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2022

TCL Zhonghuan Renewable Energy Technology Co., Ltd.

Sustainability Report 2022

TCL Zhonghuan Renewable Energy Technology Co., Ltd.

Content

About the Report

Introduction of Report

This is the seventh sustainability report (i.e., environmental, social and governance report or social responsibility report) released to the public by TCL Zhonghuan Renewable Energy Technology Co., Ltd (referred to as "TZE", "the Company" or "We" below), reflecting the environmental, social and governance (ESG) and economic performance of the Company and its subsidiaries. This is an annual report covering the fiscal year from January 1 to December 31, 2022 (referred to as "the reporting period"). Some key information may be retroactive to years out of the reporting period.

Basis for Preparation

This report is prepared according to the requirements of the Guidelines for Social Responsibilities of Listed Companies issued by Shenzhen Stock Exchange Content Index and the Main Board Information Disclosure Business Memorandum - No. 1 Document: Matters Related to Disclosure in Periodic Reports issued by Shenzhen Stock Exchange. Meanwhile, this report is prepared with reference to GRI Standards released by the Global Reporting Initiative (GRI), combining with the current development level and the situation of sustainable development of the Company.

Scope of Report

The policies and data used in this report cover the Company and our subsidiaries. The scope of this report is consistent with that of our annual report. Unless otherwise specified, the currency used in this report is Chinese Yuan (CNY). The data and cases in this report are primarily sourced from the Company's statistics and relevant procedural documents. The Board of Directors of the Company guarantees that there are no misrepresentation and misleading statements in this report, and is responsible for the authenticity, accuracy, and integrity of the content of report.

Language of Report

In case of any discrepancy between the Chinese version and the English version, the Chinese version shall prevail.

Confirmation & Approval

After confirmed by the management, the report was approved by the Board of Directors on March 28, 2023.

Access & Response to Report

The Chinese and English versions of this report can be downloaded from the official website of TZE (https://www.tzeco.com/sdg/).

Your valuable advice is the motivation for our continuous improvement. If you have any suggestions or comments on this report or sustainable development relevant work of the Company, please feel free to contact the Company by the following means:

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Management's Statement

The year 2022 shall be a very important chapter in the 64-year history of TZE. The photovoltaics industry is facing the biggest and most profound changes over the years. In this extraordinary year, all employees of TZE have worked together with our business partners to forge ahead and made remarkable achievements. The Company was awarded the Forbes China Sustainable Development Industrial Enterprises TOP50, the National Industrial Product Green Design Demonstration Enterprise, and other well-known awards at home and abroad.

In the face of complex market environment, we firmly believe that only rely on technological innovation can the Company go through the industry cycle. In 2022, we made a breakthrough in the application of thinning and slice wafer product, helping reduce the cost and improve the efficiency of the industrial chain while continuously reducing the carbon footprint of our products. We also actively promote the transformation of Industry 4.0 intelligent manufacturing to achieve a significant increase in per capita labor productivity, so that our front-line employees can work with more dignity.

Our business operations are founded upon the principle of environmental friendliness. In 2022, we executed over 40 energy conservation and energy consumption reduction projects, saving 50,214,500 kWh of electricity; and 16 major water-saving retrofit projects, saving 12,343,500 metric tons of water. Our development strategy is driven by the dual approach of "Manufacturing green" and "Green & Intelligent manufacturing", which enables us to prioritize high-quality outcomes. Throughout the year, the proportion of renewable materials used in product manufacturing and packaging was 61.28%, and the recycling rate of solid waste reached 95.12%.

"People-oriented" has always been an important part of TZE's sustainable development philosophy. We strive to create a diverse, inclusive, and equal working environment for our employees, leading them with our unique engineer-respected culture. The Company continues to improve the construction of talent pipeline. In 2022, the Company put forward the "Thousand Talents" campus recruitment plan and launched the recruitment program specifically for overseas graduates for the first time, which have attracted extensive attention and been widely recognized by graduates. The Company was awarded the "2022 Top Graduate Employers" by 51Job.

We strive to "building a dream road towards the light". Looking forward to the future, TZE will continue to pursue the corporate vision of "Environmental friendliness, Employee support, Social respect and Customer trust", respond to stakeholders' expectations of the company with real actions, constantly assist on the green transformation of global energy industry, and contribute to a cleaner, better, and more sustainable world.

— Shen Haoping
General Manager of TZE

Entering TZE

Introduction of the Company

TZE — becoming the leading renewable energy technology company in the world

Founded in 1958, TZE is the world's leading manufacturer of photovoltaic silicon wafers and a technology leader in the global photovoltaic material industry.

— The Company adheres to the green ecological concept of "dedicating to a world where everyone lives under blue skies and white clouds", pursues the corporate vision of "Environmental friendliness, Employee support, Social respect and Customer trust", insists on innovation-driven development, deeply integrates Industry 4.0 and intelligent manufacturing, always leads the industrial application of advanced technology and production mode, and constantly promotes technological innovation in photovoltaic industry to achieve high-quality, sustainable and leapfrogging development of the global green energy industry.

Global Recognition

TZE's outstanding operational capability and efficient innovation capability have been widely recognized by stakeholders around the world. In 2022, the Company was awarded the Forbes China Sustainable Development Industrial Enterprises TOP50 and the 68th place in Hurun China 500 Most Valuable Private Companies. We were also awarded the Manufacturing Single Product Champion and the Industrial Product Green Design Demonstration Enterprise by the Ministry of Industry and Information Technology.

Global Industrial Distribution

TZE actively promotes the globalization of our industrial sectors. By establishing investment platforms, marketing centers and production bases at home and abroad, TZE has gradually expanded our overseas presence in countries such as the United States, Singapore, Malaysia, Philippines, and Mexico.

Business Sectors

Photovoltaic Materials

The Company is mainly engaged in the R&D, production, and sales of photovoltaic silicon wafers. The products mainly include renewable energy photovoltaic monocrystalline silicon rods and silicon wafers. The Company carries out a number of technological innovations around the theoretical capacity increase of production equipment, product quality upgrading and cost reduction, and owns a series of patented technologies and know-how. The Company continuously enhances the supply capacity of G12 monocrystalline silicon wafers and our Industry 4.0 manufacturing capability, to better meet customers' flexible needs and their demands for customized products. In the crystal sector, the consumption rate of silicon materials per unit product is reduced, and the monthly production capacity of single furnace continues to break the record. In the wafer sector, through the improvement of thinning and slice production, the yield of Grade A silicon wafers has been enhanced significantly and the number of wafers produced under the same thickness is significantly above the industry level. The Company's profitability continues to improve.

A deep understanding of the industry, excellent technology R&D and manufacturing capabilities, as well as the leading scale advantage, give the Company the right to define, set criteria of and price photovoltaic silicon wafer products. The Company adheres to the differentiated product strategy. Our G12 "Kuafu" series accumulates multiple technologies and has an excellent performance. With large size, thin slice and Type-N technology of our silicon wafer products, the Company continues to promote cost reduction and efficiency improvement and leads the ecosystem of the industry to move forward. In 2022, the revenue of the Company's photovoltaic materials sector reached CNY 50.90billion.

Photovoltaic Cells and Modules

The Company is engaged in the R&D, production and sales of photovoltaic cells and modules, mainly including photovoltaic cells and efficient imbricated modules. The Company firmly adopts a differentiated technology and product route of the dual-platform of “G12 + imbrication” and comprehensively improves the application of Industry 4.0 production modes and the capacity of lean manufacturing. With high power, high efficiency, and high reliability, G12 efficient imbricated 3.0 modules lead the future of low-carbon innovation. In 2022, the Company's photovoltaic cells and modules sector achieved a revenue of CNY 10.84 billion.

Intelligent Photovoltaic Solutions

TZE provides customers with one-stop comprehensive solutions for photovoltaic energy industry, covering resource development, EPC (Engineering, Procurement, and Construction) construction and management, intelligent operation and maintenance, and other services throughout the project life cycle, to ensure the maximum benefit of customers' power station assets.

The Company adopts a diversified commercial power plant development mode and operates ground-based centralized power plants and distributed power plants, covering plateaus, mountains, rooftops, car sheds, and other scenarios. The Company actively carries out the development of photovoltaic power plants in the way of independent development and joint development, diversifies our revenue sources, and achieves integration with module and silicon wafer business. The Company also actively carries out photovoltaic power generation projects for poverty alleviation. The ground-based centralized power plants developed by the Company stably increase the income of the impoverished people to get out of poverty, effectively protect the ecological environment, and promote the increase of the proportion of green and clean energy supply. As of December 31, 2022, the Company owns 59 photovoltaic power plants, with 1,563.71MW grid-connected projects, including 1,395MW ground-based centralized power plants and 168.71MW distributed power plants. In 2022, the revenue of intelligent photovoltaic solutions sector reached CNY 618.91 million.

