding the source reliability and legitimacy, production, technologies, equipment, quality, lead time, financial performance, logistics, after-sale management and other management indicators. Additionally, Tongwei applies a category-based management approach to suppliers by material significance. Field visits are performed to assess suppliers that provide critical materials and commodities.

What’s more, Tongwei has included environmental and social factors including worker rights, company creditworthiness, safety and health management, and environmental protection into supplier assessment so that only those who meet these requirements may be listed as approved suppliers. Tongwei will help suppliers that fail to meet these requirements improve their management in applicable areas. Suppliers that comply with the requirements after such corrections may be included into the list of approved suppliers. This is used as part of the efforts by Tongwei to gain the supply chain value with competitiveness with reduced supply chain risks.

Tongwei Co., Ltd. keeps optimizing its supplier access management under which each new supplier is required to register in the SRM system, receive applicable surveys and get certified. The management strategies and access thresholds for suppliers are vary depending on supplier categories to avoid the potential consequence that small and micro suppliers may be excluded due to uniform access thresholds.

Supplier Access Criteria

Evaluation indicator	Description
Service quality and delivery capability	<ul style="list-style-type: none">Focus on quality of materials, qualifications, management capability, financial ability, production capacity, and quality control.
Management of worker rights	<ul style="list-style-type: none">Review child labor, work time, discrimination and forced labor; and actions are taken to help improve the protection of workers' rights in the potential supplier so that a fair and healthy workplace can be created. Only when the potential supplier gets qualified can it be included into the list of approved suppliers.
Company creditworthiness	<ul style="list-style-type: none">During the access review, Tongwei checks whether the legal representative of the potential supplier has a poor credit record and whether the potential supplier has committed any violation of laws and regulations or shown any abnormality in its operation, through the Tianyancha interface connected to its SRM system.Illegal sub-contracting is prohibited.
Safety and health management	<ul style="list-style-type: none">Core suppliers are required to be ISO 45001 certified.Suppliers must provide appropriate PPE, protective infrastructures and isolation units with its employees trained in terms of health and safety.Applicable safety data sheets must be posted on sites where chemicals are stored. A fire safety system is well established and maintained on a regular basis.An occupational health register is established with applicable employees receiving occupational health examinations periodically.
Environmental protection	<ul style="list-style-type: none">Core suppliers are required to be ISO14001 certified.Major violations of laws and regulations including penalties regarding environmental protection committed by potential suppliers must be checked during access reviews.Each supplier must have obtained applicable permits for pollutants discharge/emission which is subject to annual check, or must submit filings on pollutants discharge/emission on a regular basis.Each supplier must have an effective system for managing waste gas, wastewater and solid waste.Each supplier is required to release a valid environment testing report (including noise), register the transportation of hazardous wastes and perform identification of environmental factors at fixed internals.

Supplier Code of Conduct

Tongwei Co., Ltd. has developed a Supplier Code of Conduct which specifies the requirements for suppliers regarding worker rights (child labor, work time, wage, discrimination, forced labor, etc.), occupation health and safety, environmental protection and ethical practices, so that suppliers can sustain their operation.

Supplier Code of Conduct

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Suppliers are required to strictly comply with applicable laws and regulations including the Labor Contract Law, Labor Law and Social Insurance Law by execution of written employment contracts with employees, contractors and other workers, completing social insurance procedures for employees and paying appropriate wages on a timely manner.
- 

Suppliers are required to specify their opposition against child labor and forced labor, and not to discriminate or harass any employee in recruitment or practice based on race, color, age, gender, sexual orientation, ethnic group, disability, religion, political stance, and membership.
- 

Suppliers may not hire any minor less than 16 years old in any manufacturing process.
- 

Workers may work not more than eight hours per day for each working day and forty-four hours per week in principle.
- 

In the case of any labor dispute or any other event that affects the production and operation of Tongwei occurring in any supplier, the supplier is required to send persons to the site to settle the dispute or event within 24 hours or any period specified by Tongwei.

Suppliers are responsible for identifying the impact of production processes on the environment and natural resources, strict observance of the Environmental Protection Law and other applicable environmental protection policies and regulations, improvement of their management of social risks, and ensuring that no environmental pollution event occurs and any environmental risk is eliminated during the contract period with Tongwei.

Supplier Performance Evaluation

Tongwei Co., Ltd. has developed supplier performance review procedures applicable to respective businesses in order to deeply understand the development of suppliers and their compliance with the code of conduct, and to identify potential risks.

- ### Agriculture and animal husbandry

Tongwei Agriculture and Animal Husbandry has developed the Management Procedures on Tongwei Suppliers regarding Animal Feed Materials. Semi-annual supplier reviews are performed via telephone and field assessment, regarding qualifications, management capability, financial status, production capacity, and quality control. Any supplier that fails to meet the standards will be excluded and receive supports from Tongwei regarding their deficiencies.
- ### PV industry

A PV Commerce Department is set for PV businesses, which is responsible for assessing the risks of approved suppliers. With Supplier Management and Control Procedures, Supplier Management Policy and other relevant policies in place, the Department provides assessments from time to time to identify the weaknesses of suppliers with significant risks and poorly rated, put forward and help them improve their management for enhanced management of supplier risks.

Case

Tongwei Solar supplier reviews

Review mechanism

Tongwei Solar Co., Ltd. (Tongwei Solar) performs external audits and site audits on core suppliers, monthly reviews on class I suppliers, quarterly reviews on class II suppliers and semi-annual reviews on class III suppliers. Suppliers that have received and passed the monthly, quarterly or semi-annual reviews are subject to annual reviews.

Targets: class I approved suppliers

Rating: Suppliers are ranked by 50% quality and 50% commerce assessment weighted scores; the result affects the purchase quota for the next month.

Monthly review

Targets: class II approved suppliers from whom the purchase portion is not less than 5% for a natural quarter.

Rating: The result affects the purchase quota for the next quarter.

Quarterly review

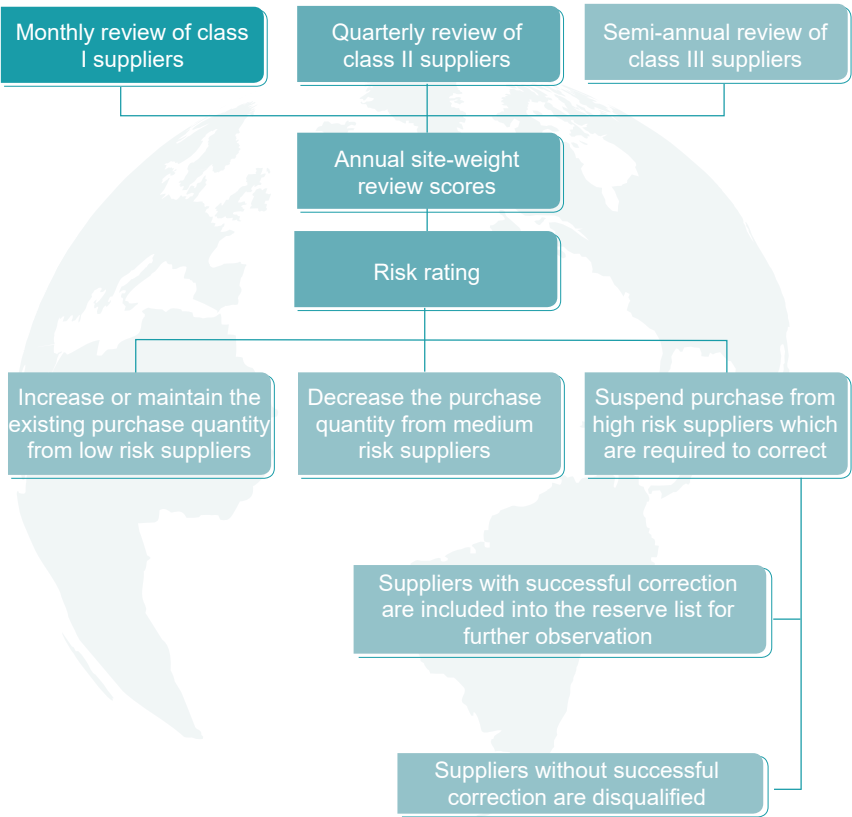
Semi-annual review

Targets: class III approved suppliers from whom the purchase portion is not less than 5% for half a year

Rating: The result affects the purchase quota for the next half year.

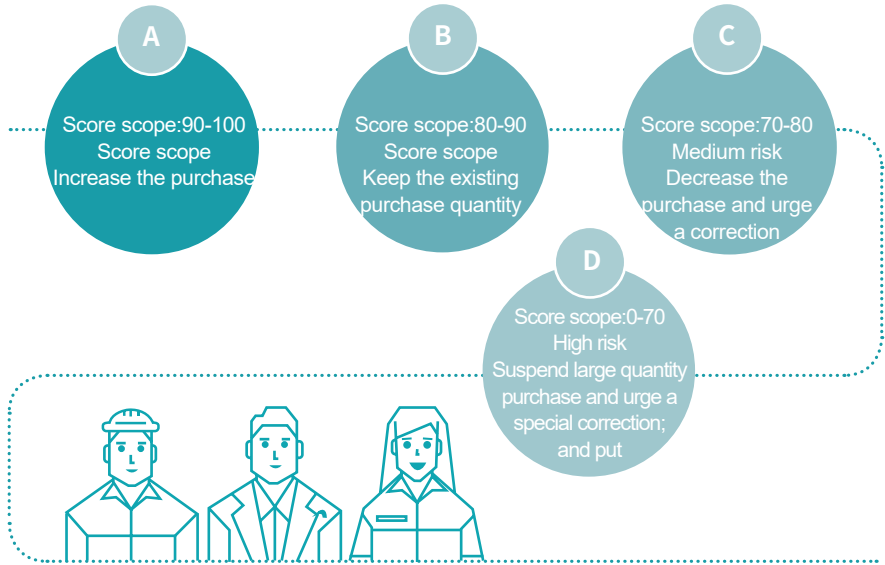
Targets: Suppliers that have received and passed the monthly, quarterly or semi-annual reviews.

Rating: A site review is applied to approved suppliers. The final rating for an annual review is calculated from the monthly/quarterly/semi-annual result and the site review result. Tongwei suspends large quantity of purchases from poorly rated suppliers and help them make improvements, as a way for supply chain risk management.



Risk assessment and correction process for suppliers

Supplier risk rating and subsequent measures



During this reporting period, Tongwei Solar has performed annual reviews on 73 suppliers, including 12 grade A suppliers and 61 grade B suppliers and no grade C in other words, 100% of the suppliers are low risk as required.

Number of suppliers who accepted annual reviews performed by Tongwei Solar

73



Number of grade A suppliers

12

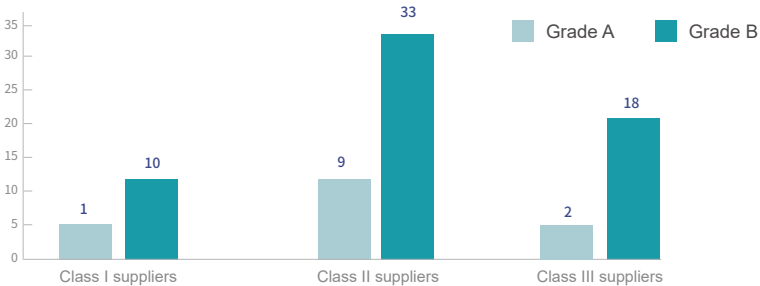


Number of grade B suppliers

61



Suppliers of Tongwei Solar subjected to reviews 2021



Review Coverage

Tongwei Solar Energy reviews suppliers regarding their environmental performance, safety management and labor management including but not limited to environmental impact assessment, safety assessment report, CSR report and annual report to reduce their sustainability risk.

Regarding the social responsibilities, Tongwei Solar has taken the lead in developing the comprehensive BSCI (Business Social Compliance Initiative) management system in the industry for suppliers that are not listed or fail to disclose their CSR reports on a timely basis. Tongwei has signed Tongwei Solar Supplier/Subcontractor Letter of Undertaking on Social Responsibilities with its strategic partners, monitors their performance, and performs field audits each year, as a part of the efforts to elevate the goals for social responsibility, occupational health, work safety and quality management across the industry chain.



Regarding environmental protection, Tongwei Solar has signed a framework agreement containing saving energy, protecting environment, circular economy and safety, requiring suppliers to utilize to the largest extent processes and equipment that generate no or less pollution, select recycled packing materials, and put apparent signs on sites where dangerous substances and wastes are present, to further improve environmental risk management of suppliers.

Supplier Exit Management

Tongwei subsidiaries in agriculture and PV businesses have established a supplier removal and black list mechanism to ensure that the overall level of suppliers is improved steadily. Tongwei suspends purchases from suppliers or disqualifies suppliers who fail to meet the thresholds according to review results. Tongwei puts suppliers which have committed violations of laws or the code of conduct on the black list and terminates the cooperation with them. In this reporting period, 42 suppliers were removed because of violations and no illegal sub-contracting was found.



Supplier degrading and blacklist mechanism


Penalty system	Cause for termination	Outcome
 Supplier removal system	<div>1.Suppliers fail the reviews and fail to provide effective actions for improvement.</div> <div>2.Suppliers reject annual site reviews for no reasonable cause.</div> <div>3.Suppliers from which no purchase is made within the last year and for which no cooperation is planned for the next year.</div> <div>4.Suppliers with which the trade cannot be continued due to poor performance including bankruptcy and insolvency.</div> <div>5.Suppliers with which the cooperation has been suspended for over a year due to any ownership change and no cooperation is planned for the new entities resulted from such change.</div>	These suppliers should be removed from the list of approved suppliers and entitled to no cooperation for at least one year.
 Black list system	<div>1.Suppliers violate any agreement signed with Tongwei including applicable purchase contracts, the supplier code of conduct and the quality agreement in bad faith.</div> <div>2.Suppliers disclose trade secrets of Tongwei, which has caused any reputation loss or financial loss to Tongwei.</div> <div>3.Suppliers cause any significant financial loss to Tongwei and reject to compensate Tongwei during their cooperation.</div> <div>4.Suppliers willfully conceal any of its interests of any form in any Tongwei or any other supplier.</div> <div>5.Suppliers willfully conceal their previous violations of laws or regulations.</div> <div>6.Suppliers give bribes to individuals related to Tongwei for any improper advantage.</div>	These suppliers are blacklisted without any opportunity for further cooperation

Supplier Capability Improvement

We have been treating suppliers as our partners for long-term development, and helping them to make continuous improvements through their own experience. In this reporting period, Tongwei provided 71 training sessions for suppliers on topics such as safety management, safety risk awareness development and reduction of internal safety risks.