50.90 billion

the revenue of the Company's photovoltaic materials sector reached CNY

10.84 billion

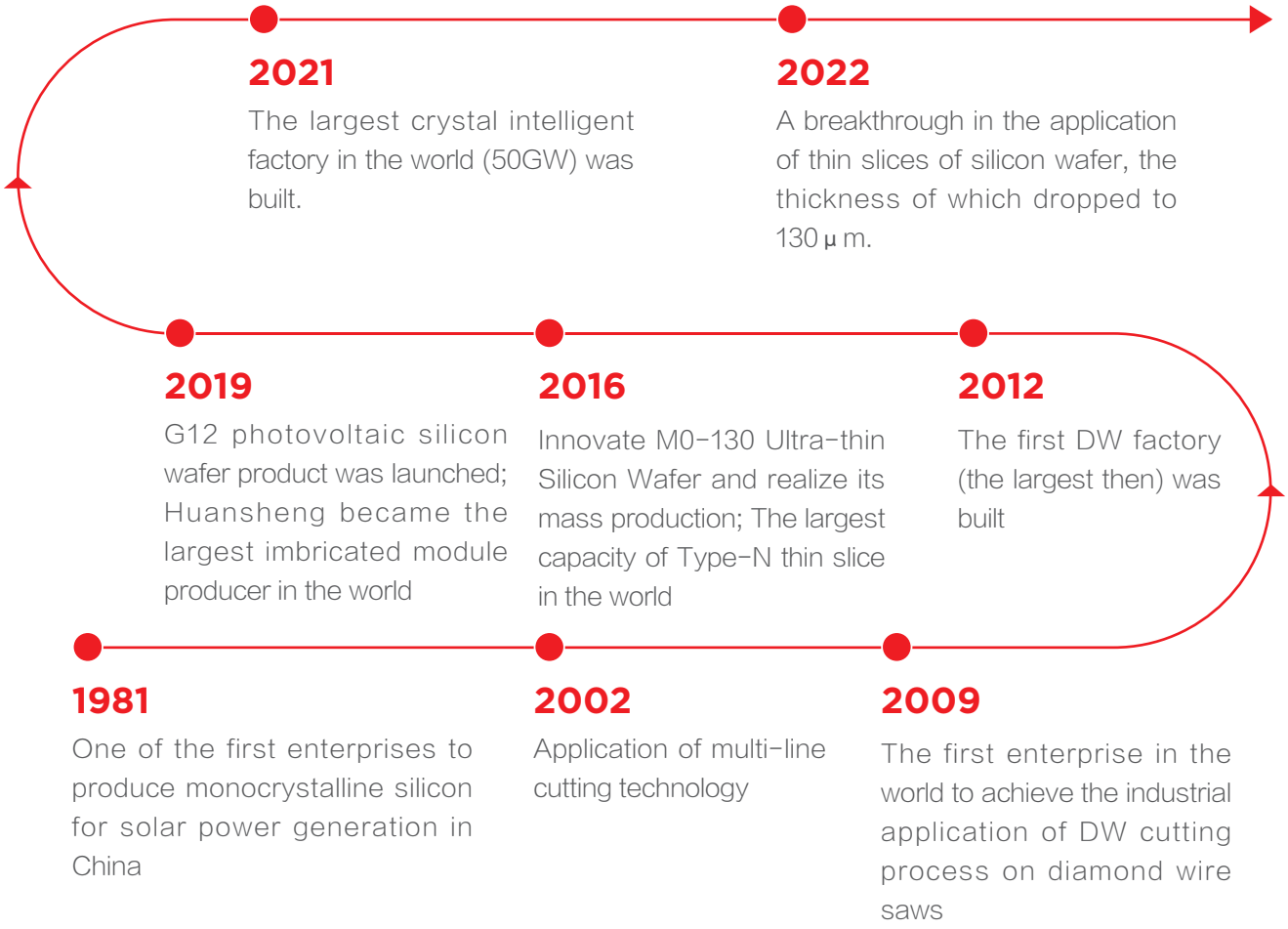
the Company's photovoltaic cells and modules sector achieved a revenue of CNY

618.91 million

the revenue of intelligent photovoltaic solutions sector reached CNY

Technological Innovation

Technological Development History



R&D Strength

TZE adheres to the principle of technology-led and innovation-driven, empowers the photovoltaic industry with innovative technology, and leads the industry reform and industrial upgrading. By the end of the reporting period, the Company holds a total of 1,223 authorized intellectual property rights and 747 patents under application. For more information on patents, please refer to Chapter 6.2 Business Ethics – Intellectual Property Protection.

In addition, TZE has 9 high-tech subsidiaries, 6 provincial and ministerial R&D centers, 1 national technology center, 1 national technology innovation demonstration subsidiary and 2 provincial and ministerial key laboratories. The Company is the main undertaking enterprise of the National 02 major science and technology project. All sub-projects the Company is in charge have passed the acceptance of the project implementation management office.

Our R&D team has more than 1,200 experts and engineers, including 3 with doctoral degree or above and 159 with master's degree or above, a share of 12.7% of total technicians.

Our Sustainable Development Performance

Economic Performance

◎ Total income

67.01 billion

◎ Net profit attributable to equity shareholders of the company

6.82 billion

◎ R&D investment

3.77 billion

◎ R&D/Sales Ratio

5.62 %

◎ Earnings per share

2.12

◎ Total assets

109.13 billion

◎ Our sustainable financing project obtained Category B certification of the Equator Principles

Environmental Performance

◎ Green electricity provided by our distributed power station

37,312 MWh

◎ The number of projects implemented in 2022 electricity, water and other resources conservation)

40+

◎ Total amount of water recycling

391,631,864.20 m^3

◎ Energy Intensity

0.79 MWh/CNY 10K

◎ Water Intensity

3.35 m^3/CNY 10K

◎ No major environmental violations throughout the year

Social Performance

◎ Directors and employees' diversity

The ratio of female director:

44.44 %

◎ The number of new hires

7,923 persons

◎ Total number of training hours provided to employees

123,156

◎ The score of employee engagement

77.8 % The performance is in the top 50% of the manufacturing industry, better than the average

◎ Proportion of spending on local suppliers

84 %

◎ The total amount of public welfare donations

22,175.6 thousand

◎ The number of photovoltaic plants in rural areas

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Sustainable Development Awards and Honors

Awards	Awardees	Awarders
2022 Forbes China Sustainable Development Industrial Enterprises TOP50	TZE	Forbes China
2022 Forbes China Best CEOs	Shen Haoping	Forbes China
2022 Hurun China 500 Most Valuable Private Companies (the 68th Place)	TZE	Hurun Report
2022 Top 500 New Economy	TZE	China Enterprise Evaluation Association
National Manufacturing Single Product Champion	TZE	Ministry of Industry and Information Technology
National Industrial Product Green Design Demonstration Enterprise	Zhonghuan Applied Materials	Ministry of Industry and Information Technology
Tianjin Manufacturing Single Product Champion	TZE	Tianjin Bureau of Industry and Information Technology
Smart Manufacturing Award of the Year	TZE	Solarbe
Most Influential Photovoltaic Materials Enterprise	TZE	Solarbe
Most Influential Photovoltaic Modules Enterprise	Huansheng	Solarbe
Green and Low-carbon Outstanding Contribution Award for Chinese listed companies	TZE	JRJ.com
New Fortune Best Listed Company	TZE	New Fortune
Jinniu Best Investment Value Award	TZE	China Securities Journal

Annual Feature — Intelligent Manufacturing to Accelerate the Journey Towards Zero Carbon

Foreword: Silicon-based Roots, Solar-powered Future

Is the gravel that bears witness to time - silicon - the key to new energy? That is a question mankind has frequently asked - and finally worked out. Since it was proved that electricity can be generated when the element meets sunlight, numerous companies have tried to refine and forge silicon crystals for such purposes. Through relentless exploration, self-denial and verification, we have found the right route to photovoltaics.

TZE builds on silicon-based roots to pursue solar-powered future. Our precise and cutting-edge technology helps conserve lucid waters and lush mountains; our capability to maximize the energy of sunlight points the way to a low-carbon future.

“After ups and downs, China’s photovoltaic industry has already become an important force in the global industrial chain. TZE aims for global leadership in photovoltaic monocrystalline and silicon wafers by virtue of technological innovation, lean manufacturing, and industrial chain investments. Meanwhile, TZE is committed to empowering energy transformation and green development, so as to benefit society while enjoying commercial success.”

— Li Dongsheng, Founder and Chairman of TCL

"TZE upholds the “engineer-respected” culture. By integrating technological, product and manufacturing innovations, TZE keeps driving the sustainable and high-quality development of the industry."

— Shen Haoping, General Manager of TZE

“Chasing the energy of sunlight is in the right direction. It is our firm conviction that our road to photovoltaics will be illuminated.”

— All employees of TZE

In the century following industrialization, excessive carbon emissions wreaked havoc on the climate and the environment the world over. In response, since the Paris Agreement was passed in 2015, more than 130 countries or regions have set "zero carbon" or "carbon neutrality" goals. As a green and efficient new energy source, photovoltaic power is a prevailing trend and solution in energy transition, and an important route to carbon neutrality.

As a high-tech manufacturer as well as a game changer and trailblazer in the new energy sector, TZE has devised a "zero carbon" strategy and decided to act on the government’s call for carbon peaking and carbon neutrality. We push ahead with smart manufacturing and innovation-driven photovoltaics, and help build green power systems, thereby leading the industry to zero carbon.

World-leading Intelligent Manufacturing

Answering the call for "carbon peaking and carbon neutrality", the Company has set out on a new journey towards precision and low carbon. To this end, the Company embraces the philosophy of "intensive innovation, integrated innovation, joint innovation and collaborative innovation", and incorporates smart technology into industry.

Industry 4.0 transformation runs through the operational processes and scenarios of all business lines of the Company. In addition, our capabilities in advanced and intelligent manufacturing lead industrial transformation and upgrade, driving the high-quality growth of the industry.

Digital Goals of TZE

The Company aims to leverage digital skills, such as networked means, human-machine collaboration and automation & informatization two-way integration, to continuously improve our core competitiveness in these ways: a) reducing the burden of production and management; b) providing technical support for R&D, production, operation and service; and c) empowering business decision-making and manufacturing.

During the reporting period, the Company intermingled the physical world and the digital space through IT system integration, which enabled standardized collaborative control throughout the value chain, more flexible production & manufacturing, as well as smarter operation & management. Relying on big data and cloud computing, the "Deep Blue Stereotype" model empowers production. So far, we have realized autonomous perception, learning, decision-making, execution, and adaptation, boosting consistency and efficiency.

200%

◎ Average labor productivity has risen by

150%

◎ Unit production efficiency has risen by

4% lead

◎ Non-defective rate of silicon wafer maintains a

33% lead

◎ Consistency of product quality parameters maintains a

Building up Flexible Manufacturing Capabilities and Accelerating the Large-scale Application of Intelligent Manufacturing

In November 2022, a 25GW high-efficiency solar ultra-thin silicon single-chip smart factory ("DW Phase III") was put into operation.

DW Phase III thoroughly integrates the technological advantages of the G12 product platform with the design concept of Industry 4.0, which has slashed manufacturing costs on the one hand, and enhanced production efficiency and flexible manufacturing capabilities on the other. We expedite the large-scale application of intelligent manufacturing to empower products, so that the growing demand for differentiated and customized products can be satisfied. Meanwhile, we advocate the collaborative and shared development across the industrial chain.

All production lines operate automatically at the DW Phase III Factory

Certain units operate without light at the DW Phase III Factory

Embracing Photovoltaics, Going Green

Commitments to carbon neutrality will speed up the global transition from fossil fuels to new energy, and renewable energy such as photovoltaics has become the protagonist of the third energy conversion. By an estimate of the International Energy Agency, global solar photovoltaic power generation will grow by 1.5TW between 2022 and 2027; it will surpass coal, becoming the largest source of electricity capacity and playing a dominant role in the carbon-neutral future.