Case | Meishan Solar provided safety training for suppliers

In January 2021, Meishan Solar provided a special training covering four themes, i.e., safety, pandemic control, safe behaviors and commissioning, for suppliers of equipment, transportation and installation for the phase II project.



Training site



04. GREEN OPERATION

With the green development philosophy in mind and living the Two Carbon goal actively, Tongwei accelerates the development of new energy business represented by PV, by building the entire PV industry chain and approaching environmental goals in carbon emission, wastewater, solid waste and air pollution, in order to become a national benchmarker in environmental protection.

- ENVIRONMENT MANAGEMENT SYSTEM OPTIMIZATION
- REACTION ON CLIMATE CHANGE
- ENERGY MANAGEMENT
- WATER MANAGEMENT
- WASTEWATER DISCHARGE
- WASTE DISPOSAL AND REUSE
- AIR POLLUTION GOVERNANCE
- GREEN PRODUCT INNOVATIONS
- ENVIRONMENTAL PROTECTION-ORIENTED PUBLIC ACTIVITIES

Stakeholders: governments, communities, supply chain



Environment Management System Optimization

Keeping the lush mountains and lucid waters are invaluable assets in mind, Tongwei attaches great importance to environmental protection by advancing the life cycle environment management, penetrating environmental protection into basic activities, and practicing the environmental protection in behaviors to drive the building of ecological civilization.

Organizational Structure for Environment Management

Tongwei applies three-level management consisting of head office, business division, facility and office with duties of each level clearly defined. The Energy Management Committee set in the head office is responsible for implementing the work principles, policies and objectives for energy saving and emission reduction. Each business division has an environmental protection management committee composed of representatives from ESG functions and energy management working groups to urge and guide the environmental protection work in each workshop and take immediate actions to correct the risks identified in environmental protection inspections. As the responsible persons for energy management, facility general managers advance energy-saving work in each production and non-production step according to overall energy management goals and given the daily operation and management activities.



Environment Management System

Tongwei fully complies with environmental protection laws, regulations and standards including the Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, Law of the People's Republic of China on Prevention and Control of Water Pollution, and the Standard for Pollution Control on Hazardous Waste Storage. Subsidiaries of Tongwei have got ISO 14001 and ISO 50001 certified. Based on the actual situation of operation, Tongwei has formulated various environmental protection management systems.

System type	Description
Unified system	the Environment Management Policy developed by Tongwei Energy Management Committee
Energy saving	Formulating the Management System of Energy Conservation and Emission Reduction, implement the basic national policy of resource conservation, strengthen management, strengthen the awareness of all staff, accelerate scientific and technological progress and technological transformation, improve the energy-saving assessment and evaluation mechanism of energy utilization, improve energy efficiency, achieve the energy-saving goals of the headquarters, and ensure the sustainable and efficient development of the headquarters
Waste, Wastewater and Waste Gas	Developing Environmental Protection Management Policy and Energy Saving and Emission Reduction Policy to prevent waste water, waste gas, solid waste and other environmental pollution
Environmental accidents	Developing the Environmental Protection Accident Management System to report and dealing with environmental accidents in a timely manner to avoid further expansion of accidents
Environmental protection training	Developing the Environmental Protection Training and Education System, carrying out environmental protection training for all units and departments, improving the environmental protection awareness of the company's employees to prevent and reduce all kinds of environmental protection accidents
Environmental performance	Developing the Environmental Protection Reward and Punishment Management System to link the performance of managers and employees with their environmental performance

Corporate Environmental Management System



Environment Management System Certificate of Chengdu Xintaifeng Agriculture Development Co., Ltd.

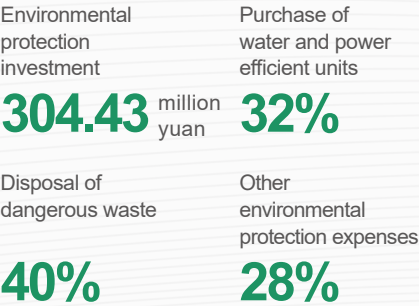


Energy Management System Certificate of Tongwei Solar (Chengdu) Co., Ltd.



Environmental Protection Investment

During this reporting period, the Company invested 304.43 million Chinese yuan into environmental protection. Specifically, 40% of the amount was used for disposal of dangerous waste, 32% for purchase of water and power efficient units, and 28% for other environmental protection expenses.



Reaction on Climate Change

Guided by green development philosophy, Tongwei is dedicated to becoming a world-class PV and clean energy company. Active partnerships are employed to build the entire PV industry chain consisting of production of high-purity silicon, production of efficient solar cells, and construction and operation of PV stations to advance the energy transformation and upgrading, reduce the dependence on fossil energy and relieve the impact of climate change.

Greenhouse Gas Emission Indicators and Goals

Carbon Neutrality Goal

Tongwei is the first private company that proposed the carbon neutrality goal in the industry. In February 2021, the Company announced to fully start the carbon neutrality plan to advance its low carbon development. In May 2021, the Company got admitted to SBTi, the first company that accessed to the initiative in Sichuan province, which has allowed it to get guidance and help from international low carbon organizations and environment and climate experts, helped it to define a more clear carbon neutrality plan and reach the goal.



Key Performance on Environmental Protection

Environmental protection expense	Unit	Agriculture and animal husbandry	PV industry	Total
Dangerous waste entrusted to third-party	CNY	369,475.43	121,722,946.80	122,092,422.23
Purchase of water and power efficient units	CNY	20,785,409.78	76,160,869.76	96,946,279.54
Wastewater treatment	CNY	121,397.40	56,405,694.14	56,527,091.54
Factory landscaping	CNY	-	16,872,895.09	16,872,895.09
Environmental impact assessment and testing	CNY	259,510.00	10,030,360.60	10,289,870.60
Warning signs	CNY	-	1,003,135.27	1,003,135.27
Environmental protection activities	CNY	-	336,546.04	336,546.04
Solid waste disposal	CNY	254,832.98	-	254,832.98
Noise reduction	CNY	17,800.00	20,000.00	37,800.00
Dust reduction	CNY	-	29,350.00	29,350.00
Tree planting	CNY	-	21,300.00	21,300.00
Four pests	CNY	17,800.00	-	17,800.00
Purchase of waste containers	CNY	-	4,600.00	4,600.00

Greenhouse Gas Audit

In accordance with ISO 14064, GHG protocol and China's measurement and reporting requirements for greenhouse gas emissions applicable to different sectors, Tongwei has made a greenhouse gas audit mechanism under which the greenhouse emissions of facilities are audited each year and relevant actions are taken to reach the emission reduction objective.

During this reporting period, Tongwei and its subsidiaries and branches emitted 6,554,463.64 tons carbon dioxide equivalent with the emission intensity per 1 million Chinese yuan revenue being 103.23 tons.

Product Carbon Footprint Certification

The Company puts into many efforts to estimate the life cycle footprints, based on which, tries to reduce carbon emission from suppliers, production process, and users, to meet the client's requirements for product carbon footprint, to promote green consumption and support the sustainable production and consumption.

Case Chengdu Solar Energy got carbon footprint certification for its solar cells

In December 2021, Chengdu Solar had its 166 solar cells certified for carbon footprint. For this, it invited Kapstan to check life cycle data and procedures about these products including all the data from December 2020 to November 2021 covering raw materials, production processes, wastes, and logistics.



Kapstan Audit Meeting

Actions to Reduce Greenhouse Emissions

Green Electricity Certificate Trading

The Company is actively engaged in green electricity certificate trading to fulfill its emission reduction obligation for green transformation. During this reporting period, Tongwei New Energy has traded 87,000 flat-price PV green electricity certificates, and concluded the largest single-order since the national trading platform for green electricity certificates was online. This trading can bring revenue of environmental assets to green electricity enterprises and play a positive role in the market-based development of green electricity certificates.



Green Electricity Purchase Certificate

Case Tongwei New Energy held product life cycle training

In August of 2021, Tongwei New Energy held a product life cycle training during which participants had deep discussions on the six steps of the life cycle as well as life cycle modeling calculations and analysis, which helped advance the carbon footprint system and support the development of carbon footprint professionals.



Life Cycle Training Site

Energy Management

To continuously improve its energy management, Tongwei has taken steps to replace traditional energy with new energy and energy-related technical renovations for lowering its energy consumption.

Energy Consumption Overview

The Company has replaced some traditional energy with new energy to minimize greenhouse gas emissions.

During this reporting period, the clean energy power consumption reached

6,775,256.31 MWh



Key Performance on Energy Consumption

Energy type	Unit	Total
Natural gas	m³	66,659,757.69
Diesel	Ton	16,950.38
Clean energy consumption	MWh	6,775,256.31
Methanol (as fuel)	Ton	325.82
Petroleum	Ton	248.02
Soft coal	Ton	118.83
Purchased electricity	MWh	8,972,834.98
Purchased steam	GJ	724,043.54
Sold steam	GJ	453,348.65



Energy Saving Management

By setting up the Energy Management Committee in 2021 for coordinating departments to plan and execute energy-saving work, Tongwei has increased its efforts into saving energy and reducing emissions. Based on local overall objectives for saving energy and reducing emissions and given the specific conditions, the Company has proposed middle and long-term plans, with annual plans stating the major actions for saving energy and reducing emissions. At the same time, the Company has arranged quarterly meetings on saving energy and reducing emissions to summarize the work progress against the annual plan, find possible problems and decide corrective actions.

Further, the Company has the effect of energy-saving and emission reduction linked directly to review of economic responsibility system. Each year, relevant departments are organized to review how the comprehensive indicators of energy saving and emission reduction are completed by projects. In this review, projects and individuals that fail to meet pre-defined targets due to excessive energy consumption or poor execution for policies are deprived of the eligibility of the assessment of outstanding projects and outstanding individuals; projects and individuals that made outstanding achievements in energy saving, reducing emission, lowering energy consumption, developing relevant technologies and broadening applications are rewarded.



Energy Saving Measures

The Company tries to make full use of renewable energy for minimizing the emission of carbon dioxide in production. For example, PV power units are placed in facilities for domestic purposes, energy-saving renovations and green transportation are employed to increase its energy efficiency.

Energy Saving Methods and Specific Measures

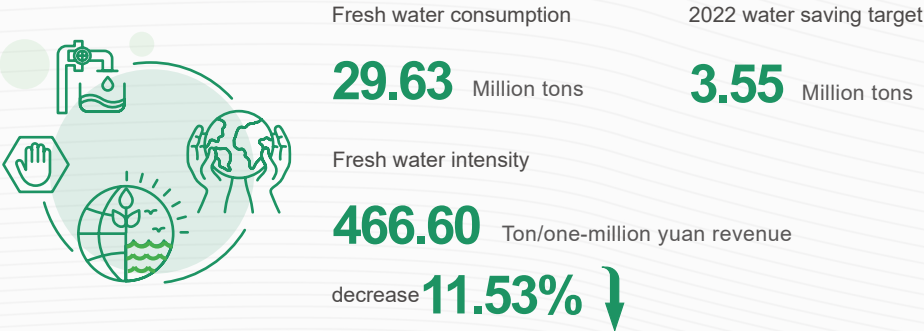
Energy saving method	Specific measures
Reduce the use of fossil energy	<ul style="list-style-type: none">• Hefei Solar has PV units placed on rooftops for using clean energy• Tongwei Components has PV stations installed on its rooftops with an installed capacity of 6.798 MW. In 2021, the PV power so generated reached 6,311,800 KWh, about 15.6% of the power consumption of relevant workshops over the year.
Renovations for saving energy	<ul style="list-style-type: none">• M2 air-conditioner heat recovery: transfer the ambient heat from lamination zone to curing zone• Energy-saving plate replacement and change for U5 power station: Cooling towers are used for air-conditioning and PCW cooling in autumns and winters, as a way to reduce the use of water by cooling units• Cooling water project for U5 air-compressors: The excessive water from the water system of power station is used as cooling water needed by air compressors, a way to reduce the electricity consumption by cooling water pumps of air compressors• Front-loading plates for process water: Circulation water instead of frozen water is used to cool air compressors, a way to reduce power consumption through use of ambient cooling capacity• In winters, cold water units are used to recycle heat from process water for heating workshops• Ambient cooling capacity is fully utilized, with dynamic adjustments of the temperature of cooling units, to increase the unit efficiency. As a result, the power consumption per unit product has been lowered by 2.26%
Green transportation	<ul style="list-style-type: none">• Electric forklifts are used for moving and transporting products to reduce the emission of carbon dioxide

Water Management

Frequent and extreme droughts and other disasters could exacerbate the severity of water shortage, which imposes higher threats to water supply, agriculture and husbandry in dry areas. Tongwei Agriculture and Animal Husbandry and PV businesses are closely linked to the use of water resource; as such, the reasonable and effective management of water use can lower the impact of water risks. Focusing on water stress assessment, water efficiency and water resources management raining, the Company boosts its water demand and water use management, trying to lower its water consumption.

Water Use Structure

During this reporting period, the Company's annual fresh water consumption was 29,625,100 tons and 250,257,700 tons of reclaimed water consumption was 250,257,690tons. Tongwei will develop more strict water resource management procedures and take a variety of water-saving to achieve the goal of 3,545,500 tons of water consumption in 2022.