To adapt to the growth trend of the photovoltaic industry and respond to the growing demand for photovoltaic power generation worldwide, TZE stands committed to the photovoltaic sector with science and technology innovation at its core. The Company continues to increase investment in the industry to energize society with green energy and promote a green-oriented transition, staying dedicated to a brighter future and a world where everyone lives under blue skies and white clouds.

Driven by technological innovation:

◎ The Company continues to expand investment in industrial technology and innovation in an effort to lower the LCOE (Levelized Cost of Energy) of photovoltaic products while increasing generation capacity throughout the lifecycle, thus empowering the world to get closer to the "carbon peaking and carbon neutrality" goals.

Focus on developing photovoltaic power plants:

◎ The Company attaches importance to the development of photovoltaic power plants and has made an investment in the building of GW-level photovoltaic power generation projects in North China, Northwest China, North Central China, East China, and other regions. The implementation of a series of "Source-Grid-Load-Storage" integrated projects will be phased in.

TZE Assisted in Building a National Comprehensive New Energy Demonstration Zone in Ningxia

Thanks to its abundant solar energy resources and vast deserts, Gobi and wilderness, China's Ningxia Hui Autonomous Region is an excellent place to develop the photovoltaic industry.

Zhonghuan's 300MW photovoltaic composite project in Majiatan, Lingwu, Ningxia

Zhonghuan's 300MW photovoltaic composite project is located in Yangquanwan Village, Majiatan Town, Lingwu City, Ningxia Hui Autonomous Region. The total investment of the project is about CNY1.2 billion and the site covers a total area of 6,136 mu. It is one of the 100 major projects for the development of 6 aspects in Ningxia and a key construction project in the autonomous region in 2022.

Fully equipped with efficient imbricated modules from TZE, the whole project generates an annual average of 513 million kWh of green power, equivalent to saving 167.1 thousand tonnes of standard coal and cutting carbon dioxide emissions by 405 thousand tonnes. Upon completion, the project will effectively assist the regional power grid in peak load regulation, black start, demand response, etc. In addition to allowing the grid to achieve peak-load shifting and ease supply pressure during peak hours, this project can also promote the accommodation of new energy. With its ongoing operation, the project is expected to boost the share of renewable energy in the region and further optimize the power supply structure of the system, thus supporting the construction of a national comprehensive new energy demonstration zone in Ningxia Hui Autonomous Region.

Photovoltaic composite project in Majiatan, Lingwu, Ningxia

Distributed Photovoltaic Project at Ningxia–Zhonghuan Industrial Park

Using efficient imbricated modules, the distributed photovoltaic project in Ningxia-Zhonghuan Industrial Park boasts an installed capacity of 30MW and an annual average output of 36,798 thousand kWh of green power, equivalent to saving 12 thousand tonnes of standard coal and 29.1 thousand tonnes of carbon dioxide emissions.

The project will bolster the building of green, low-carbon and intelligent plants in the area, and help develop a green park with the idea of "green manufacturing, green power supply and green energy development".

Distributed photovoltaic project at Ningxia-Zhonghuan Industrial Park

In response to the national strategic goal of "carbon peaking and carbon neutrality", TZE, by virtue of the lifecycle servicing capability provided by our well-developed photovoltaic power plants, has injected strong momentum into the quality development of the photovoltaic industry in various locations. The Company has invested in and constructed many ground-centralized and rooftop-distributed photovoltaic power generation plants in Ningxia, Tianjin, Inner Mongolia, and other regions, with a total of 59 plants completed by the end of the reporting period.

The Largest Rooftop-Distributed Photovoltaic Power Generation Plant in Hubei Has Successfully Connected to the Power Grid

In July 2022, Wuhan Huaxing rooftop-distributed photovoltaic power generation plant, built by TZE, was officially connected to the power grid. With an installed capacity of 18.55MW, the project is currently the largest rooftop-distributed photovoltaic power generation project in Hubei. As the first photovoltaic project after the launch of the efficient imbricated module 3.0, Wuhan Huaxing rooftop-distributed photovoltaic power generation plant uses 34,048 G12 57.5P single-glass modules in total.

The plant operates 1,067 hours per year and has an average annual generating capacity of 18,564,500 kWh. Its photovoltaic system adopts the grid-connected mode for self-generation and self-use. After completion, it is connected to the 20kV distribution system in the plant, allowing the on-site accommodation of "zero-carbon" electricity. Compared to a thermal power plant that produces the same amount of electricity, the clean power generated by the project can save 5.7 thousand tonnes of standard coal per annum (306.4 g/kWh of standard coal consumption) and reduce GHG (CO_2) emissions by approximately 17.2 thousand tonnes per annum. In this regard, the project can inject green energy into society and aid local enterprises and government in achieving their low-carbon emission reduction targets.

Wuhan Huaxing rooftop-distributed photovoltaic power generation project

TZE Joined Hands with Other Parties to Build the "Inner Mongolia-Zhonghuan Industrial City Project Cluster"

In April 2022, TZE, relying on our technological innovation and managerial advantages in the field of photovoltaic materials, took the lead in investing in the "Inner Mongolia-Zhonghuan Industry City Project Cluster".

Once completed, the Inner Mongolia-Zhonghuan Industry City Project Cluster will become the principal monocrystalline silicon production base with international competitiveness in China. In the future, the Company will strengthen in-depth cooperation with Inner Mongolia Autonomous Region to help the local government achieve the "carbon peaking and carbon neutrality" goals.

Aerial view of Inner Mongolia-Zhonghuan Industry City

Our Sustainability Philosophy and Governance

Sustainable Development Concept

Our Sustainability Principles and Vision

With the mission of global energy transformation, TZE engraves sustainable development in the corporate value. The Company takes “Environmental friendliness, Employee support, Social respect and Customer trust” as our sustainable development vision, adheres to the concept of "dedicating to a world where everyone lives under blue skies and white clouds" and the quality of integrity, modesty, and diligence, and integrates sustainability principles into the Company’s operational decision-making process.

Our Sustainable Development Commitment

- 100% Renewable Electricity
- Build a Green Value Chain with Stakeholders
- Create a “Zero Carbon TZE” with Innovation
- Committed to Zero Gas Emissions, Liquid and Solid Waste

Sustainable Operation

In 2022, TZE established a leadership position in intelligent manufacturing technology, leveraging digital upgrade to support our high-quality development. The Company is committed to promoting our excellence in intelligent manufacturing to the world and leading the development of the global photovoltaic industrial chain.

At the same time, the Company is actively engaged in cutting-edge international ESG trends and is aware of global sustainability market needs and regulatory trends in advance. We integrate sustainability concepts into our daily operations across all industrial sectors, focusing on the use of renewable electricity, the inventory and reduction of the environmental footprint of products, and the globalization and diversity of employment to support the stable and long-term development of the Company.

Sustainable Finance

TZE is committed to incorporating sustainability factors into our financing mechanism, raising funds through various sustainable financial products such as green loans to facilitate the Company's transition to a low-carbon, resource-efficient, and sustainable development.

TZE launched Tianjin's first financing project under the Equator Principles

The Equator Principles (EPs) are a globally applicable set of sustainable financial principles to identify, assess and manage the environmental and social risks involved in projects during the financing process. The principles specify the environmental and social indicators that need to be evaluated and assessed in financing projects. The Equator Principles were initiated by major international financial institutions with the participation of other international financial institutions.

Industrial Bank of China, as the first bank in China to adopt the Equator Principles, approved a syndicated loan for TZE's High-efficient Solar Ultra-thin Silicon Monocrystal Wafer Intelligent Factory with an Annual Capacity of 25GW project in 2022. The project passed the Equator Principles' due diligence, obtained a Category B certification, and was successfully launched, becoming the first financing project under the Equator Principles in Tianjin.

In the future, TZE will continue to work with domestic and international financial institutions to increase the proportion of loans and bonds from sustainable financial products.

Supporting the UN Sustainable Development Goals

As a pioneer and leader in global clean energy and sustainable development, TZE takes "contributing to 'SDG7 affordable and clean energy' for all mankind" as the main focus. What's more, TZE integrates 17 goals of the 2030 Agenda for Sustainable Development of the United Nation and national "carbon peaking and carbon neutrality" goals into our strategic planning to achieve a symbiosis between corporate and social values.

Sustainable Development Goals (SDGs) and this Report

TZE Vision	UN Sustainable Development Goal	Chapter
Environmental Friendliness		◎ Pursuing Green Development for the Beautiful Environment
Employee Support		◎ Embracing Excellent Talents to Chase the Energy of Sunlight
Social Respect		◎ Reinforcing Corporate Governance with Full Disclosure and Transparency ◎ Devoting to Social Service and Public
Customer Trust		◎ A Value-Oriented Strategy for a Brighter Tomorrow

Sustainable Development Governance

Sustainable Development Governance Framework

TZE's sustainability governance structure is divided into three modules: Environmental, Social, and Governance (ESG). The Company fulfills our responsibilities of governance, supervision, and implementation from top to down, covering four dimensions of governance, strategy, risk management, performance and target.

In 2022, TZE optimizes our sustainability governance structure, vertically linking the Board of Directors and senior management, the Sustainability Working Group and the ESG Executive, horizontally coordinating various functional departments and the corporate social responsibility organization system of each subsidiary to jointly promote the coordinated development of the Company in the three dimensions of economy, society and environment.

TZE Sustainable Development Governance Structure

Statement of The Board of Directors

TZE's Board of Directors is the highest leading, responsible, and decision-making body for ESG and sustainability matters. The Board of Directors is responsible for deliberating and approving the Company's sustainability vision, social responsibility plan and policies related to climate change and sustainable development, and annually reviewing the Company's sustainability report. The Board of Directors regularly discusses material issues of the Company and provides comprehensive oversight of the Company's sustainability process to achieve shared value of the Company and our stakeholders.

In order to achieve our sustainability goals, the Company has established the Sustainability Working Group under the Office of the Board of Directors to lead the coordination of sustainability projects across each executive department within the sustainability development governance structure. The General Manager (CEO) regularly analyses and reviews matters related to the Company's sustainable operations and low-carbon development, reports to the Board of Directors on objectives and performance, and provides strategic guidance and resources to executive departments on key ESG issues.

In 2022, TZE systematically reviews the Company's sustainability development status and comprehensively develops and promotes the governance system and enhancement plan for the issues of ecological environmental, social responsibility and corporate governance. At the same time, we have completed the identification of ESG and climate risks and opportunities in our operations, including climate change, renewable energy, water resources, biodiversity, talent development and cultivation, occupational health and safety, sustainable supply chain, and business ethics and integrity, and have established and implemented relevant risk response and management measures.

During the reporting period, the Company conducted surveys on the sustainable status of suppliers and carbon trainings for them, expecting to lead the long-term and sustainable development of the photovoltaic industrial chain. With great global attention to climate change and 'carbon neutrality', we have taken the initiative to follow the recommendation of the Task Force on Climate-related Financial Disclosures (TCFD) to disclose our governance, strategy, risk management, and metrics & targets in the climate field of the Report.

The Report faithfully discloses the progress and performance of TZE's sustainability work in 2022, which was reviewed and approved by the Board of Directors on March 28 for publication.

Stakeholders and Material Issues

Stakeholder Identification and Engagement

TZE attaches great importance to stakeholders' expectations and feedback. To facilitate two-way communication with our stakeholders, we have established various channels to maintain close communication with them through meetings, interviews, the official website, the sustainability report, the official WeChat accounts, and online and offline activities for years and respond to their expectations and concerns in a timely manner.

In 2022, TZE has completely revamped our official website, with a highly interactive and dynamic web design to enhance the transparency, timeliness, and readability of sustainability-related information. We look forward to working together with our stakeholders to advance our process of sustainable development.

During the reporting period, according to the characteristics of our industry and operations, we identified employees, management, customers, investors or shareholders, suppliers, and the society and the public as key stakeholders through benchmarking excellent corporate practices at home and abroad and the discussions and agreement between the Sustainability Working Group and the management.

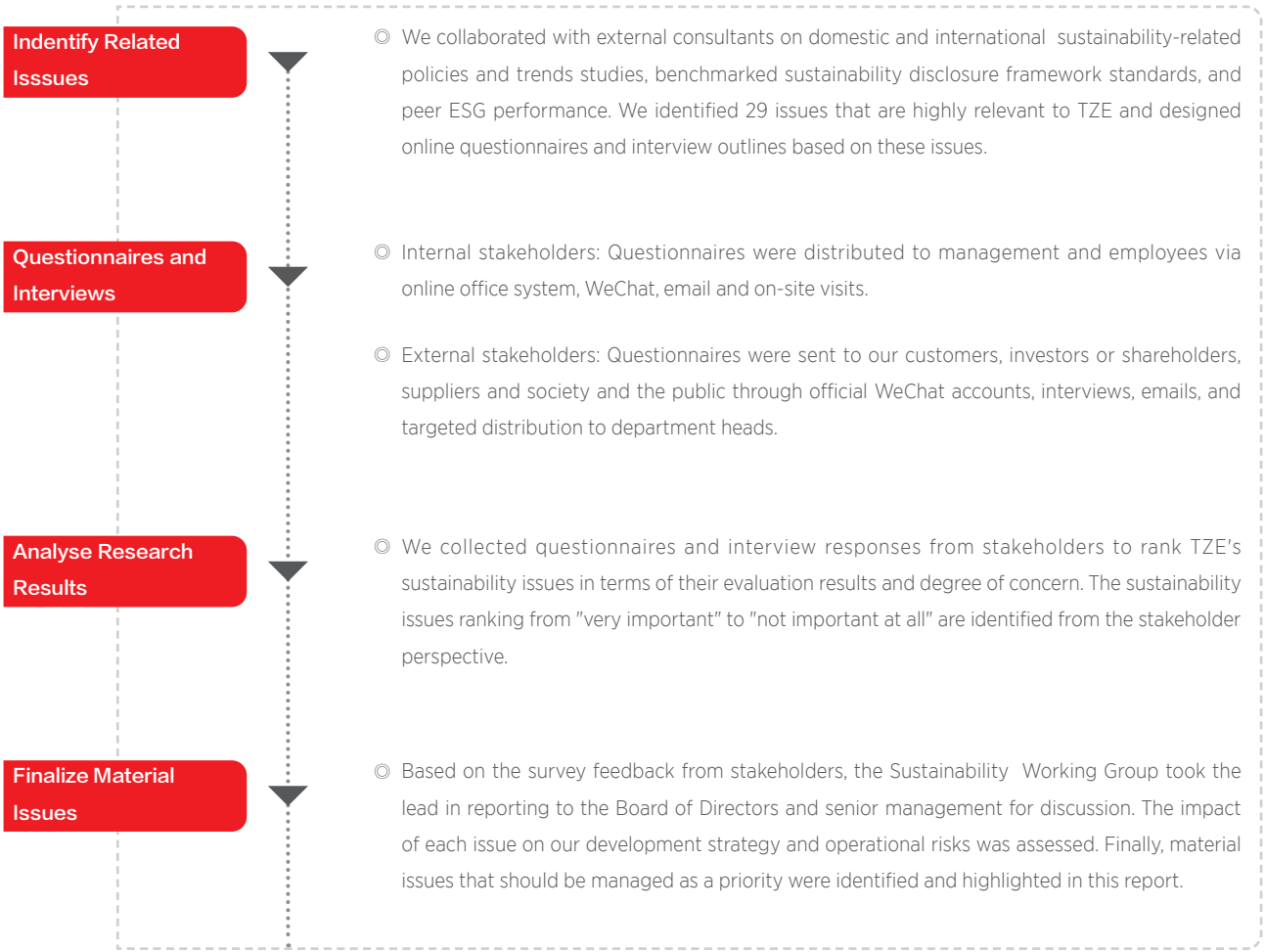
Our Key Stakeholders

Stakeholder	Our Response	Communication Channels	Sustainability Areas of Concerned
Employees	We are people-oriented, cultivating key backbone of the Company, and the core talent organizations to form a " Business Community".	◎ Employee activity ◎ Employees' congress ◎ Corporate intranet and internal publication ◎ Employee training ◎ Employee self-service system	◎ Protection of employee's rights and interests ◎ Diversity, equality, and inclusiveness ◎ Support employee development ◎ Occupational health and safety ◎ Diverse employee communication channels ◎ Compliance with business ethics
Management	Our Board of Directors and senior management have extensive professional and management background and formulate the vision and strategic planning for the Company, and oversee our operation and management.	◎ Board meeting ◎ Corporate intranet ◎ Email advocacy ◎ Training of Board of Directors and senior management	◎ Improve sustainability governance structure ◎ Strengthen risk resilience ◎ Response to climate change ◎ Optimize environmental management system ◎ Water management ◎ Compliance ◎ Intellectual property protection ◎ Information security and privacy protection
Customers	We are customer-centric and committed to continuous innovation, reducing PV LOCE, and contributing to renewable energy development.	◎ Product exhibition ◎ Customer survey ◎ Technical seminar ◎ Customer service hotline ◎ Customer satisfaction survey	◎ Product quality and safety ◎ Use of renewable energy ◎ Low-carbon product ◎ Improve customer service
Investors or Shareholders	We value the rights and interests of investors and strengthen investor relationship through diversified interactive activities.	◎ Shareholder meeting ◎ Financial report ◎ Performance Report ◎ Roadshow ◎ WeChat official account	◎ Corporate governance ◎ Scientific and technological innovation ◎ Carbon emission management ◎ Biodiversity protection ◎ Social contribution and rights and interests of employees
Suppliers	Aiming at a green supply chain, we work with our suppliers to build a flexible supply chain, develop innovative solutions and enhance industry resilience.	◎ Public bidding meeting ◎ Strategic cooperation negotiation ◎ Mutual visit	◎ Save raw materials ◎ Green supply chain ◎ Responsible supply chain
Society and the Public	We actively participate in social welfare activities, listen to the public's expectations, and unleash our strength to create a better life together.	◎ Community volunteer activity ◎ Social welfare project ◎ News media ◎ WeChat official account ◎ Projects supporting other social undertakings	◎ Management of solid waste and emissions ◎ Biodiversity protection ◎ Support community development

Material Issues Identification

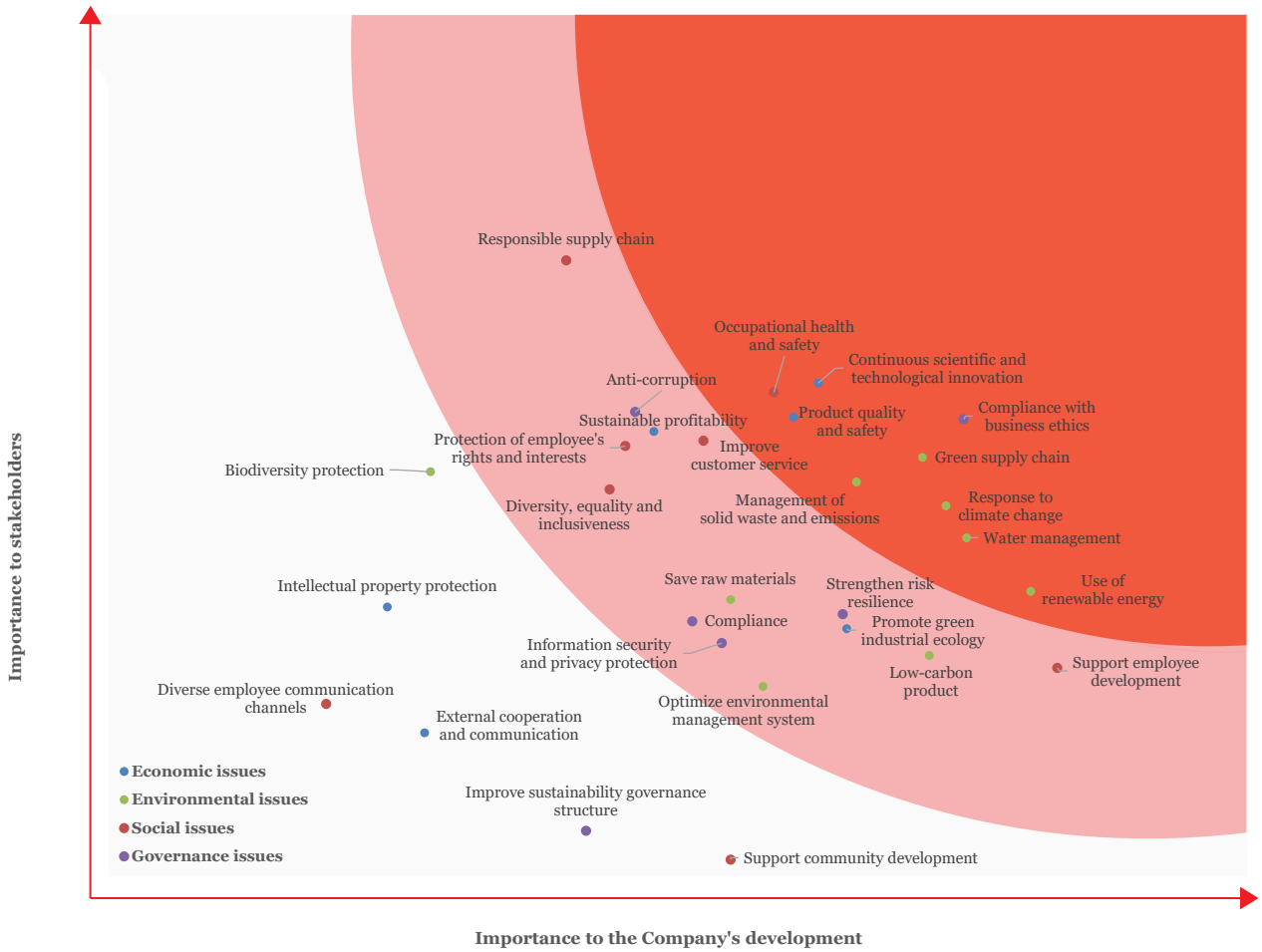
In 2022, TZE integrated similar sustainability issues and added twelve issues related to the company by referring to the sustainable development trend of the photovoltaic industry, domestic and international ESG-related laws and regulations, ESG rating focus, and the status of industry disclosures, in combination with the company's sustainability strategy. The issues were classified into four categories: environment, society, corporate governance and economy. Newly added sustainability issues in 2022 includes intellectual property protection, external cooperation and communication, response to climate change, use of renewable energy, biodiversity protection, green supply chain, low-carbon product, diverse employee communication channels, responsible supply chain, compliance with business ethics, strengthen risk resilience, and information security and privacy protection.