Key Performance on Water Management

categories of water consumptions	Unit	Agriculture and animal husbandry	PV industry	Total
Fresh water consumption	Ton	884,054	28,741,076	29,625,130
Reclaimed water consumption	Ton	36,000	250,221,690	250,257,690
2021 total water saving	Ton	48,000	904,982	952,982
2022 water saving target	Ton	40,000	3,505,500	3,545,500

Water Stress Assessment

To accurately understand the water stress and its risk faced by all facilities, the Company has assessed the water use and water saving actions for precise control and regulation of water resources.



Case	Yongxiang New Energy water resource assessment report for the phase II of high- purity silicon project was approved
In January 2021, Yongxiang New Energy reviewed the water resource assessment report for the phase II of high-purity silicon project along with external experts. It analyzed and reviewed the current water balance for the phase I project, the target water balance and actions for the phase II project, as well as the current development and utilization of water from applicable water sources, the reliability of water abstraction, and water abstraction impact, and accepted the final report.	

Water Saving Measures

Through regular search on the official website and analysis of water use, the Company monitors its water quality in real-time manner and connects to the municipal facilities to ensure its water supply. By recovering rejected water for reuse, restricting projects that consume high level of water, and renovating processes, the Company minimizes its water consumption and wastewater discharge without compromising the product quality.

2021 Water Saving Measures

Subsidiary	Water saving method	Actions
Tongwei Components	Reasonable use of chemical agents	<ul style="list-style-type: none">Agents like bactericides and corrosion inhibitors are dosed into air-conditioning systems to reduce the water change frequency and therefore lower the water consumption
Chengdu Solar	Recycle and reuse	<ul style="list-style-type: none">Recycle and reuse rejected waterRecycle and reuse condense water from air-conditioning systems
	Restrict projects and/or equipment that consume a lot of water	<ul style="list-style-type: none">Test water balances, check and correct leaks in water supply pipelines, advance the renovation of old pipelines, increase efforts to prevent and lower water leak in all steps
Hefei Solar	Water saving-oriented rinse tank upgrading for wafer etching	<ul style="list-style-type: none">Software-based temperature control allows it possible to add cold water when the actual temperature is higher than the set temperature, and to add hot water if lowerSpillover occurs only when the basket is present to reduce water refilling timeCold water inlet is installed with an interceptor to lower the pure water flow

Water Saving Training

The Company provides training and learning activities pertaining to water resource management from time to time for employees to increase their awareness of water crisis and the sense of responsibility, and urgency for saving water, and enhancing the water resource management.

Case

Equipment and Power Department, Yongxiang Silicon Materials visited Yongxiang Resin to learn about the circulating water system

In February 2021, the Equipment and Power Department, Yongxiang Silicon Materials arranged some employees to learn the circulating water system in Yongxiang Resin. Employees from two companies discussed the circulation water volume, water quality, pressure, pressure difference and relevant parameters of the circulating system during its operation, and best practices for the system maintenance were shared as well.



Interactions about the Circulating Water System





Wastewater Discharge

In strict accordance with the Law of the People's Republic of China on Water Pollution, Tongwei has completed its wastewater management system, monitored wastewater discharge and applied actions to reduce wastewater discharge. It also keeps finding ways to control and manage wastewater discharge.

Wastewater Management System

Subsidiaries and branches of Tongwei assess their sources of industrial wastewater and domestic wastewater and the impacts to guide relevant departments on how to control industrial and domestic wastewater in accordance with the Wastewater Discharge Management Policy, Wastewater and Waste Gas Discharge Control Procedure and other wastewater management policies and enterprise standards.

Departments are required to check and service wastewater and rainwater pipelines and record water discharge. Wastewater failing to meet national discharge standards may not be discharged. When any environmental risk is identified, the responsible department must promptly notify the third-party operator of wastewater station, the EHS department and the production department, organized relevant parties to analyze the causes and take corrective actions, to make sure only wastewater that meets national standards can be discharged.

Monitoring Wastewater Discharge

The Company cooperates with qualified third-parties for environment testing which tests all necessary pollution indicators of the wastewater and upload the testing data to the platform of environmental regulator. This makes the Company exposed to the oversight of the government and society. The general wastewater outlet, online pH probes, and water pumps are cleaned on a regular basis to ensure the online monitoring devices work properly. Once an online monitoring device displays out of specification data about a specific pollutant, the respective facility is responsible for checking the wastewater treatment in the wastewater station and sampling water from the wastewater station outlet and the general outlet; the EHS department is responsible for contacting the third-party to check the online monitoring device, and prepare an abnormality check report, which is then submitted to the local bureau of ecology and environment.



During this reporting period, all subsidiaries and branches of Tongwei discharged 17,612,193.54 tons of wastewater, so that the wastewater discharge per one million Chinese yuan sales was 277.40 tons.

Discharge of Water Pollutants

Water pollutant	Unit	Total
Chloride	ton	1,220.76
CODcr	ton	586.50
Suspended solids (SS)	ton	305.17
BOD5	ton	223.24
Total nitrogen	ton	170.38
Fluoride	ton	77.29
Ammoniacal nitrogen	ton	8.55
Total cyanide	ton	7.84

Wastewater Treatment Measures

The Company keeps investing resources to update and optimize wastewater treatment equipment and technologies for minimizing the environmental impact of wastewater discharge.

For suspended solids, the processing plant under Tongwei Agriculture and Animal Husbandry has newly constructed a grille and air flotation system to pretreat suspended solids, grease and various jellies in the wastewater to separate solids from fluid, thereby ensuring the efficient operation of wastewater treatment. In addition, Tongwei tried to reduce wastewater discharge by lowing its water consumption. Fish slaughter plant uses the wastewater from holding ponds to rinse fish scalers for saving water; some products that need rinse with clean water are cleaned by high-pressure jet water that can reduce spraying area and increase cleaning capacity, thereby reducing wastewater discharge.

Also, Tongwei never stops its investments into development of wastewater treatment technologies and application into practice.

Case	Project on development of high salinity wastewater treatment completed
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High salinity wastewater contains a high content of inorganic salts which require complicated physical and chemical treatment processes and high costs, is extensively considered highly demanding in wastewater treatment. In April 2021, the project on development of high salinity wastewater treatment from Tongwei Yongxiang was completed with equipment installation and commissioning finished, and put into stable operation. The maximum treatment capacity is up to 10 m³/h. The NH3-N content of condense water after the high salinity wastewater and sodium hypochlorite wastewater is lower than 5 mg/l, and can be reused. The resulting salt can be used for producing sodium hydroxide.

The project is expected to recycle 80,000 tons of high salinity wastewater and 7,400 tons of industrial salt comprehensively, which means the effective wastewater reuse, increased water quality and extended the life cycle of ionic membrane unit for producing sodium hydroxide.



Waste Disposal and Reuse

Tongwei makes much account of environmental protection and upholds the principle that operation and development for circular economy. In this regard, it imposes stringent management on waste disposal and applies technological innovations to improve the restructuring and adjustment of resources, forming a material loop where useful resources from waste can be recycled and reused to the largest extent and both environmental benefit and economic benefit are maximized.

Types of Waste

Tongwei Agriculture and Animal Husbandry mainly generates feed waste without danger. General waste and dangerous waste are generated in PV processes, including waste active carbon, dangerous waste that contains waste activated carbon, waste acids and alkalies, and waste machine oil.

During this reporting period, Tongwei discharged 349,333 tons of waste, so that the solid waste discharged per one million Chinese yuan of sales revenue was 5.5 tons including 348,377 tons of harmless waste and 956 tons of dangerous waste , accounting for 0.27% of the total discharged waste.



Waste Generation

Type of waste	Unit	Total
Filter residue	Ton	76,807.00
Sludge	Ton	61,134.46
Waste residue	Ton	21,980.00
Waste wood	Ton	3,926.30
Waste paper	Ton	2,842.41
Waste steel	Ton	645.62
Waste supplies	Ton	532.03
Waste metals	Ton	125.44
Domestic waste	Ton	7.00
Other	Ton	181,332.74

Waste Management System

Responsible Departments

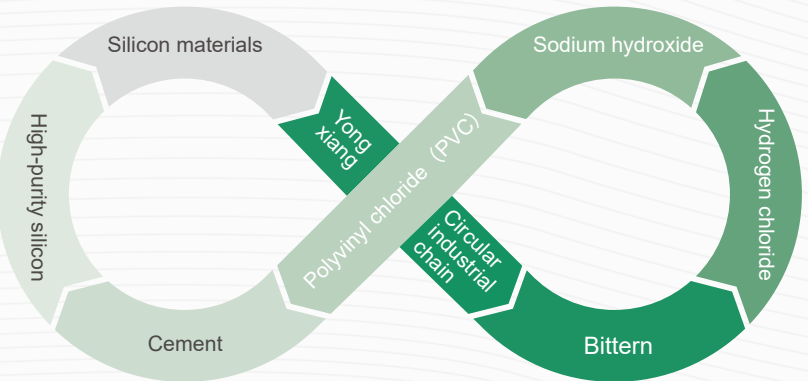
General managers of branches and subsidiaries are responsible for building environmental protection functions, guiding and supervising EHS work and taking the overall leadership in the prevention and control of the dangerous waste. ESH department is responsible for identification and classification of dangerous waste, development of dangerous waste management policies, and oversight of dangerous waste management in workshops and departments, and performance of investigations and remediations for dangerous waste events.



System

Tongwei complies with the Law of the People's Republic of China on the Prevention and Control of Solid Waste Pollution and other national and local environmental protection laws and regulations, has developed applicable policies including Three - Waste Management Policy and Solid Waste Management Policy.

The solid waste generated in production activities are classified in accordance with Directory of National Hazardous Wastes to avoid any leak during the transportation, and then transferred by appointed persons to dangerous waste warehouse managed by the EHS department. Temporary storage of solid waste should be complied with the requirements set forth in Standard for Pollution Control on the Storage and Disposal Site for General Industrial Solid Waste (GB 18599) and Standard for Pollution Control on Hazardous Waste Storage (GB 18597) and must be sealed against penetration, leak, volatility of chemical odors, and be equipped with wastewater and waste gas recycling facilities.



Yongxiang Circular Industrial Chain

During this reporting period, subsidiaries of Tongwei



Total comprehensive utilization of general wastes

313,361 Tons

Safe disposal of industrial solid waste and hazardous waste

100%

Waste Recycle

Controlling from the source is what the Company has been holding for waste management to change waste into raw materials and lower the consumption of raw materials and the subsequent processing pressure. To reasonably utilize resources, lower energy consumption and reduce carbon emission, Tongwei Yongxiang took the lead in creating the “circular industrial chain” where the production of sodium hydroxide products, polyvinyl chloride products, calcium carbide slag made cement products is combined into the polycrystalline silicon manufacturing, with two circular industrial chains consisting of chemistry and new energy established - from “bittern, sodium hydroxide and polyvinyl chloride” to “calcium carbide slag made cement” and from “hydrogen chloride and trichlorosilane” to “polycrystalline silicon-based new energy”. This enables the combination of material circulation and clean products.

The establishment of such circular industrial chain maximizes the conversion from waste to resource, and the comprehensive utilization of resources, and lower energy consumption and cost of production for sustainable economic development.



Air Pollution Governance

In the context of increasingly severe air pollution, Tongwei tries to reduce the emission of air pollutants from the source in accordance with national emission standards and air pollution management policies, through everyday emission monitoring and the use of environment-friendly technologies.

Management of Air Pollutants

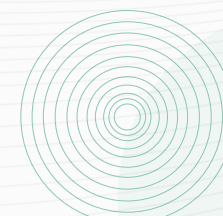
In strict accordance with national and local environmental protection standards including Emission Standards for Odor Pollutants (GB 14554 - 1993) and Emission Standard of Volatile Organic Compounds - Part 7: Other Industries (DB37/2801.7-2019), the Company takes every effort including strict execution of policies, online platform monitoring and efficient waste gas treatment technologies to lower the environmental impact of air pollutants. Subsidiaries treat their waste gas depending on generation location, pollution factor, volume and concentration, and inspects waste gas treatment facilities, add treatment agents and perform maintenance at regular intervals to ensure the system works properly and pollutants meet emission standards.

Air Emissions Monitoring

To ensure the online monitoring system works properly, the Company has engaged a qualified third-party to perform quarterly tests on pollutants contained in the waste gas as required by the competent environmental protection authorities and the actual needs of the Company to ensure emission standards are met. During this reporting period, the major air pollutants emitted by Tongwei included nitrogen oxides, sulfur dioxide and ammonia. The total emission of nitrogen oxides was 264.55 tons.

Actions for Prevention and Treatment of Air Pollutants

The Company tries to lower the emission of air pollutants from the source by eliminating outdated and inefficient processes and technologies that consume a lot of energy and produce a lot of pollution; and remove harmful and toxic substances and lower pollutant concentrations by using advanced treatment technologies for better prevention and management.