To further identify issues with material impact, we conducted internal and external stakeholder research on sustainability issues through questionnaires and interviews. Based on the survey results and the evaluation of the importance of each issue by stakeholders, we determined highly important material issues after reviewing by the Board of Directors and management and created a material issues matrix for sustainability.



Material Issues Analysis Procedures

High importance



Low importance

High importance

In 2022, we prioritized the issues into high importance, medium importance and low importance, respectively, based on how significantly our stakeholders believe the issues would be impacted by the Company's operations. The issues are presented in the matrix of material issues.

We defined sustainability issues with high importance as key material issues. In 2022, twelve material issues identified through our research and analysis procedures include the same six material issues as those in 2021 (compliance with business ethics, continuous scientific and technological innovation, occupational health and safety, product quality and safety, water management, management of solid waste and emissions) and six new material issues (green supply chain, response to climate change, responsible supply chain, use of renewable energy, support employee development and improve customer service). In this report, we provided detailed disclosures on the management approach, objectives, and data of these twelve key material issues following the GRI framework.

Importance	Material Issue	Chapter
High Importance	Compliance with business ethics	6.2 Business Ethics
High Importance	Continuous scientific and technological innovation	Annual Feature — Intelligent Manufacturing to Accelerate the Journey Towards Zero Carbon 1.2 Leading the Lean Manufacturing
High Importance	Green supply chain	3.3 Fostering a Responsible Supply Chain
High Importance	Occupational health and safety	4.5 Safeguarding Employee Health
High Importance	Response to climate change	1.1 Our Actions towards Climate
High Importance	Responsible supply chain	3.3 Fostering a Responsible Supply Chain
High Importance	Product quality and safety	3.1 Achieving Excellence in Quality
High Importance	Water management	2.2 Strengthening Resource Management
High Importance	Use of renewable energy	2.2 Strengthening Resource Management
High Importance	Management of solid waste and emissions	2.3 Promoting Green & Intelligent Manufacturing
High Importance	Support employee development	4.3 Boosting Employee Growth
High Importance	Improve customer service	3.2 Serving Global Customers

1. Exploring the Essence of Carbon Reduction and Intelligent Manufacturing

Tackling climate change is the mission and obligation of all responsible enterprises. As the issue of climate change becomes increasingly severe, it has become a broad consensus of the international community to actively identify and address climate risks. At the background of "carbon peaking and carbon neutrality" goals, TZE, as an innovator and navigator in the new energy industry, continues to optimize energy management, accelerate the transformation of Industry 4.0 intelligent manufacturing, strive to reduce greenhouse gas emissions, lead the photovoltaic industry upgrading, and promote the green transformation of global energy industry.

In 2022, the revenue of the Company reached CNY 67.01 billion, a 63.02% increase compared to the previous year. The revenue is mainly from renewable energy related industries, a total of CNY 62.36 billion, an increase of 62.20% over the last year, accounting for 93.06% of the total revenue, fully demonstrating the strong strength of the Company as a leader in the new energy photovoltaic industry.

1.1 Our Actions towards Climate

Responding to Climate Change

TZE is fully aware of far-reaching impact of climate-related risks and opportunities on our business and industrial chain development. We incorporate climate as a material issue into our sustainable development management process to enhance climate change resilience.

By referring to the proposed disclosure framework of TCFD, we comprehensively improve our climate governance capability and information disclosure level by focusing on the four areas of governance, strategy, risk management, and metrics and targets.

Governance

- The Company takes topics concerning climate change mitigation and adaptation as our ESG focuses and material issues.
- The Board of Directors reviews climate and energy-related policies, and regularly deliberates the analysis results and quantitative performance disclosure of climate change topics.
- The general manager reviews and analyzes the climate change-related affairs of the Company regularly, summarizes and reports to the Board of Directors, formulates annual performance goals and action plans of climate governance, and arranges guidance and resources for relevant departments of the Company.
- Multiple departments of the Company work together to implement climate governance-related work to ensure relevant performance goals are met.

Strategy

- The Company identifies and analyzes major climate-related risks and opportunities and evaluates their potential impact on our operation and finance.
- Business units take management actions in terms of low-carbon operation, response to climate change and natural disasters, and support for clean energy development.

Risk management

- The Company identifies potential risks and opportunities in our business and operational activities referring to the TCFD climate change risk category.
- The Company identifies and defines the materiality of risks and opportunities based on their probability of occurrence and severity of impact.
- The Company formulates measures for elimination, mitigation, transfer, or control of different types of risks, and formulates action plans for different types of opportunities.

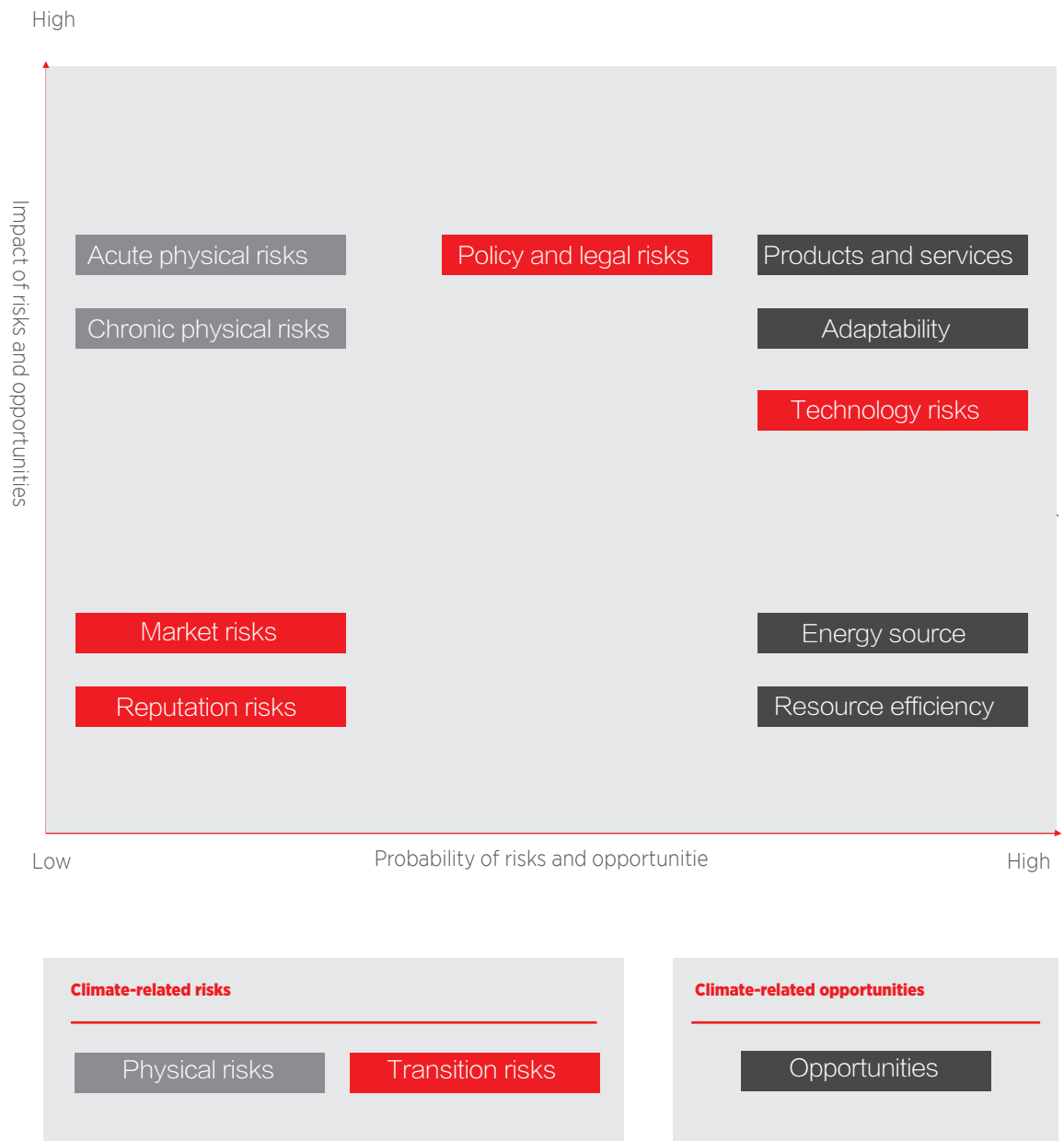
Metrics and targets

- The Company collects data related to greenhouse gas emission activities on an annual basis, discloses results of relevant goals regularly, and accepts the supervision of relevant committees and the society.
- The Company links greenhouse gas emissions data with the results of the identification and analysis of climate change risks, evaluates the management performance of the Company's response to climate change, and formulates improvement plans and annual performance goals.

Climate Risks and Opportunities Management

The Company identifies potential climate change risks and opportunities that may affect the Company's business and operation according to the climate change risk category proposed by TCFD and forms a preliminary list of climate change risks and opportunities. At the same time, we refer to expert opinions, policy survey and the result of peer benchmarking, further analyze and rank the contents of the list systematically and establish complete climate risk prevention and control measures and an emergency management system for various risk sources.

Identification Matrix of Climate Change Risks and Opportunities



Main risks of climate change identified by TZE			Measures
Risks	Physical risks	**Acute physical risks** Production and operation suspension or safety production accidents caused by extreme weather (typhoons, rainstorms, snowstorms, etc.) or natural disasters.	◎ Actively respond to market expectations for the Company's low-carbon development and communicate with stakeholders on climate change as a material issue through the sustainability report, articles from official accounts and other channels. ◎ Regularly track relevant regulations and policies, and timely optimize internal rules, regulations, and work processes to meet (even go beyond) regulatory requirements. ◎ The Company makes annual statistics of greenhouse gas emission data of production plants in operation and employs third-party organizations to carry out annual greenhouse gas emission accounting to strengthen the control of greenhouse gas emissions. ◎ Comply with national laws and regulations, establish a sound system and management mechanism, prevent and control pollution in the whole process, and ensure that environmental compliance requirements are met. ◎ Promote the construction of Industry 4.0 production mode, implement intelligent manufacturing, lean manufacturing, and flexible manufacturing, support the construction of high-standard green factories, increase capacity of production lines, and reduce energy consumption per unit product. ◎ Adhere to technological innovation and upgrade, continue to carry out R&D of new materials in place of conventional materials, and develop low-carbon products. ◎ Promote carbon emission reduction in production, conduct statistics of energy consumption and water consumption of the Company annually, formulate annual targets for energy conservation, and carry out energy conservation projects. ◎ Formulate emergency plans for environmental affairs to improve emergency response capability.
		Chronic physical risks Resource shortage caused by climate change (global warming, rising sea level, etc.).	
	Transition risks	**Policy and legal risks** Increased compliance cost to meet regulatory requirements, or lawsuits and penalties if the Company fails to meet regulatory requirements.	
		Technology risks Direct impact of the appearance of new clean energy-related technologies on the Company's business and products.	
		Market risks Since overseas markets have high requirements on company's sustainable development management and greenhouse gas emissions, the Company may not adjust our overseas operational strategies timely, which affects customers' judgement and decision-making.	
		Reputation risks The Company fails to respond to the expectation of our stakeholders timely, which may cause the reduction of accesses to finance.	

Main opportunities of climate change identified by TZE		Measures
Opportunities	**Products and services** The "carbon peaking and carbon neutrality" goals give birth to brand-new low-carbon business models. The Company's low-carbon products and innovative solutions meet the emerging market demand, boosting our business growth.	◎ Increase investment in low-carbon product R&D, promote technological innovation and upgrade, and provide customers with diversified, reliable, and efficient low-carbon products and solutions. At the same time to expand the Company's revenue sources and increase shareholder returns. ◎ Carry out energy-saving renovation projects in production and operation, promote the construction of green and intelligent factories, and further improve the efficiency of resource utilization. Increase the proportion of the use of renewable energy in manufacturing and office, reduce operational greenhouse gas emissions, and improve the carbon competitiveness of the Company's products and services.
	Adaptability To improve the climate change adaptability, the Company continues to carry out low-carbon product R&D and technological innovation and upgrade and cooperate with suppliers and customers to build a green and low-carbon ecosystem.	
	Resource efficiency Using intelligent manufacturing to downsize staff and increase efficiency, improve resource utilization efficiency, and reduce the Company's operating cost.	
	Energy source To cut energy cost, the Company reduces the use of traditional fossil energy and increases the proportion of the use of clean energy.	

In 2022, our Scope 1 and Scope 2 emissions is 4,890,931.53 tCO2e. TZE formulates and implements 3 strategies:

Accelerate to achieve operational carbon neutrality

◎ Achieve online carbon management by establishing a digital emission monitoring platform from the Company's headquarter to production bases.

◎ Change the energy consumption structure, reduce the use of fossil energy, and increase the proportion of the use of green electricity.

◎ Drive low-carbon development through technological innovation and promote intelligent manufacturing, energy conservation and efficiency improvement, green office, and green transportation.

◎ Actively participate in carbon asset trading and carbon asset equity project development, offsetting residual emissions through the development, purchase, and sale of relevant environmental equities.

Create low-carbon products to drive carbon neutrality in value chain

◎ Creating low-carbon products by continuing to promote the use of granular silicon and large-size & thin silicon wafer, imbricate technology upgrade, high-efficiency. battery technology upgrade and other technological innovation.

◎ Achieve product lifecycle carbon emission analysis and management by using product code.

◎ Adopt green packaging and transportation to improve material recycling rate and reduce product carbon footprint

◎ Carry out the upgrading of green supply chain to drive the carbon neutrality of the value chain through requiring major suppliers to reduce operational carbon emissions and product carbon footprint.

Facilitate the construction of a power system with new energy as the main supply

◎ Focus on the development of photovoltaic power plants, expand investment in photovoltaic industry, increase the capacity of photovoltaic products, reduce the LCOE of photovoltaic power, realize the comprehensively affordable access to photovoltaic power, and facilitate the construction of a new power system with new energy as the main supply to bring green energy into the society.

Carbon Emission Management

Since 2020, TZE has regularly engaged third-party consultants to conduct carbon inventories of our operation and disclose carbon verification reports, providing scientific data support for the low-carbon development of our four production bases (Ningxia, Inner Mongolia, Jiangsu, and Tianjin).

Since 2021, the Company has expanded our carbon emission inventory boundaries to Scope 3 and has set Scope 3 greenhouse gas emission targets. We conduct carbon emission inventory in accordance with ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. We also obtain the carbon emission verification report by TUV SUD in accordance with ISO 14064-3:2019 Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements. Our G12 and imbricated module products have passed the carbon footprint certification by a French authority. For more information, please refer to Chapter 1.3 Create Low-Carbon Products.

2021-2022 GHG Emissions

Indicator	2022	2021
Scope 1 and Scope 2 Emissions (tCO2e)	4,890,932	3,774,515
Scope 1 Emissions (tCO2e)	32,261	20,597
Scope 2 Emissions (tCO2e)	4,858,671	3,753,918
Scope 1 and Scope 2 Emissions Intensity (tCO2e/ CNY 10K)	0.73	0.92
Scope 1 Emissions Intensity (tCO2e/ CNY 10K)	0.005	0.005
Scope 2 Emissions Intensity (tCO2e/ CNY 10K)	0.73	0.91

Note:

1. All carbon emission data in this table have been verified by a third-party organization. The Company adopts the operational control approach. The emissions factors used in the calculations are all derived from national or IPCC guidelines. The global warming potential (GWP) of greenhouse gases in 2022 is calculated using the recommended values in the Sixth Assessment Report of IPCC.
2. In this report, 'Scope 1' represents Category 1 of ISO 14064-1:2018: Direct GHG emissions and removal. 'Scope 2' represents Category 2 of ISO 14064-1:2018: Energy indirect GHG emissions.
3. The statistical scope of greenhouse gas emission data covers subsidiaries and their supporting facilities. The statistical scope of other environmental data in 2022 only includes subsidiaries themselves, while the statistical scope of Huanzhi includes the company itself and its canteen
4. Tianjin Xin Technology Development Co., Ltd. has been changed into a participating stock company of TZE since May 2021, which is not included in the data of 2022.

According to the analysis, the main greenhouse gas emission source of TZE is outsourced power. Therefore, carrying out the production energy transformation and increasing the proportion of green electricity use are two key approaches for the Company to achieve the goal of operational carbon neutrality.

By comparing the emissions of the Company's production bases, the main carbo emissions come from the Inner Mongolia production base, accounting for 75.35% of Scope 1 and Scope 2 greenhouse gas emissions of the Company. Therefore, the main direction for the Company to promote our carbon reduction is toward the Inner Mongolia production base.

Renewable Power

Actively expanding the use of green electricity is the key for the Company to achieve carbon reduction. TZE incorporates the construction of green power parks into the Company's strategic planning and is expected to achieve 100% coverage of the rooftop photovoltaic distributed power generation system of all production bases in 2023. By 2027, photovoltaic power stations with an estimated capacity of 4GW+ will be built, directly supplying power to production bases in Inner Mongolia and Ningxia.

The Company always takes "100% green electricity consumption" as the long-term goal of electricity used in production and operation. At the same time, the Company actively operates photovoltaic power station business in various areas to help develop photovoltaic industry there and promote the green energy transformation.

In the siting of new production base, we take the proportion of green electricity in potential operation areas into consideration. Both Inner Mongolia and Ningxia production bases are in areas with a higher proportion of green electricity in China, among which the proportion of new energy electricity in Ningxia monocrystalline silicon photovoltaic production base has reached 50%

In addition, the Company accelerates the use of green electricity in 3 ways: self-generation, trading, and developing or purchasing renewable energy certificates, striving to achieve carbon reduction in our own production and operation.

◎ Increase the Proportion of Self-generation Green Electricity
By 2027, the photovoltaic power generation system will be installed on the roofs of all production bases, which mainly generates electricity from distributed power stations and new energy own power stations in the park, increasing the proportion of self-generation electricity.

◎ Increase the Proportion of the Use of Green Electricity
Purchasing photovoltaic power, hydropower, wind power and other green energy to increase the proportion of the use of green electricity. Some production plants launch a pilot project of directly purchasing green electricity.

◎ Develop or Purchase Renewable Energy Certificates
Further promoting electrification and reducing the use of fossil energy, and developing or purchasing renewable energy certificates timely.