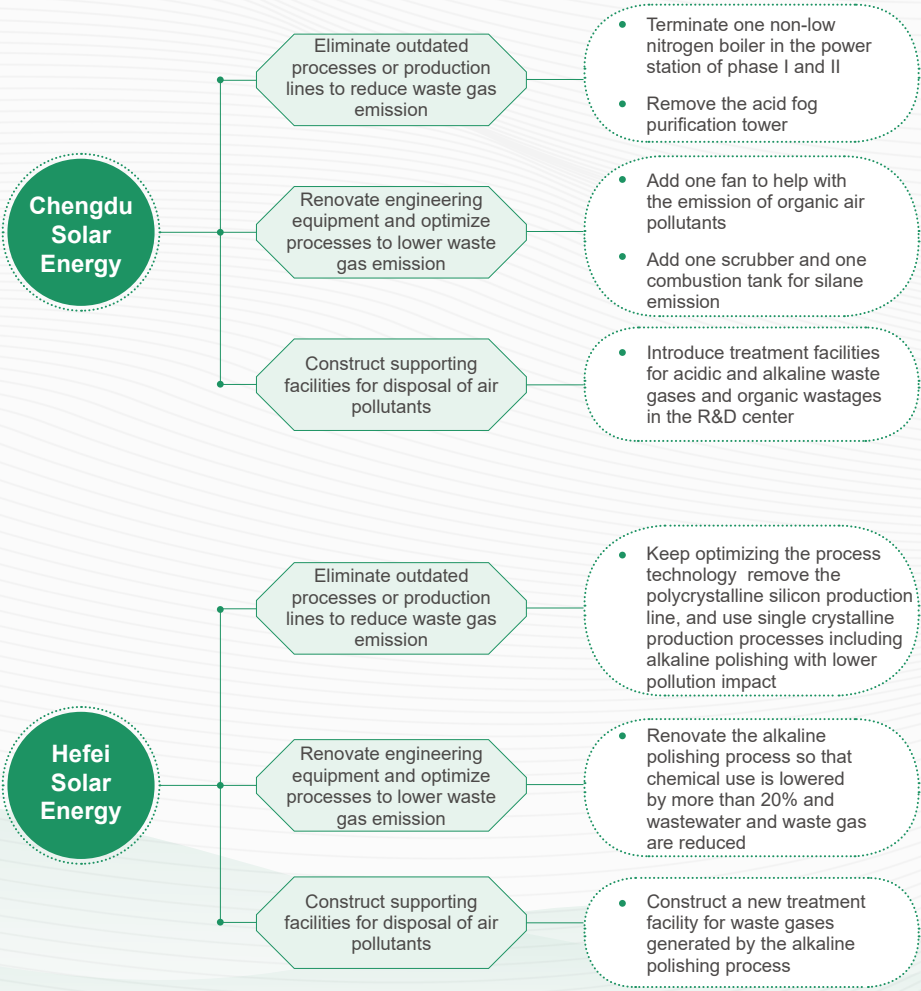


Emission of Air Pollutants

Air pollutant	Unit	Total
Nitrogen oxides	ton	264.55
Sulfur dioxide	ton	32.56
Tin and its compounds	ton	24.09
Ammonia	ton	16.45
Fluoride	ton	16.40
VOCs	ton	6.64
Hydrogen chloride	ton	6.61
Chlorine	ton	5.93
General dust	ton	5.03
Particles	ton	1.69
Smoke	ton	1.04
Sulfuric acid fog	ton	0.47



Actions for Prevention and Treatment of Air Pollutants



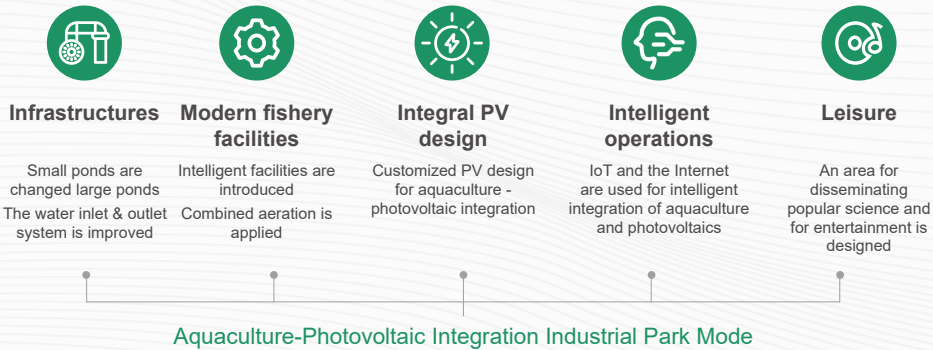
Green Industrial Parks

With integration of internal resources and coordination of internal efforts over the past years, Tongwei has established modernized industrial parks that cover intelligent farming, PV generation, tourism (fishing culture experience) and relevant aquaculture research, to deliver an industrial loop consisting of modern aquaculture, clean energy and research and leisure, which advances the economic sustainability and drives the rural revitalization. Making the most of its strength and advantage in intensive land use, recycling raw materials, clean production, waste reuse, and low carbon emission, the Company actively creates the green manufacturing system through building green factories with green operations.

Aquaculture-Photovoltaic Integration Industrial Park

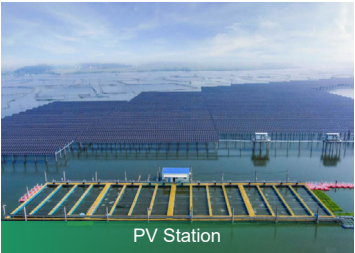
As the only leading company whose main businesses cover both agriculture and animal husbandry and clean energy in China and even the world, Tongwei has secured a unique advantage in resource integration at terminals, having delivered the Aquaculture-Photovoltaic Integration projects, based on which, it provides technological supports for advancing aquaculture transformation, develop clean energy, intelligent fish farming and safe aquaculture products.

The Aquaculture-Photovoltaic Integration mode has been accepted by authoritative agencies including Bureau of Fisheries, Department of Science, Technology and Education, and National Fisheries Technology Extension Center, which thinks that the research achievements made by Tongwei are advanced in the world, and therefore listed in Sichuan Science and Technology Achievements.



Clean Energy Solutions

The Aquaculture-Photovoltaic Integration projects developed by Tongwei across China in 2021 were successfully connected to the grid, which played an important role in improving local energy structure, advancing the low-carbon development and helping with the realization of carbon peak and carbon neutrality.



During this reporting period

Aquaculture-Photovoltaic Integration PV stations

48 Sets



Aquaculture-Photovoltaic Integration grid connection

2.7 GW



Electricity settlement

3,090 GWh



Case

Tongwei Zhaoyuan Aquaculture-Photovoltaic Integration PV station connected to the grid

In December 2021, the 100 MW Aquaculture-Photovoltaic Integration project located in Zhaoyuan County, Daqing City, Heilongjiang Province was connected to the grid for power generation. This project is expected to produce 145 million kWh per year, and the estimated power generation for 25 years is 3.5 billion kWh, which will reduce the consumption of standard coal by about 1.2 million tons and the emission of carbon dioxide by 3.62 million tons.



Zhaoyuan Aquaculture-Photovoltaic Integration PV station

Intelligent Fish Farming Solutions

For the Aquaculture-Photovoltaic Integration parks, the Company has developed an intelligent fish farming management system by using wireless transmission technology, sensor technology and software development technology together with IoT devices. This is a central system that links the central control platform in the head office to local control systems in industrial parks. Via basic farming equipment, collected data are sent to a park's IoT control terminal, and then to the local system in the park. Processed data are used to control local devices in the park. Via the Internet, data are sent to the intelligent fish farming management system which performs big data storage, analysis and application for intensive and intelligent management.

Intelligent Aquaculture Solution

Water quality monitoring

Online and real-time water quality monitoring is used to help accurately understand the water quality changes, which has eliminated the old experience-based practice

Video monitoring

The latest P2P cloud technology is used so that remote patrol via mobile devices can be realized with less persons required on site

Equipment control

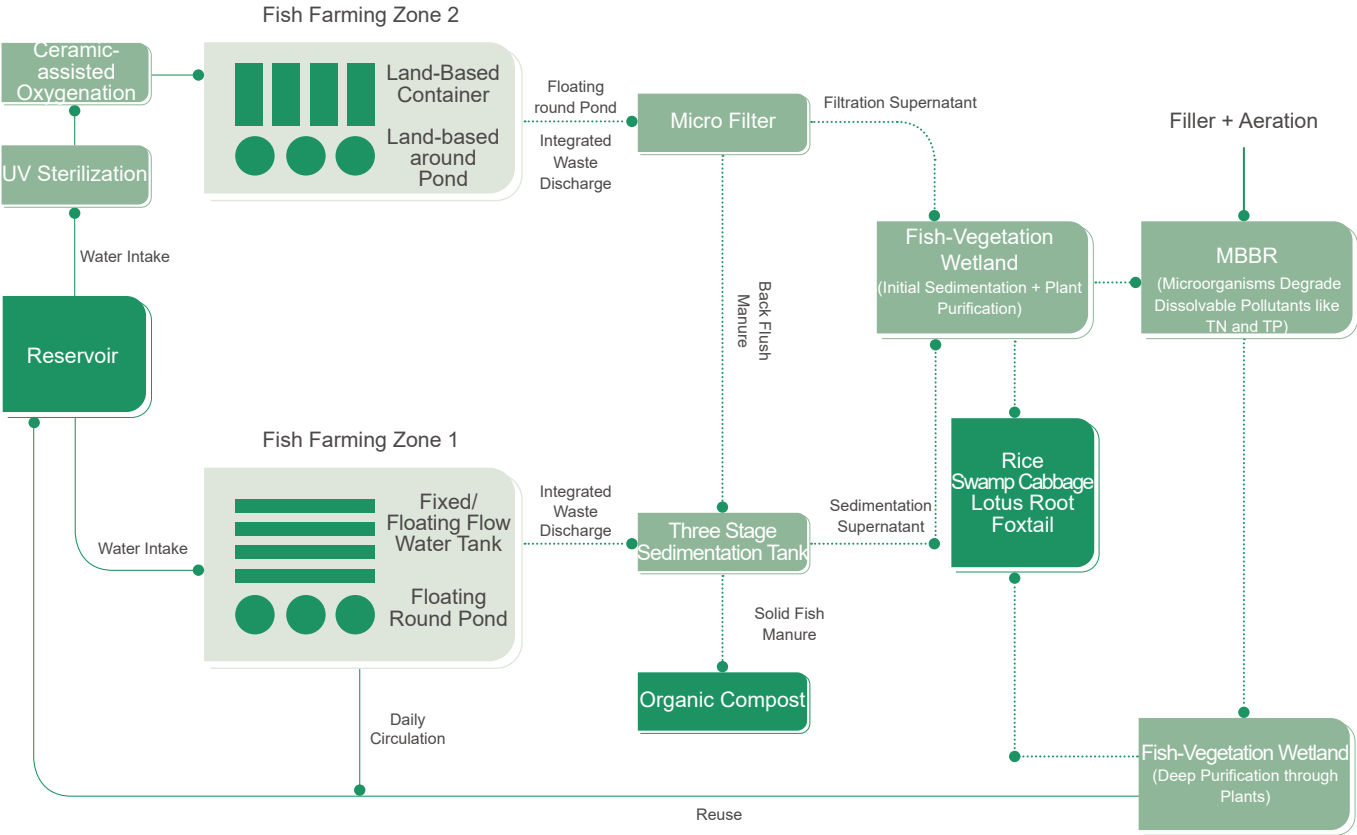
Remote control via mobile devices, aerators and bait throwers are automatically and intelligently started, which can lower manual workload and decrease the cost of labor

Precise feeding technology, balanced aeration technology, bottom waste discharge technology, electrochemical water treatment technology and intelligent fish farming technology from Tongwei are combined to greatly booster the intelligence level of the aquaculture.



Ecological Solutions

The main pollutants contained in aquaculture wastewater are COD, TN and TP. To meet the grade two standards set forth in Requirement for Water Discharge from Freshwater Aquaculture Pond (SC/T 9101-2007), the Aquaculture-Photovoltaic Integration Industrial Park is equipped with a drainage treatment system consisting of a microfiltration system, three stage sedimentation tank, biological filtration tank, artificial wetland and eco-trench, for treading the wastewater of fish farming. In this system, aquatic plants and microorganisms are used to absorb nutrients in the wastewater so that an ecosystem is formed where fishes, vegetables and aquatic microorganisms coexist in harmony - fish farming needs no water replacement and vegetables need no artificial fertilizers.



Fish Farming Wastewater Treatment

Green Factory

Living the environmental protection based sustainable development, the Company tries to build a green manufacturing system consisting of green factories and green operations. During this reporting period, three facilities under Tongwei got national and provincial Green Factory certified.

Facility name	Honor	Issuing authority
Yongxiang New Materials	2021 State-level Demonstration Organization in Green Manufacturing	Ministry of Industry and Information Technology
Inner Mongolia Tongwei	2021 State-level Demonstration Organization in Green Manufacturing	Ministry of Industry and Information Technology
Hefei Solar	2021 Anhui Green Factory	Anhui Provincial Department of Economic and Information Technology

Factories with National and Provincial Green Factory Certifications



Case

Yongxiang New Materials awarded with national Green Factory

For the purpose of treating industrial solid wastes and reducing carbon emission, Yongxiang New Materials has taken a variety of technological renovations for lowering energy consumption, and been awarded with the 2021 State-level Demonstration Organization in Green Manufacturing by the Ministry of Industry and Information Technology. During this reporting period, Yongxiang New Materials treated 300,000 tons of industrial solid wastes, reduced carbon emission by 120,000 tons and pollutant discharge by 297 tons, indicating that it reached the clean production targets.



Industrial solid wastes treatment

300 Thousand tons



Reduction of carbon emission

120 Thousand tons



Reduction of pollutant discharge

297 Tons



Environmental Protection-oriented Public Activities

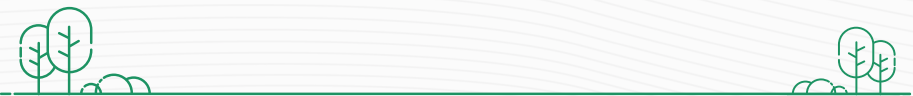
Tongwei enhances employees' environmental protection awareness and mobilize them to communicate the All-people Environmental Protection and Green Lifestyle to the public, for driving the social sustainability.

Environmental Protection Training

During this reporting period, the Company provided 327 environmental protection training sessions for a total duration of 687 hours. These sessions included the identification of environmental factors and hazard sources, as well as the use of environmental protection equipment and laws and regulations to elevate employees' environmental awareness and to relieve all kinds of environmental events.

Key Performance on Environmental Protection Training

Topic	Unit	Agriculture and animal husbandry	PV industry	Total
Number of training sessions	/	10	317	327
Number of participants	/	260	15,926	16,186
Training duration	Hour	23	664	687



During this reporting period, the Company provided



Environmental Protection Activities for the Public Interest

The company adheres to the concept of safe and green production management, and actively responds to the initiative of "low carbon life, energy conservation and emission reduction". In March every year, the company carries out environmental protection month theme activities, such as interesting environmental protection knowledge, short video publicity on "I speak for environmental protection", afforestation, and garbage classification publicity, to deepen employees' awareness of low carbon environmental

Case	Carrying out themed Arbor Day activities to enhance employees' awareness of low carbon
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In March 2021, Tongwei Solar Energy carried out the themed Arbor Day activity of "Planting a Tree and making a Green Land" in Hefei, Shuangliu and Meishan. In total, more than 130 people participated in it, and finally planted more than 30 trees. The leaders of the base joined hands with all functional departments and staff representatives to complete a series of seedling selection, soil cultivation, watering, naming and listing, and awarded the park "Zhuo Carbon Garden" to convey the environmental protection concept of loving the environment and protecting nature to the employees, and show the company's determination to achieve the goal of "carbon neutral" as soon as possible.

Managers participated in Arbor Day activities

Arboretum was awarded "Zhuotan Park"

05.

TALENT DEVELOPMENT

Tongwei attaches importance to the development of professionals, technicians and management personnel, to give employees hope and future so that a sense of belongingness and loyalty is formed. In addition, the Company strives to create a healthy and safe working environment with diverse communication channels with employees where their proper rights are ensured.

- EMPLOYEE OVERVIEW
- OCCUPATIONAL HEALTH
- SAFETY CONTROL
- EMPLOYEE DEVELOPMENT
- HARBOR FOR EMPLOYEES

Stakeholders: employees



Employee Overview

During this reporting period, Tongwei had 32,224 employees worldwide. Male employees took up 73.20% and female 26.80%.

During this reporting period



Total employees

32,224

Employee Distribution

Topic			Tongwei Agriculture and Animal Husbandry	Tongwei Yongxiang	Tongwei Components	Tongwei Solar	Tongwei New Energy	Total
Total employees		Person	11,574	7,037	1,621	11,293	699	32,224
Employees by employment type	Full time	Person	11,563	7,003	1,575	11,170	692	32,003
	Interns	Person	11	34	46	123	7	221
Employees by gender	Male	Person	8,702	5,415	1,170	7,737	565	23,589
	Female	Person	2,872	1,622	451	3,556	134	8,635
Employees by age	30 years or less	Person	3,289	2,512	989	6,389	240	13,419
	30 - 50 years	Person	2,632	4,129	629	4,890	425	12,705
	Over 50 years	Person	5,653	396	3	14	34	6,100
Employees by level	Senior managers	Person	63	52	0	15	13	143
	Medium managers	Person	305	154	13	93	42	607
	Average employees	Person	11,206	6,831	1,608	11,185	644	31,474
Employees by region	Chinese mainland	Person	10,361	7,037	1,621	11,293	699	31,011
	Others	Person	1,213	0	0	0	0	1,213

Occupational Health

With high importance to occupational health, the Company carefully implements Law of the People's Republic of China on Prevention and Control of Occupational Diseases, aims for “zero human injury”, zero fire explosion poisoning incident” and “100% removal of factors leading to occupational diseases”, with every effort to ensure occupational health of employees.



Occupational Health and Safety Management

To meet the requirements of the Company's management system, all managers and employees are required to strictly comply with the applicable management policies including Handbook of Environment and Occupational Health and Safety Management System, Occupational Disease Incident Handling and Reporting Policy and to behave in accordance with the requirements. All branches and subsidiaries have an office of occupational health work leading group responsible for regular monitoring of all kinds of occupational hazards, reporting occupational hazards, creating and maintaining occupational health register and providing occupational health education.

They have passed the Occupational Health and Safety Assessment Series 18000 (OHSAS18000) certification, has established its environment and occupational health and safety management system in accordance with ISO 45001:2018/GB/T 24001-2016, and receive supervision audits from third-parties on a regular basis. In January 2021, Yongxiang received the supervision audit on environment and occupational health and safety management system by external experts who checked the sites, interviewed with employees, and read documents. With high assistance from all departments, the supervision audit was successfully completed.





Certificate of Occupational Health and Safety Management System

Workplace Health

The Company invites qualified third-parties at regular intervals to detect occupational hazards in appropriate workplaces with detection reports delivered. Also, given the detected

occupational hazards, the Company takes diverse measures to prevent, control and eliminate occupational diseases and lower the risk of occupational diseases.

Workplace Protection Measures

Protection measures	Description
Warning signs on occupational hazards in workplace	<ul style="list-style-type: none">Safety colors, figures and symbols are used to represent prohibitions, warnings, instructions, reminders and other signs that indicate occupational hazards  <p>Sins on Occupational Hazards</p>
Full ventilation facility	<ul style="list-style-type: none">Purification air-conditioning system is used for the whole workshop to ensure full ventilation  <p>Air Exhaust of 25 m Tall</p>

Workplace Protection Measures

Protection measures	Description
Local dust and toxicity removal facility	<ul style="list-style-type: none">Low temperature plasma + active carbon particles are used to process smoke and dustCentralized dust removal facility with mobile smoke collection ducts
Noise prevention facility	<ul style="list-style-type: none">Lower noise from the source by using low noise equipmentVibration absorbing base and spring brackets are used for equipment with high noiseNoise insulation materials are used for windows and doors of air-conditioning rooms
High temperature protection facility	<ul style="list-style-type: none">Central air-conditioning system is used to regulate the air temperature which is kept at 25±5 °C in the plantsEnclosed assemblies with thermal insulations are used for equipment with heat source



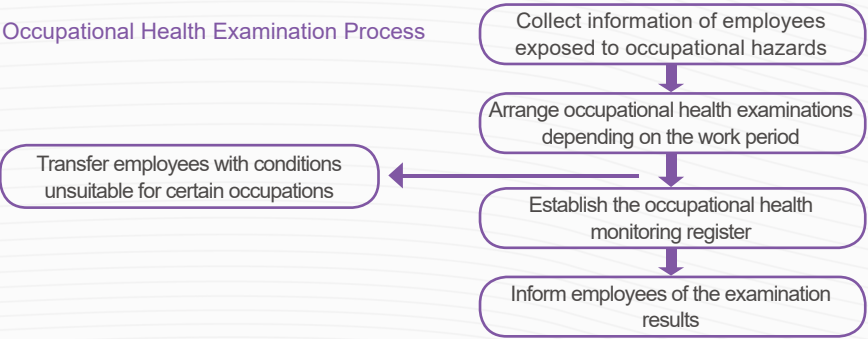
Occupational Health Examinations Training

Occupational Health Examinations

New hires must take health checks before officially taking their jobs, a way to prevent people with conditions that are not suitable to certain occupations from taking such occupations. The Company has gradually created a basic health register for people exposed to occupational hazards. Depending on the nature of each occupational hazard, the concentration or intensity of harmful substance in the workplace, incubation periods of target diseases and precautionary measures, branches and subsidiaries determine the cycles of occupational health examinations for employees that require health monitoring.

In addition, these branches and subsidiaries have established occupational health monitoring register system under which the Work Safety Department is responsible for creating the employee occupational health monitoring register and company occupational health monitoring management register in order to fulfill their obligation of occupational health monitoring for people exposed to occupational hazards. During this reporting period, Tongwei ODR was 0%⁸.

Occupational Health Examination Process



⁸ ODR (Occupational Disease Rate) means the occurrences of occupational diseases per 200,000 work hours in the formula of total occurrences of occupational diseases x 200,000/ total work hours



During this reporting period

Occupational Health Examinations coverage rate

100%



Health Training

During this reporting period, the Company provided occupational health training lasting 10,345 hours which covered the company's occupational health management and occupational hazards in order to enhance their occupational health awareness and protect their rights and interests in this regard.



Employee Occupational Health Training

Key Performance on Employee Occupational Health Training

Topic	Unit	Agriculture and animal husbandry	PV industry	Total
Number of health training sessions	/	14	389	403
Number of health training participants	/	665	14,030	14,695
Duration of health training	Hour	108	10,237	10,345

Safe Workplace

Work safety is an eternal theme in Tongwei which aims to ensure zero safety incident and provide a safe working environment for employees. Subsidiaries actively develop applicable safety management policies and procedures to prevent safety risks for employee health and safety and the order of work and operation. Additionally, the Company keeps providing safety training and education for employees in a flexible manner so that the safety idea is embedded into everyone's mind and becomes a habit, thereby minimizing the safety risks.

Safety Performance Review

Putting higher requirements for leadership with accountability applied, Tongwei has developed relevant review policies including the Work Safety Performance Review Policy, and Safety and Environment Punishment and Reward Policy, to work safety performance include into the performance reviews of managers and average employees.

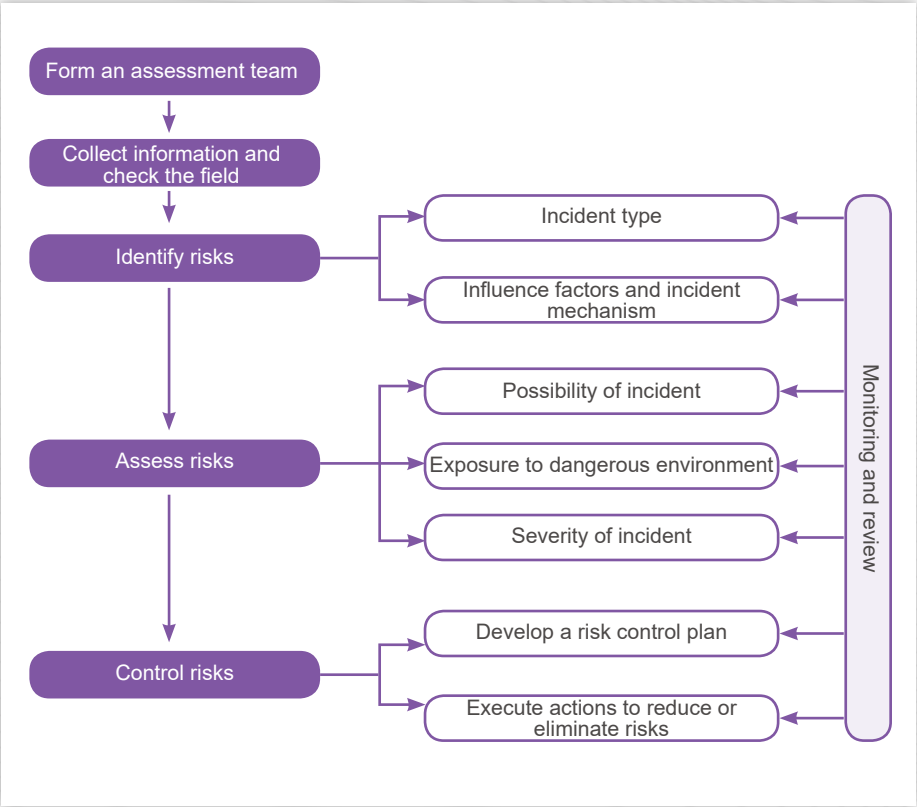
Production Department and Administration Department are responsible for leading the company-wide safety and environment work. The Production Department has professional safety engineers (certified safety engineers) and environmental protection engineers to support business functioning and lead the development, training and supervision of safety and environmental protection standards. Subsidiaries and branches have part-time ESH managers who are responsible for performing everyday safety tasks.

Safety Committee Office and all departments suspend the work of employees who are found operating or commanding in violation of rules or breaching work discipline and arrange them to receive work safety training depending on the severity of the violation and the caused hazard. They are subject cannot return to work before passing the assessment required by the Safety Committee Office.

Safety Risk Assessment


To create a safe workplace for employees, Tongwei has set up a safety risk assessment process for identification of the potential hazard factors in workplace and relief of the risks.

Safety Risk Assessment Process



CaseMonthly safety check to identify potential work safety risks

In November 2021, Tongwei New Energy organized a monthly safety check. The check covered but not limited to interlayer spaces in workshops, air-conditioning rooms on rooftops, workshops and supporting warehouses and buildings, installation and commissioning of equipment and facilities, interlayer governance, storage of special gases and chemicals, fire safety, and construction work safety to eliminate risks before incidents occur.



Safety Check


Key Performance on Work Safety Training

Topic	Unit	Agriculture and animal husbandry	PV industry	Total
Number of work safety training sessions	/	43	2,620	2,663
Number of training participants	/	110,817	71,638	182,455
Duration of work safety training	Hour	95.5	84,451	84,546.5

Safety Training and Drill

To help new employees work safely and eliminate safety risks in workshops, the Company provides a diversity of safety training sessions. During this reporting period, Tongwei held 2,663 training sessions that covered 182,455 persons. These sessions included new employee training, construction safety, job-transfer training, requirements for basic-level managers, emergency response training, occupational health training and Law of Work Safety.

Additionally, branches and subsidiaries prepare annual emergency drill plans, conduct emergency drills including fire safety, mechanical injury, heat stroke, and typhoon protection, and arranged emergency drill contests to comprehensively enhance all employees' capability of emergency rescues and of dealing with processes when quality incidents are initially identified. During this reporting period, Tongwei did not experience any major work safety incident without work death or lost workday.



Emergency Drill Contest

Employee Development

People is the most important resource in the development of Tongwei. Around its development strategy, Tongwei has created a complete talent development system to provide a broad platform where employees can adapt and develop quickly.

The Company puts emphasis on recruitment by holding pilot programs with universities for joint development of students. During this reporting period, Tongwei recruited 9,913 employees; of whom, 952 were new graduates, taking up 9.60% of the total new employees.

Promotion and Development

The capable are promoted and incapable are degraded as well as “justice, open and fairness” are what Tongwei keeps in mind for the selection and promotion of human resources.

Agriculture and Animal Husbandry

Tongwei Agriculture and Animal Husbandry organizes promotion events at regular intervals and has developed the “3+3 mode” for talent development to ensure a sufficient talent reserve. Delegation mode and job rotation are utilized to develop reserves for functions and core operation roles, which motivate employees to learn knowledge, develop skills and improve performance and extend and broaden their career paths.