TZE "source-grid-load-storage" power generation park

TZE has built "source-grid-load-storage" photovoltaic power generation parks in Inner Mongolia and Ningxia production bases, striving to achieve the stability of photovoltaic power generation source, grid, load, and storage, and guaranteeing the green electricity supply in production bases to realize sustainable operation.

We will steadily increase the installed capacity which is estimated that 4,080MW will be connected to the grid by the end of 2026, to bring clean energy and economic income to the local area and energize the transformation to the national new energy power generation base in these areas.

"Source-grid-load-storage" power generation park in Ningxia Production Base

1.2 Leading the Lean Manufacturing

Under the wave of Industry 4.0 and Made in China 2025, it is imperative to deepen the industrial application of digital technology comprehensively. The Company plans and implements Industry 4.0 strategy in advanced to support the internal and external, medium-term and long-term development of the Company, comprehensively improve the flexible manufacturing ability, and continue to maintain a leading position in the industry.

We promote the deep integration of manufacturing automation and informatization, enabling digital value to fully empower business management. To build the core competitiveness of TZE, we comprehensively deploy the six capabilities of "intelligent manufacturing, equipment, quality, innovation, organization and resource planning" to promote the transformation of Industry 4.0 production modes.

In addition, to achieve digital agile financial management and data-driven flexible supply chain and flexible marketing, we extend the digital transformation from manufacturing to operation.

Lean Manufacturing

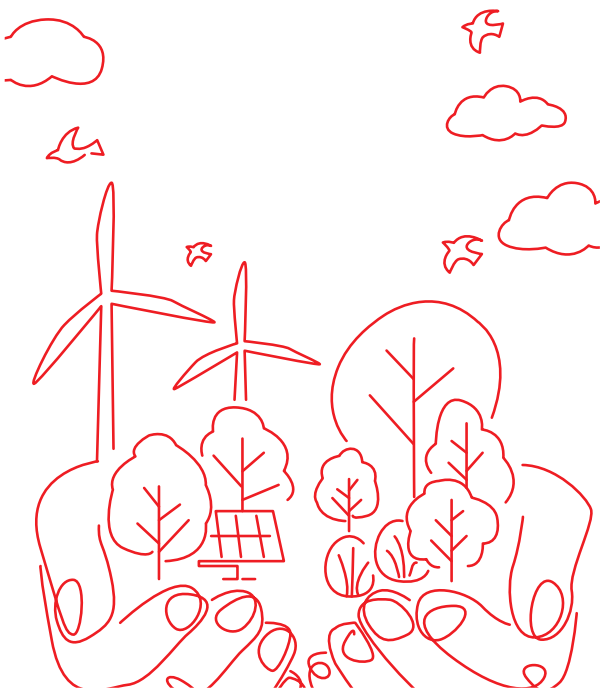
"People-oriented" is the fundamental driving concept of the transformation of Industry 4.0 in TZE. To comprehensively improve the level of flexible manufacturing, we take Lean manufacturing, Six Sigma and 5S (sort, set in order, shine, standardize, self-discipline) as our theoretical guidance, and promote the deep integration of LSS (Lean Six Sigma) and IEOT (industrial engineering automation & informatization).

In terms of automation, the Company carries out automatic modification for inefficient and repetitive operations (such as heavy lifting) on production sites, adopting AGV (Automated Guided Vehicle) robot to transport materials and products. The Crystal Phase 6 Plant coming into operation in 2022 has equipped with advanced overhead hoist transport (OHT) facilities.

The Company builds a data middle platform, establishing the capacity of data warehouse based on data-driven concept to improve the efficiency of production decision-making with high-quality data. To develop a more intelligent Industry 4.0+ production mode in the future, the Company will gradually establish a digital twin platform and build a virtual and reality co-mapping from product design to production.

In the aspect of constructing TZE "Stereotype", the Company relies on the "Deep Blue" AI model and optimization analysis, gradually increases the number of imported models from 15 to more than 50, improves the abnormal analysis ability in the production process by 20%, and further optimizes the consistency of products.

In addition, the intelligent transformation of the manufacturing mode will drive to the transformation of the organizational structure of the Company's production staff from the previous pyramid shape to olive shape. In the future, the proportion of backbone staff is expected to increase from 47% to 53%, becoming the highest among all production staff types.



Silicon Investment Project in the Industry

Ningxia Zhonghuan Crystal Phase 6 Plant – The Largest Solar Monocrystalline

TZE invested to build the 50GW solar monocrystalline silicon materials intelligent plant (Crystal Phase 6 Plant) in Yinchuan Industrial Park, Ningxia. This plant focuses on the production of our disruptive G12 photovoltaic products, and further accelerates the mass production and large-scale application of the Company's G12 monocrystalline silicon products through the optimization of intelligent plant design, manufacturing mode, organization mode, and management mode, to achieve synergy and joint development with upstream and downstream partners.

Specializing in Industry 4.0-related technologies, the Company leverages years of technology accumulation to build a square rod dark factory. Under the guarantee of production quality, we realize "dark" in certain units of manufacturing process, reducing the consumption of human resources and energy. At present, the dark rate and centralized control rate of the dark factory in Ningxia Zhonghuan have reached 60% and 40% respectively and will be further increased to 90% and 80% respectively in the future. The dark factory mode has been gradually promoted to other production bases of the Company.

Dark Factory Illustration

Digital Operation

TZE has preliminarily built an efficient operation management platform with ERP (Enterprise Resource Planning) as the core and integrated with multiple peripheral systems, connecting each part of supply, production, sales, human resources, finance, and logistics, and promoting the integration of operation and finance. The Company gradually unifies main data standards and uses BI (Business Intelligence) management decision support platform to integrate data, build models, and generate visual dashboards to support management decision-making.

The Application of BPC, SRM, and CRM Platforms

TZE is making every effort to strengthen our digital operation capability. In terms of digital finance and taxation, the Company further improves the operational efficiency of BPC (Business Planning and Consolidation) system. In terms of supply chain management, the Company connects ERP system with SRM (Supplier Relationship Management) system and CRM (Customer Relationship Management) system, builds an open channel for products flow, information flow and finance flow of internal and external suppliers, and realizes the whole process closed-loop management of customer business opportunity–order–customer complaint, further improving the capability of flexible supply chain and flexible marketing.

Our Industry 4.0 Performance

The Company's flexible manufacturing capability has attracted extensive attention and been recognized by the society. In 2022, TZE and our subsidiaries won several national, provincial, and municipal manufacturing awards:

No.	Awardees	Awards	Level	Awarders
1	TCL Zhonghuan Renewable Energy Technology Co., Ltd	The 7th National Manufacturing Single Product Champion	National	Ministry of Industry and Information Technology
2	Tianjin Huanzhi New Energy Technology Co., Ltd	Intelligent Manufacturing Excellent Scenario of Year 2022 (Flexible Configuration of Production line)	National	Ministry of Industry and Information Technology
3	Zhonghuan Advanced Semiconductor Materials Co., Ltd.	2022 Jiangsu Intelligent Manufacturing Demonstration Factory	Provincial	Jiangsu Department of Industry and Information Technology
4	Huansheng New Energy (Tianjin) Co., Ltd.	2022 Tianjin Digital Workshop	Municipal	Tianjin Bureau of Industry and Information Technology
5	Tianjin Huanzhi New Energy Technology Co.,Ltd	2022 Tianjin Intelligent Factory (Large-size Monocrystalline Silicon Wafer Intelligent Factory)	Municipal	Tianjin Bureau of Industry and Information Technology

1.3 Creating Low-Carbon Products

Through continuous R&D and innovation, TZE promotes the reduction of the product life cycle carbon footprint of all product types to truly achieve the target of providing customers with low-carbon and high-quality products and facilitating the green energy transformation.

R&D and Innovation

R&D Management and Incentives

In order to continuously stimulate the R&D vitality of the Company, we formulate and implement a series of R&D management rules and regulations, such as Technology Project Management System, Intellectual Property Management System and Regulations on the Management of R&D Expenditure, based on the characteristics of the R&D of photovoltaic products.

To mobilize R&D personnel's enthusiasm for innovation, the Company formulates and implements several R&D incentive policies, setting up technological project awards, intellectual property rights awards, and technological innovation awards for project teams and their members achieving excellent results in R&D and innovation.

R&D and Innovation Input

TZE attaches great importance to the Company's international competitiveness in photovoltaic industry and continues to integrate the Company's various R&D platforms. In September 2022, TZE Research Institute was established. TZE Research Institute consists of Photovoltaic Materials Sub-Institute and Cells & Modules Sub-Institute, which are responsible for R&D of advanced technology in corresponding fields.

In 2022, the Company's R&D investment reached CNY 3.771 billion, a significant increase of 46.34% over the previous year, accounting for 5.62% of the sales revenue.

Our Low-Carbon Products

In 2022, with the reduction of LCOE and the boom of sustainable development in photovoltaic industry, TZE integrates G12 large-size silicon wafers and efficient imbricated module technologies and continues to launch photovoltaic products with lower emissions during their life cycle, to promote the realization of "zero-carbon energy".

Imbricated 3.0 Modules – Increase Benefits from Power Generation and Reduce the Use of Power

The Company integrates large-size silicon wafers to create a differentiated dual-platform of "G12+ Imbricated", continuously improving the power generation efficiency and low-carbon performance of modules.

In 2022, the Company launched Imbricated 3.0 module P6 series products, including 585W 55P single glass modules and 675W 68P single glass modules. Among them, the maximum power generation efficiency of 55P single glass modules reaches 21.7%. Relying on the technical characteristics of no cell spacing and the design of full parallel connection circuit structure, this product series has higher packaging density and output power than conventional similar modules, comprehensively improving its power generation performance, and has better heat spot resistance performance, bringing higher benefits from power generation and lower BOS (Balance of System) cost for costomers and reducing the power usage for the product.

Imbricated 3.0 **Modules**

Life Cycle Carbon Footprint – Low-Carbon Photovoltaic Products Drive "Zero-Carbon Energy" Transformation

TZE engages qualified third-party organizations to analyze and evaluate the life cycle carbon footprint of photovoltaic materials or products such as rods, slices, and modules. Our G12 and imbricated module products have passed the carbon footprint certification by a French authority. As of December 2021, the minimum carbon footprint of TZE Imbricate modules has reached 504kg CO2e per kW, a general decrease of 8%-10% compared with that of 2020. The lowest carbon footprint of silicon wafer products also reached 22kg CO2e.