PV Industry

With Promotion Management Procedures and other policies for human resource development in place, PV subsidiaries provide regular promotion reviews given the nature of roles. This review takes several forms including employee presentation and comprehensive rating, with personal capabilities and annual work performance considered and assessed, to ensure the transparency and justice of the process.

Learning and Development Platform

New Hire Training

Subsidiaries and branches in these two businesses have established training systems suitable to their operations to help new employees get accustomed and work independently as soon as possible and to ensure work safety and new project reaching its full capacity.

Case	Tongwei Agriculture and Animal Husbandry provided dual-mentor system
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Tongwei Agriculture and Animal Husbandry has developed the Apprenticeship Management Policy (Trial) to apply a dual-mentor system to new graduates. Subject matter experts and main leaders as job mentors provide full assistance to graduates during their internship. HR managers as career planning mentors help graduates establish correct views on careers, reflect and form confidence, and plan personal career goals each year.

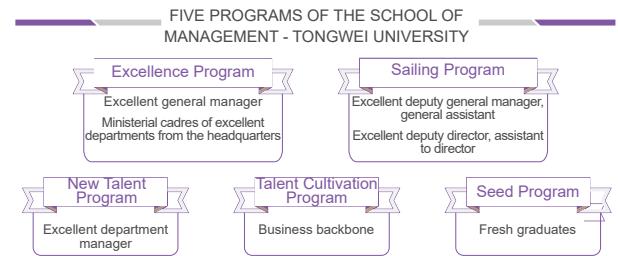
Tongwei Learning Center

Tongwei has a Learning Center which provides diverse cultivation programs that have played a role in developing professionals needed by the Company. This Center serves as a talent development platform that has become a human resource engine by guiding the combination between human resources and value creation, and plays the role of growth experience center for clients and of the catalyst for client thinking reforms by delivering industrial insights.

The Learning Center has a management school and a marketing school which provide special camp for value dealership, special camp for excellent fish farmers and special camp for business skills.

Management School

Focusing on Five Programs which start from leadership and are designed for precisely developing human resources for core management roles and talent reserve in multiple areas, dimensions and levels.



Marketing school

Focusing on core marketing roles, regional managers and first-line teams, Marketing School extracts excellent marketing cases which are used to empower marketing teams, in order to build a team that can win in the marketing battlefield.

Case

Tongwei Agriculture and Animal Husbandry managers passed presentations in Qihang program and Xinrui program

In 2021, Tongwei Agriculture and Animal Husbandry provided Qihang program and Xinrui program which in the forms of course learning and completion presentation, covered all key points and converted the value of multi-stage learning content to the closed loop development of human resources for management roles. In this period, Tongwei Learning Center invited teachers to provide instructions on the key points of aquaculture marketing meeting and excellent marketing cases in 2021, quality management and risk management. As a result, 72 students successfully completed the programs.

During this reporting period, Tongwei Agriculture and Animal Husbandry organized sailing program, new talent program, talent cultivation program and seed program. 26 training sessions that covered 204 persons were offered. The mean training time per person for medium managers and senior managers were 280 hours and 90 hours respectively.

Number of training sessions

26



Number of participants

204



Trainee Presentation

Key Performance on Employee Training

Topic	Unit	Agriculture and animal husbandry	PV industry	Total
Number of managers	/	267	2,566	2,833
Training duration for managers	Hour	296	7,267	7,563
Number of training sessions for managers	/	28	74	102
Number of professionals	/	541	1,379,853	1,380,394
Duration of training sessions for professionals	Hour	321	151,509	151,830
Number of training sessions for professionals	/	30	125,379	125,409
Number of other participants	/	444	9,413	9,857
Duration of other training sessions	Hour	884	13,111	13,995
Number of other training sessions	/	93	344	437



Harbor for Employees

Tongwei is also committed to create a workplace with equality and love.

Human Rights

Tongwei complies with applicable laws and regulations including Labor Law of the People's Republic of China, Labor Contract Law of the People's Republic of China and Employment Promotion Law of the People's Republic of China in employment management, creation and improvement of labor guarantee systems, and protection of legitimate rights and interests of employees.

Recruitment and Allocation Management Procedures and Management Policy on Protection of Women and Minors are developed which state that recruitment of people less than 16 years is prohibited and applicable laws and regulations must be observed during recruitment. In addition, no discrimination based on ethnic group, race, gender, religion/belief is accepted in recruitment, employment, training, promotion and/or remuneration and benefits.

Any form of forced labor by the means of including but not limited to coercion, fraud, threat or kidnapping is prohibited. Employees are free to work or leave. No retaliation against any employee who has left the Company is accepted. Illegal withholding of ID card, passport or any other ID documents is prohibited

The Company holds zero tolerance of threat of violence, intimidation, act endangering life or personal safety of others, or the order of work in and out of the workplace or in any environment relating to work, and terminate the employment relationship with persons with aforesaid acts in accordance with Employee Reward and Punishment Rules.

Working time exploitation for any form is prohibited. The Company adopts eight-hour working system. Employees with shifts take turns to rest. Department heads restrict overtime. Employees must submit overtime applications in the HR system when needed, and such applications do not become effective unless approved by the department heads.

With OHSAS18000 and ISO 45001 certifications in place, branches and subsidiaries identify and relieve health and safety hazards in workplaces on a regular basis, and provide PPEs for employees to minimize any occupational health and safety risk.

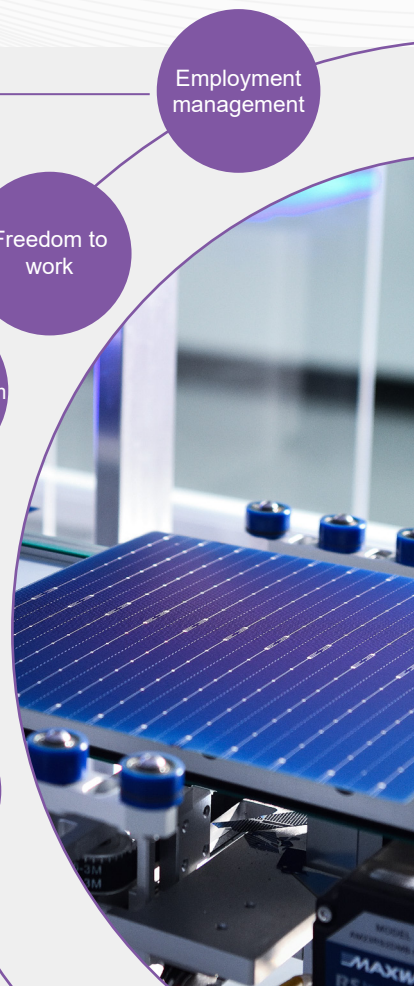
Employment management

Freedom to work

Humanitarianism

Work hours

Safety and health



Female Rights and Interests

To create a good working atmosphere and protect the development opportunities, interests and rights of women in workplace, Tongwei strictly fulfills its obligations set forth in Policy on Protection of Women and Minors, advances salaries to female employees during their pregnancy leave, maternal leave and breast breeding leave, prohibits arranging women during these three periods to do any work of grade three strength level, and may not terminate or unilaterally cancel employment contracts with these women.

Also, the Company provides convenience for women in breast breeding period. In office configuration, the Company provides refrigerators and microwave ovens where female employees can store breast milk; in space functions, the office building has a breast-breeding room; in everyday work, departments try to balance workload by reducing the business travels and overtime of breast-breeding women, so that they can have enough time for caring babies and families.



Breast-breeding Room

In addition, in accordance with Tongwei Benefits Management Procedures, the Company guarantees female employees' entitlements to reasonable leaves and provides gifts for these leaves. In particular, on the International Women's Day, the Party Committee and Labor Union deliberately organizes themed activities including flower arrangement, outreaches and movies, and senior managers grant gifts to on-the-job women.

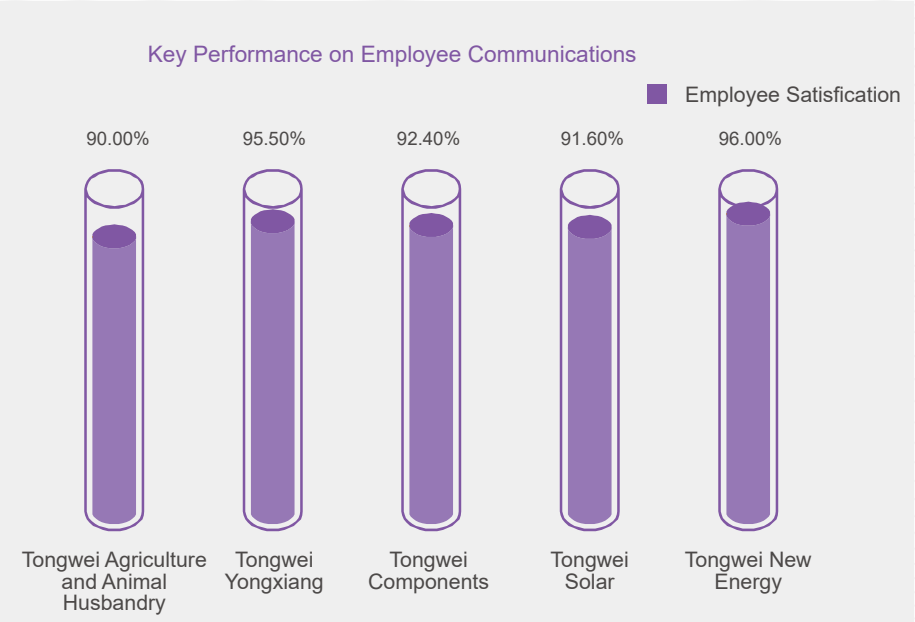


Care on International Women's Day

Case	Chengdu Solar become the demonstration site for Chengdu Women's Home
<p>In December 2021, Chengdu Solar formally received the title of the demonstration site for Chengdu Women's Home. Since its inception, the Chengdu Solar Women's Federation keeps improving necessary spaces and facilities including breast breeding room and dancing room and organizes handiwork, flower arrangement and other activities periodically, have released appropriate policies with other departments including Special Collective Contract for Women and Children, and Management Rules on Prevention of Discrimination, Harassment and Abuse to really care women and protect their rights.</p>	
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Employee Communication Channels

The Company encourages employees to take part in its management and listens to their comments and feedback. Employees can express their views and needs through the Labor Union, the feedback hotline and online employee satisfaction surveys. The Labor Union has a dedicated email address to receive, analyze and publish proposals from employees, and give awards to employees who have given actionable proposals. At the same time, the Company listens to opinions and proposals from average employees, and guides their expressing needs in a rational manner, with the help of corporate culture salons, and timely deal with labor disputes to protect employees' right to information, express, participate, negotiate and supervise matters relating to their interest, such as wage, benefits, work safety, and social insurance. During this reporting period, for each division, the employee satisfaction rate was higher than 90% and the employee complaint rate was 0%.



Salaries and Benefits

The Company pays commercial accident coverage for employees and housing provident fund in addition to social insurance in accordance with laws, provides customized benefits including holiday red packet, care red packet, employee canteen, relative visit, customized work uniforms, Tongwei souvenir prize and employee loyalty prize, retirement care, employee care fund and incentive benefits. Further, the Company has established an assistance scheme by setting up the Employee Care Fund designed to offer funds to employees and their families for significant diseases, significant natural disasters, children going to universalities, employee getting married and baby delivery.

During this reporting period

Care Fund application

18 Person-time

Amount allocated

53,000 RMB



On January 5, 2021, Tongwei Employee Shareholding Plan has expired, and the company has completed the share reduction in stage, and realized the income for the employees according to the assessment situation, and achieved the incentive purpose. To fully mobilize employees and increase the cohesion, the Company discussed and passed the Resolution on 2021-2023 Tongwei Employee Shareholding Plan (Draft) and its Abstract and relevant proposals under which, some shares would be reserved for core employees who have made outstanding contribution to the Company.

The stocks required in this plan have been purchased through an open bidding and bulk trade (controlling shareholder makes a bulk transfer) in the secondary market. A total of 76,499,840 shares for 2,633,584,589 Chinese yuan (34.43 Chinese yuan per share) were purchased, taking up 1.70% of the Company's share capital. These shares have a locking period from May 21, 2021 to May 20, 2022.



Culture and Entertainment

With a focus on increasing employee satisfaction, the Company keeps creating and enhancing the military, school and family-like work atmosphere, and retains people through great opportunities, satisfactory salaries, emotional connections, and appealing culture by increasing the sense of belongingness and recognition. During this reporting period, the Company held nine employee events such as a themed movie on the International Women's Day, and Labor Union Lecture on the Civil Code, arranged 35 outreaches and democratic events, sent 330 gifts to employees with significant diseases and 50 gifts to employees getting married and delivering babies, and 53 gifts to employees for their children admitted to universities. At the same time, colorful employee activities including basketball matches, joyful sports meetings, International Workers' Day event and Mid-autumn Day event, to enhance the team cohesion and create a great work environment.

Case

"Passion, Teamwork, Fighting" basketball match

In September 2021, the Labor Union at Chengdu Tongwei Animal Nutrition Technology Co., Ltd held a basketball match focusing on passion, teamwork and fighting. Executives including the general manager and technology director, as well as marketing, logistics and production employees took part in the match.

Passion, Teamwork, Fighting Basketball Match



06.

PUBLIC INTEREST

The Company practices its social responsibilities, respects and develops the course for public interest by promoting diverse public interest projects and organizing employees to be volunteers to help people in need in its communities.

- PUBLIC WELFARE ACTIVITIES

Stakeholders: employees, communities



Public Welfare Activities

With a deep sense of social responsibility suitable for a successful business, the Company actively provides returns to the society and supports events for the public interest.

2021 Tongwei Public Interest Events and Results



Volunteers

- In September, Tongwei Yongxiang and Leshan Blood Station jointly organized the "Love Bloodbank", a blood donation event, with nearly 140 employees donated blood for the public interest.
- In December, Tongwei Yongxiang sent beddings and entertainment supplies for the elder in the Wutongqiao Welfare House in the Send Love and Care event and Love Point of Contact ceremony.



Yongxiang carried out the voluntary activity of "Love Bloodbank"



Tongwei Yongxiang Send Love and Care Ceremony

2021 Tongwei Public Interest Events and Results

Number of volunteers

70



Volunteering hours

140



Future Outlook

As one of the businesses facing huge challenges, we are expecting a great future. 2022 is destined to be a journey of effort. Facing new starting points and new challenges, we are highly determined as a team to move every step steadily on the foundation of the two main businesses. Focusing on food safety and energy transformation, we will leverage the unique competitive advantage of Aquaculture-Photovoltaic Integration to build a world-class safe food supplier and world-class clean energy operator.

Science and technology constitute the foremost productive forces, and innovation is the primary development driver. In 2022, the Company will continue the “science and technology-based innovations and culture-based leadership” principle, focus on

the development of research and development personnel and improve its incentive mechanism for human resources to fully mobilize R&D staff. Technological innovations will be highlighted to enhance its core competitiveness and sustainability and drive the green industry. What is more, by listening and responding to voices of upstream, middle stream and downstream stakeholders, the Company will advance the virtuous cycle of innovation and create a beautiful future with all stakeholders.

Striving for excellence and contributing to society is what the Company envisions. While growing and exceeding itself, the Company will be tasked with “increasing the material wealth of the society and improving people’s quality of life” by giving full play to its brand effect, assuming social responsibilities and working together with all walks of the society.



Performance Presentation

• Economic Performance¹

Indicator name	Indicator unit	2021 data
Total assets	Billion yuan	88.25
Net assets attributable to shareholders	Billion yuan	37.50
Operating revenues	Billion yuan	63.49
Operating costs	Billion yuan	45.92
Net profits attributable to shareholders	Billion yuan	8.21
Total tax	Billion yuan	2.5
Basic earnings per share	CNY	1.8234
ROE	%	24.24

¹ Consolidated financial statements are the primary source of the data of economic performance

• Governance Performance

Indicator name	Indicator unit	2021 data
Risk management training		
Number of training sessions	/	3
Training duration	Hour	5
Number of participants	/	359
Anti-corruption training		
Number of training sessions	/	26
Training duration	Hour	122
Number of participants	/	1,076

Social Performance

Indicator name	Indicator unit	2021 data
Product development		
R&D expenses	million yuan	2,035.85
R&D personnel in technology centers	Person	3,335
IPR protection		
2021 patents authorized	/	9
2021 utility models authorized	/	152
2021 patent applications	/	36
2021 utility model applications	/	194
Suppliers		
Number of suppliers	/	2,524
Number of suppliers terminated due to violation of the code of conduct	/	42
Number of supplier training sessions	/	71
Employment		
Total employees	Person	32,224
Male to female	/	3:1
Foreign employees	%	3.76
Local employees	%	96.24

Health and safety		
Resolution of occupational disease hazards	%	100
Occupational disease rate	%	0
Work death	Person	0
Lost workdays due to work injury	Day	0
Number of work safety training sessions	/	2,663
Number of training participants	/	182,455
Duration of work safety training	Hour	84,546.5
Number of health training sessions	/	403
Number of health training participants	/	14,695
Duration of health training	Hour	10,345
Development and training		
Number of occupational training sessions	/	125,948
Number of training participants	/	1,393,084
Duration of occupational training sessions	Hour	173,388
Public Interest		
Number of volunteers	/	70
Volunteering duration	Hour	140

• Environment Performance¹

Indicator name	Indicator unit	2021 data
Environmental protection expense	Million yuan	304.43
Greenhouse gas emission		
Total greenhouse gas emission	Ton of carbon dioxide equivalent	6,554,463.64
Greenhouse gas emission intensity	Ton of carbon dioxide equivalent/one-million-yuan revenue	103.23
Energy consumption		
Clean energy consumption	MWh	6,775,256.31
Soft coal	Ton	118.83
Petroleum	Ton	248.02
Diesel	Ton	16,950.38
Natural gas	m ³	66,659,757.69
Methanol (as fuel)	Ton	325.82
Purchased electricity	MWh	8,972,834.98
Purchased steam	GJ	724,043.54
Sold steam	GJ	453,348.65
Water consumption		
Fresh water consumption	Ton	29,625,130
Reclaimed water consumption	Ton	250,257,690
2021 total water saving	Ton	952,982
2022 water saving target	Ton	3,545,500

¹ Tongwei New Energy operations cover planning, design, and intelligent operation and maintenance for PV terminal investments, without wastewater, wastegas and solid waste data.

Discharge of water pollutants		
Chloride	Ton	1,220.76
CODcr	Ton	586.50
Suspended solids (SS)	Ton	305.17
BOD5	Ton	223.24
Total nitrogen	Ton	170.38
Fluoride	Ton	77.29
Ammoniacal nitrogen	Ton	8.55
Total phosphorus	Ton	7.84
Discharge of solid wastes		
Filter residue	Ton	76,807.00
Sludge	Ton	61,134.46
Waste residue	Ton	21,980.00
Waste wood	Ton	3,926.30
Waste paper	Ton	2,842.41
Waste steel	Ton	645.62
Waste supplies	Ton	532.03
Waste metals	Ton	125.44
Domestic waste	Ton	7.00
Others	Ton	181,332.74
Emission of air pollutants		
Sulfur dioxide	Ton	32.56
Nitrogen oxides	Ton	264.55
Tin and its compounds	Ton	24.09

Ammonia	Ton	16.45
Fluoride	Ton	16.40
VOCs	Ton	6.64
Hydrogen chloride	Ton	6.61
Chlorine	Ton	5.93
General dust	Ton	5.03
Particles	Ton	1.69
Smoke	Ton	1.04
Sulfuric acid fog	Ton	0.47
Environmental protection training		
Number of training sessions	/	327
Number of participants	/	16,186
Training duration	Hour	687

Appendix I: Index Table of Indicators

•UN Sustainable Development Goals (SDGs)

Sustainable Development Goals	Description	Response to SDGs	Report Page
	Eliminate poverty in all its forms all over the world.	/	/
	Eliminate hunger, achieve food security and improved nutrition, as well as promote sustainable agriculture.	Aquaculture-Photovoltaic Integration mode	Expand Product Innovations-Innovative R&D
	Ensure healthy ways of life, and promote well-being for all at all ages.	Set up occupational health management system	Talent Development-Occupational Health
	Ensure inclusive and equitable quality education and promote lifelong- learning opportunities for all.	Establish Tongwei Learning Center to develop multiple talent cultivation programs	Talent Development-Employee Development
	Achieve gender equality and empower all women and girls.	Human rights protection of the company and its suppliers	Sustainable Supply Chain-Supplier Code of Conduct; Talent Development-Harbor for Employees



Ensure availability and sustainable management of water and sanitation for all.

Set up management system for water and wastewater, and develop measures for water-saving and wastewater treatment

Green Operation-Wastewater Management



Ensure access to affordable, reliable, sustainable and modernized energy for all.

Build the entire PV industry chain consisting of production of high-purity silicon, production of efficient solar cells, and construction and operation of PV stations

Green Operation-Reaction on Climate Change



Promote sustained, inclusive and sustainable economic growth, full and productive employment and ensure decent jobs for all.

Lawful employment to protect employees' rights and interests, as well as provide comprehensive salaries and benefits systems

Talent Development-Harbor for Employees



Build resilient infrastructure, promote inclusive and sustainable industrialization, and spur up innovation.

Aquaculture-Photovoltaic Integration mode

Expand Product Innovation-Innovative R&D



Reduce inequality within and among countries.

Establish fair working environment

Talent Development-Employee Development



Make cities and human residences inclusive, safe, resilient, and sustainable.

Set up management system for waste

Green Operation-Management - Waste Management



Ensure sustainable consumption and production patterns.

Advocate green and responsible suppliers; Set up energy management system; Keep green office and actively participate in green public activities

Green Operation-Green Factories



Take urgent action to combat climate changes and their impacts.

Analyze climate risks and opportunities, use new energy and save energy consumption

Operation-Reaction on Climate Change



Conserve and make sustainable use of oceans, seas and marine resources for sustainable development.

/

/



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and contain bio-diversity loss.

/

/



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and establish effective, accountable and inclusive institutions at all levels.

Set up internal control system, as well as anti-corruption system

Governance Improvement-Uphold "Sunshine" Operation



Reinforce the means of implementation and revitalize the global partnership for sustainable development.

Participate in "Science Based Targets initiative" (SBTi)

Green Operation-Reaction on Climate Change

• Index of Global Sustainability Standards Board (GSSB) GRI Sustainability Reporting Standards

Indicator No	Description	Report Page
General Disclosures		
Organization Profile		
102-1	Name of the organization	About Tongwei Co., Ltd
102-2	Activities, brands, products and services	About Tongwei Co., Ltd
102-3	Location of headquarters	About Tongwei Co., Ltd
102-4	Location of operations	About Tongwei Co., Ltd
102-5	Ownership and legal form	About Tongwei Co., Ltd
102-6	Markets served	About Tongwei Co., Ltd
102-7	Scale of the organization	About Tongwei Co., Ltd
102-8	Information on employees and other workers	About Tongwei Co., Ltd
102-9	Supply chains	Sustainable Supply Chain
102-10	Significant changes in the organization and its supply chain	/
102-11	Precautionary principles or approaches	/
102-12	External initiatives	/
102-13	Membership of associations	/
Strategy		
102-14	Statement from the senior decision-maker	Message from the Chairman

102-15	Key impacts, risks and opportunities	Governance Improvement- Deepen Risk Control and Compliance Management
Ethics and Integrity		
102-16	Values, principles, standards, and norms of behaviour	Governance Improvement- Uphold "Sunshine" Operation
102-17	Mechanisms for advice and concerns about ethics	Governance Improvement- Uphold "Sunshine" Operation
Governance		
102-18	Governance structure	Governance Improvement- Optimize Governance Structure
102-19	Authorization	/
102-20	Executive-level responsibility for economic, environmental and social topics	/
102-21	Consulting with stakeholders on economic, environmental and social topics	Communication with Stakeholders
102-22	Composition of the highest governance body and its committees	Governance Improvement- Optimize Governance Structure
102-23	Chairman of the highest governance body	Governance Improvement- Optimize Governance Structure
102-24	Nominating and selecting the highest governance body	Governance Improvement- Optimize Governance Structure
102-25	Conflicts of interests	/
102-26	The role of the highest governance body in setting purpose, values, and strategy	Governance Improvement- Optimize Governance Structure
102-27	Collective knowledge of the highest governance body	Governance Improvement- Optimize Governance Structure
102-28	Evaluating the performance of the highest governance body	Governance Improvement- Optimize Governance Structure
102-29	Identifying and managing economic, environmental and social impacts	ESG management

102-30	Effectiveness of risk management process	Governance Improvement- Deepen Risk Control and Compliance Management
102-31	Review of economic, environmental and social topics	ESG management
102-32	The role of the highest governance body in sustainability reporting	ESG management
102-33	Communicating critical concerns	Analysis of Significant Topics
102-34	Nature and the total number of critical concerns	Analysis of Significant Topics
102-35	Remuneration policies	/
102-36	Process for determining remuneration	/
102-37	Stakeholder involvement in remuneration	/
102-38	Annual total compensation ratio	/
102-39	Percentage increase in annual total compensation ratio	/
Stakeholder Engagement		
102-40	A list of stakeholder groups	Analysis of Significant Topics
102-41	Collective bargaining agreements	Analysis of Significant Topics
102-42	Identifying and selecting stakeholders	Analysis of Significant Topics
102-43	Approach to stakeholder engagement	Analysis of Significant Topics
102-44	Key topics and concerns raised	Analysis of Significant Topics
Reporting Practice		
102-45	Entities included in the consolidated financial statements	About this report
102-46	Defining report content and topic boundaries	About this report
102-47	A list of material topics	Analysis of Significant Topics
102-48	Restatements of information	About this report
102-49	Changes in reporting	About this report

102-50	Reporting period	About this report
102-51	Date of the most recent report	About this report
102-52	Reporting cycle	About this report
102-53	The contacting person for questions regarding the report	About this report
102-54	Claims of reporting in accordance with the GRI Standards	About this report
102-55	GRI content index	Appendix I: Index Table of Indicators
102-56	External assurance	/
Special Disclosures		
Ways of Management		
103-1	Explanation of the material topic and its boundaries	Analysis of Significant Topics
103-2	The management approach and its components	/
103-3	Evaluation of the management approach	/
Economic Performance		
201-1	Direct economic value generated and distributed	Performance Presentation
201-2	Financial implications, other risks and opportunities due to climate changes	Green Operation- Reaction on Climate Change
201-3	Defined benefit plan obligations and other retirement plans	Talent Development- Harbor for Employees
201-4	Financial assistance from government	/
Market Presence		
202-1	Ratios of standard entry level wage by gender compared with local minimum wage	/

202-2	Proportion of the senior management hired from the local community	/
Indirect Economic Impacts		
203-1	Infrastructure investments and supportive services	Public Interest
203-2	Significant indirect economic impacts	Public Interest
Procurement Practices		
204-1	Proportion of spending on local suppliers	Sustainable Supply Chain- Overview of Suppliers
Anti-corruption		
205-1	Operations assessed for risks related to corruption	/
205-2	Relay and training about corruption policies and procedures	Governance Improvement- Uphold "Sunshine" Operation
205-3	Confirmed incidents of corruption and actions taken	Governance Improvement- Uphold "Sunshine" Operation
Anti-competitive Behaviours		
206-1	Legal actions for anti-competitive behaviour, anti-trust and monopoly practices	/
Materials		
301-1	Materials used in terms of weight or volume	/
301-2	Recycled input materials used	Green Operation- Management – Green Supply Chain
301-3	Reclaimed products and their packaging materials	Green Operation- Management – Green Supply Chain
Energy		
302-1	Energy consumption within the organization	Green Operation-Energy Management

302-2	Energy consumption outside the organization	Green Operation-Energy Management
302-3	Energy intensity	Green Operation-Management – Energy Management
302-4	Reduction of energy consumption	Green Operation-Management – Energy Management
302-5	Reduction in energy requirements of products and services	Green Operation-Management – Energy Management
Water		
303-1	Water withdrawal by source	Green Operation-Management – Water Resource Management
303-2	Water sources significantly affected by the withdrawal of water	Green Operation-Management – Water Resource Management
303-3	Green Operation-Management – Water Resource Management	Green Operation-Management – Water Resource Management
Biodiversity		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	/
304-2	Significant impacts of activities, products and services on biodiversity	/
304-3	Habitats protected or restored	/
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operation	/
Emissions		
305-1	Direct /Scope 1 GHG emissions	Green Operation- Reaction on Climate Change
305-2	Energy indirect /Scope 2 GHG emissions	/
305-3	Other indirect /Scope 3 GHG emissions	/

305-4	Intensity of GHG emissions	Green Operation- Reaction on Climate Change
305-5	Reduction of GHG emissions	/
305-6	Emissions of ozone-depleting substances /ODS	/
305-7	Nitrogen oxides /NOX, Sulfur oxides / SOX, and other significant air emissions	Green Operation-Management of Air Pollutants
Effluents and Waste		
306-1	Total amount of water discharge by quality and destination	Green Operation- Wastewater Management
306-2	Waste by type and disposal methods	Green Operation-Management - Waste Management
306-3	Significant spills	/
306-4	Transport of hazardous waste	Green Operation- Wastewater Management
306-5	Water bodies affected by water discharges and/or runoff	/
Environmental Compliance		
307-1	Non-compliance with environmental laws and regulations	/
Assessment on Supplier Environment		
308-1	New suppliers that were screened by using environmental criteria	Sustainable Supply Chain-Supplier Access Management
308-2	Negative impacts of the supply chain on the environment and actions taken	Sustainable Supply Chain-Supplier Performance Evaluation
Employment		
401-1	New employee hires and employee turnover	Talent Development-Employee Overview
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Talent Development-Harbor for Employees

401-3	Parental leave	Talent Development-Harbor for Employees
Labor/Management Relations		
402-1	The shortest notice periods regarding operational changes	/
Occupational Health and Safety		
403-1	Workers representation in formal joint management-worker health and safety committees	Talent Development-Occupational Health
403-2	Types of injury and rates of injury, occupational diseases, lost work-days, and absenteeism, and the number of work-related fatalities	Talent Development-Occupational Health
403-3	Workers with high incidence or high risk of diseases related to their occupation	Talent Development-Occupational Health
403-4	Health and safety topics covered in formal agreements with trade unions	Talent Development-Occupational Health
Training and Education		
404-1	Average hours of training per year per employee	Talent Development- Employee Development
404-2	Programs for upgrading employee skills and programs of transition assistance	Talent Development- Employee Development
404-3	Percentage of employees receiving regular performance and career development reviews	Talent Development- Employee Development
Diversity and Equal Opportunity		
405-1	Diversity of governance bodies and employees	Talent Development-Employee Overview
405-2	Talent Development-Employee Overview	/
Anti-discrimination		
406-1	Incidents of discrimination and corrective actions taken	Talent Development-Harbor for Employees

Freedom of Association and Collective Bargaining		
407-1	Operations and suppliers in which the freedom of association and collective bargaining may be at risk	/
Child Laborers		
408-1	Operations and suppliers at significant risk for incidents of child laborers	Sustainable Supply Chain-Supplier Performance Evaluation
Forced or Compulsory Labor		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Sustainable Supply Chain-Supplier Performance Evaluation
Security Practices		
410-1	Security personnel trained in rights policies or procedures concerning human rights	/
Assessment on Human Rights		
412-1	Operations that have been subject to reviews of human rights or impact assessments	Talent Development-Harbor for Employees
412-2	Employee training on policies or procedures concerning human rights	Talent Development-Harbor for Employees
412-3	Significant investment agreements and contracts that include clauses of human rights or the human rights screened	Talent Development-Harbor for Employees
Local Communities		
413-1	Operations with local community engagement, impact assessments and development programs	/
413-2	Operations with significant actual and potential negative impacts on local communities	/

Social Assessment on Suppliers		
414-1	New suppliers screened by using social criteria	A Sustainable Supply Chain- Supplier Performance Evaluation
414-2	Negative social impacts in the supply chain and actions taken	/
Public Policies		
415-1	Political contributions	/
Customer Health and Safety		
416-1	Assessment on the health and safety impacts of product and service categories	Expand Product Innovation-Product and Service Quality
416-2	Incidents of non-compliance concerning the health and safety impacts and services	Expand Product Innovation-Product and Service Quality
Marketing and Labelling		
417-1	Requirements for product and service information and labelling	/
417-2	Incidents of non-compliance concerning product and service information and labelling	/
417-3	Incidents of non-compliance concerning marketing	/
Customer Privacy		
418-1	Substantiated complaints concerning breaches of customer privacy and loss of customer data	/
Socioeconomic Compliance		
419-1	Non-compliance with laws and regulations in social and economic areas	/

• Reference Table of HKEX ESG Reporting Guide

Indicator No	Description	Description
Environmental (explain without disclosure)		
Aspect A1: Emissions		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, as well as generation of hazardous and non-hazardous waste	Green Operation- Environment Management System Optimization
A1.1	The types of emissions and respective emissions data	Green Operation- Reaction on Climate Change Green Operation-Management - Waste Management Green Operation- Wastewater Management Green Operation-Management of Air Pollutants
A1.2	Total greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of the production volume, per facility)	Green Operation- Reaction on Climate Change
A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of the production volume, per facility)	Green Operation-Management - Waste Management
A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of the production volume, per facility)	Green Operation-Management - Waste Management

A1.5	Description of emissions target(s) and steps taken to achieve them	Green Operation- Reaction on Climate Change Green Operation-Management - Waste Management Green Operation- Wastewater Management Green Operation-Management of Air Pollutants
A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) and steps taken to achieve them	Green Operation-Management - Waste Management
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials	Green Operation-Management – Water Resource Management
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of the production volume, per facility)	Green Operation-Management – Energy Management
A2.2	Water consumption in total and intensity (e.g. per unit of the production volume, per facility)	Green Operation-Management – Water Resource Management
A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them	Green Operation-Management – Energy Management
A2.4	Description of whether there is any issue in sourcing water which fit for purpose, water efficiency target(s) set and steps taken to achieve them	Green Operation-Management – Water Resource Management
A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	/
Aspect A3: The Environment and Natural Resources		

General Disclosure	Policies on reducing the issuer's significant impacts on the environment and natural resources	Green Operation- Environment Management System Optimization
A3.1	Description of the significant impacts of activities on environment and natural resources and the actions taken to manage them	Green Operation- Environment Management System Optimization
Aspect A4: Climate Change		
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact the issuer.	Green Operation- Reaction on Climate Change
A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Green Operation- Reaction on Climate Change
Social (recommended disclosure)		
Aspect B1: Employment		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, work- hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare	Talent Development-Harbor for Employees Talent Development-Employee Development
B1.1	Total workforce by gender, employment type, age group and geographical region	Talent Development-Employee Overview
B1.2	Employee turnover rate by gender, age group and geographical region	/

Aspect B2: Health and Safety		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe work- environment and protecting employees from occupational hazards	Talent Development-Safety Control
B2.1	Number and rate of work-related fatalities	Talent Development-Safety Control
B2.2	Lost work-days due to work injury	Talent Development-Safety Control
B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored	Talent Development-Occupational Health
Aspect B3: Development and Training		
General Disclosure	Policies on improving employee knowledge and skills for discharging duties at work. Description of training activities	Talent Development-Employee Development
B3.1	The percentage of employees trained by gender and employee category	Talent Development-Employee Overview
B3.2	The average training hours completed per employee by gender and employee category	Talent Development-Employee Overview
Aspect B4: Labor Standards		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to preventing child and forced labor	Talent Development-Harbor for Employees

B4.1	Description of measures to review employment practices to avoid child and forced laborers	Talent Development-Harbor for Employees
B4.2	Description of steps taken to eliminate such practices when discovered	Talent Development-Harbor for Employees
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain	Sustainable Supply Chain- Supplier Code of Conduct
B5.1	The number of suppliers by geographical regions	Sustainable Supply Chain- Overview of Suppliers
B5.2	Description of practices relating to engaging suppliers, the number of suppliers where the practices are being implemented, and how they are implemented and monitored	Sustainable Supply Chain- Supplier Performance Evaluation
Aspect B6: Product Responsibility		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress	Expand Product Innovation- Product and Service Quality
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	Expand Product Innovation- Product and Service Quality
B6.2	The number of products and service related complaints received and how they are dealt with	Expand Product Innovation- Product and Service Quality

B6.3	Description of practices relating to observing and protecting intellectual property rights	Expand Product Innovation- Protection of Intellectual Property Rights
B6.4	Description of quality assurance process and recall procedures	Expand Product Innovation- Product and Service Quality
B6.5	Description of protection for consumer data and privacy policies, and how they are implemented and monitored	Expand Product Innovation- Protection of Client Rights
Aspect B7: Anti-corruption		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	Governance Improvement- Uphold "Sunshine" Operation
B7.1	The number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	Governance Improvement- Uphold "Sunshine" Operation
B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored	Governance Improvement- Uphold "Sunshine" Operation
Aspect B8: Community Investment		
General Disclosure	Policies on community engagement to get to know the needs of the communities and to ensure that its activities should take into consideration the community interests	Public Interest
B8.1	Focus areas of contribution	Public Interest
B8.2	Resources contributed to the focus area	Public Interest

• Guidelines for Environmental Information Disclosure of Listed Companies on the Shanghai Stock Exchange

Indicator No	Description	Report Pag
(1)	Guidelines of environmental protection, annual environmental protection objectives and achievements	Green Operation- Environment Management System Optimization
(2)	Total annual resource consumption	Green Operation-Water Management
(3)	Environmental protection investment and development of environmental technology development	Green Operation- Environment Management System Optimization
(4)	The type, volume and content of pollutants discharged and where the pollutants are discharged into	Green Operation- Reaction on Climate Change Green Operation- Wastewater Discharge
(5)	Construction and operation of environmental protection facilities	Green Operation- Green Industrial Parks
(6)	Handling and disposal of waste generated from production, recycling and comprehensive use of waste products	Green Operation-Waste Disposal and Reuse
(7)	Voluntary agreement entered into with authorities of environmental protection for behaviours of environment improvement	/
(8)	Awards by authorities of environmental protection	/
(9)	Other environmental information voluntarily disclosed by businesses	Green Operation- Environmental Protection-oriented Public Activities

Appendix II: Other Designations

Designation	Description
Tongwei Group	Tongwei Group Co., Ltd.
Tongwei Yongxiang	The collective name of Yongxiang Co., Ltd., Sichuan Yongxiang Polysilicon Co., Ltd., Sichuan Yongxiang New Energy Co., Ltd., Sichuan Yongxiang New Materials Co., Ltd., Inner Mongolia Tongwei High-purity Crystalline Silicon Company, Sichuan Yongxiang Silicon Materials Co., Ltd., and Leshan Yongxiang Resin Co., Ltd.
Yongxiang	Yongxiang Co., Ltd.
Yongxiang New Materials	Sichuan Yongxiang New Materials Co., Ltd.
Yongxiang Silicon Materials	Sichuan Yongxiang Silicon Materials Co., Ltd.
Inner Mongolia Tongwei	Inner Mongolia Tongwei High-purity Crystalline Silicon Co., Ltd.
Tongwei Components	Tongwei component business group
Tongwei Solar	The collective name of Tongwei Solar (Hefei) Co., Ltd., Tongwei Solar (Chengdu) Co., Ltd., Tongwei Solar (Meishan) Co., Ltd., Tongwei New Energy (Jintang) Co., Ltd., and Tongwei Solar (Jintang) Co., Ltd.
Hefei Solar	Tongwei Solar (Hefei) Co., Ltd.
Meishan Solar	Tongwei Solar (Meishan) Co., Ltd.
Chengdu Solar	Tongwei Solar (Chengdu) Co., Ltd.
Tongwei New Energy	The collective name of Tongwei New Energy Co., Ltd., Tongwei New Energy (Shenzhen) Co., Ltd., Tongwei New Energy Technology (Beijing) Co., Ltd., Sichuan Yuguang IoT Technology Co., Ltd., and Tongwei New Energy Engineering Design Co., Ltd.
Tongwei Agriculture and Animal Husbandry	Branches and subsidiaries related to agriculture , food and animal husbandry
PV industry	Branches and subsidiaries under Tongwei Components, Tongwei Solar, Tongwei Yongxiang and Tongwei New Energy

Appendix III: Reader's Opinion

Respected readers:

Thank you for reading this report. We appreciate and look forward to your feedback as your opinions and comments are important for us to continuously improve corporate ESG information disclosures and promote corporate ESG management and practice. Welcome and sincerely thank you for your valuable opinions!

1. Your overall assessment of our ESG performance is:

☐ excellent ☐ good ☐ average ☐ bad ☐ very bad

2. Your overall assessment of this report is:

☐ excellent ☐ good ☐ average ☐ bad ☐ very bad

3. What do you think of our performance of communication with stakeholders?

☐ excellent ☐ good ☐ average ☐ bad ☐ very bad

4. What do you think of our performance of product responsibility?

☐ excellent ☐ good ☐ average ☐ bad ☐ very bad

5. What do you think of our performance of environment, safety and occupational health?

☐ excellent ☐ good ☐ average ☐ bad ☐ very bad

6. What do you think of our performance of employee responsibility?

☐ excellent ☐ good ☐ average ☐ bad ☐ very bad

7. What do you think of our performance of ESG?

☐ excellent ☐ good ☐ average ☐ bad ☐ very bad

8. What are your opinions and suggestions for our ESG performance and this report?



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