According to the calculation by TÜV SÜD, the photovoltaic products sold by the Company will provide more than 4 trillion kWh of clean energy electricity for society and reduce about 2 billion tons of carbon dioxide equivalent annually in their life cycle.

During the reporting period, our subsidiary Zhonghuan Applied Materials was awarded the National "Green Design Product" and "Industrial Product Green Design Demonstration Enterprise" by the Ministry of Industry and Information Technology for its excellent low-carbon photovoltaic silicon wafer products.

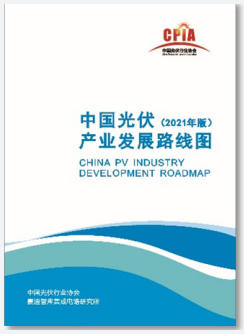
1.4 Boosting the Development of the Industry

◎ TZE has established long-term cooperative relations with a number of universities and research institutes to jointly undertake advanced technology R&D projects and promote technological breakthroughs. We also take an active part in seminars organized by governments at various levels, industry associations, and peer enterprises to offer suggestions for the high-quality development of the photovoltaic industry. In 2022, the Company participated in the drafting of 2 national standards and led the drafting of 1 national standard.

◎ TZE is a member of more than 10 trade associations and industrial alliances, such as China Photovoltaic Industry Association and China Federation of Electronics and Information Industry. We actively fulfill our responsibilities as a leader in the photovoltaic industry, including participating in the development of industry standards, discussing advanced technical TZE attaches great importance to cooperation with industries, universities, and research institutes. We work together with

TZE Participated in the Compilation of China PV Industry Development Roadmap (2021 Edition)

As an industry expert, TZE was invited to participate in the compilation of China PV Industry Development Roadmap (2021 Edition). This Roadmap covers the upstream and downstream parts of the photovoltaic industry chain, including a total of 67 key indicators such as polysilicon, silicon rods, silicon ingots, silicon wafers, batteries, modules, inverters, systems, etc. At the same time, this Roadmap forecasts the future development trend of photovoltaic industry according to the actual situation of the industry combining the technological evolution process and the current circumstance of technological transformation of photovoltaic enterprises.



research institutes such as the Chinese Academy of Sciences, and Universities such as Shandong University, Hebei University of Technology, Sichuan University, and Xi'an University of Technology to carry out a number of R&D projects.

◎ The cooperative project of "Process Optimization of G12 large-size Silicon Wafer Products": We cooperate with Shandong University to implement analog simulation and set up a laboratory. TZE is responsible for verifying the simulation results and optimizing the selection of parameters in the simulation instantly based on the field test results.

◎ The cooperative project of "R&D of silicon crystal growth technology": TZE cooperates with Hebei University of Technology to study crystal growth, monocrystal defects, silicon wafer polishing, and silicon wafer testing technology, etc.

Pursuing Green Development for the Beautiful Environment

Adhering to our business philosophy of environmentally friendly, we have been taking our responsibility for global sustainable development by improving our environmental stewardship system, maximizing resource efficiency, and further developing green manufacturing mode.

At the end of the reporting period, the Company has 14 plants in China, located in four production bases in Tianjin City, Jiangsu Province, Inner Mongolia Autonomous Region and Ningxia Autonomous Region.

Note: TCL Huanxin Semiconductor (Tianjin) Co., Ltd changed to a joint-stock enterprise company in May 2021 and is not included in the disclosure scope of this report. Please refer to List of Subsidiaries for detailed information.

2.1 Promoting Ecological Harmony

We are committed to mitigating our environmental impact and creating an eco-friendly manufacturing and development model through the establishment of a sound environmental management system.

Management Approach

We strictly comply with the Environmental Protection Law of the People's Republic of China, the Environmental Impact Assessment Law of the People's Republic of China and other laws and regulations, and strive to mitigate the negative impact of our production and operation on the ecological environment.

The Company formulated and implemented several internal environmental management systems such as the Provision for Administration of Environmental Protection Management. We continuously improve our environmental management structure. Our Project Management Department has overall oversight of the Company's environmental matters, while our subsidiaries' professional environmental management team drives progress on implementation. We adopt a "target + process" assessment mechanism for safety and environmental protection to ensure the sound operation of the Company's environmental management. At the end of the reporting period, nine subsidiaries passed ISO 14001 Environmental Management System Certification. No violations in pollutant discharge or pollution occurred throughout the year.

In addition, we are committed to developing high-standard green factories through continuously technological innovation and Industry 4.0 manufacturing transformation. As of the end of the reporting period, six subsidiaries received the Green Manufacturing System Certification of China's Ministry of Industry and Information Technology (MIIT), among which two subsidiaries were recognized as national "Green Factory" and four were recognized as provincial or municipal "Green Factory". Three subsidiaries plan to apply for provincial or municipal "Green Factory" in 2023.

List of "Green Factory"

Note: TCL Huanxin Semiconductor (Tianjin) Co., Ltd was included in the 2021 ESG report as a national "Green Factory", which is changed to a joint-stock enterprise company in May 2021 and is not included in the disclosure scope of this report. Please refer to List of Subsidiaries for detailed information.

Award	Subsidiary
Green Factory (National), Green Factory (Inner Mongolia)	Zhonghuan Photovoltaic
Green Factory (National), Green Factory (Tianjin)	TianJin Zhonghuan Advanced
Green Factory (Tianjin)	Huanou
Green Factory (Wuxi)	Zhonghuan Applied Materials

Walking Into National "Green Factory" – Zhonghuan Photovoltaic

Organized by China's Ministry of Industry and Information Technology (MIIT), the evaluation of "Green Factory" include such steps as self-declaration, third party evaluation, recommendation by provincial or municipal Bureau of Economy and Information Technology, and re-examination by experts of the MIIT. Since it was established in 2009, Zhonghuan Photovoltaic has always adhered to green, low-carbon and sustainable development, and was awarded national "Green Factory" in 2020.

As early as the site selection stage, Zhonghuan Photovoltaic has included the proportion of green electricity as a key consideration and selected the area with the proportion of green electricity over 50%. During the production and operation process, the Company has taken a multi-pronged approach to reduce energy consumption in the production process and production emissions. We have completed the renovation of monocrystalline Czochralski (CZ) transformers and supplemented capacitor compensation cabinets, achieving an annual electricity saving of 1.15 million kWh. The concentration ratio of cooling tower was also increased to reduce the replacement of water, saving 110,000 metric tons of water.

National "Green Factory": Zhonghuan Photovoltaic

Sustainable Project Site Selection and Construction

Complying with relevant laws and regulations on environment and biodiversity protection in the whole process of project site selection, construction and daily operation, TZE takes ecology and environmental resources as an important boundary condition for project investment, and constantly promotes the integration of the Company's operation and environment.

In terms of project site selection, permanent basic farmland, ecological reserves, nature reserves, drinking water source protection areas, habitats of endangered species and other environmentally sensitive areas should be avoided. We also consider the energy and resources of the operation site. The environmental impact assessment is carried out according to national laws and regulations, which is a comprehensive assessment of the project construction and future operation of the potential impact on the ecological environment.

2.2 Strengthening Resource Management

TZE strictly abides by the industrial energy conservation laws, regulations and standards such as the Energy Conservation Law of the People's Republic of China and the Measures for the Administration of Industrial Energy Conservation. We established the complete and effective energy policy, energy performance target and energy management system in accordance with the requirements of ISO 50001 Energy Management System. At the end of the reporting period, three subsidiaries passed ISO 50001 Energy Management System Certification.

The Power Department of our subsidiaries is responsible for energy security, collection and the statistics of energy consumption data, management of power equipment, implementation of electricity conservation projects.

The Company continues to digitize energy management. In 2022, the Energy Management System (EMS) was officially put into operation in our plants in Inner Mongolia, which enables digital energy monitoring, energy statistics and energy consumption analysis, improving the management efficiency of key energy consumption equipment, and rational planning and use of energy resources.

Achievements of Resource Management in 2022

40+

The number of projects implemented in 2022electricity, water and other resources conservation)

CNY **28,657,500**

Investment of projects implemented in 2022 (electricity, water and other resources conservation)

50,214,500 kWh

Of electricity saved in 2022

12,343,500 metric tons

Of water saved in 2022

Energy Management

TZE incorporates energy management into the Company's daily management and the performance indicators of the management. Relevant persons in charge of our production bases of all products (i.e. crystal, wafer, battery, module, etc.) are responsible for the annual energy conservation targets and project plans setting and the implementation of annual energy conservation work. At the end of the reporting period, power is the main energy consumed in our production bases, accounting for more than 95% of the total energy consumed. The distributed power station we have built and put into operation can provide 37,312 MWh of green electricity.

2020-2022 TZE Energy Consumption

Indicator	2022	2021	2020
Natural Gas (m^3)	3,867,760.00	2,880,687.82	806,550.70
Steam (m^3)	28.42	99,613.55	27,594,561.30
Total Electricity Consumption (MWh)	5,268,918.42	4,414,449.08	3,067,424.01
Electricity Purchased (Green Electricity not incl.) (MWh)	5,229,462.76	-	-
Green Electricity (MWh)	39,455.66	-	-
Energy Intensity (MWh/CNY 10K)	0.79	1.07	1.61

Notes:

1. TZE first collected and disclosed electricity purchased (green electricity not incl.) and green electricity in 2022.
2. The calculation formular of energy intensity is "Energy Intensity=Total Electricity Consumption/ Operating Revenue".
3. The increase in natural gas consumption was mainly due to increased production, air conditioning consumption and compensatory use of natural gas to meet extranet steam pressure requirements.
4. The decrease in steam consumption was due to the change of TCL Huanxin Semiconductor (Tianjin) Co., Ltd to a joint-stock enterprise company in May 2021, which is not included in the 2022 statistics.
5. The increase in total electricity consumption was mainly due to the Company's increased production capacity.

Based on the accurate analysis of our energy consumption structure, we continuously optimize the energy utilization in both the production process and power system. In terms of energy consumption in the production process, we actively improve our production technique by upgrading equipment and developing and applying new materials, and continuously drive the production process transitions from low-emission to no-emission. In terms of energy consumption in power system, we focus on energy conservation in such aspects as technology, management and structure, and reduce electricity consumption through recycling of residual heat and improving equipment energy efficiency.

In 2022, we implemented 21 key electricity conservation projects, saving 50,214,500 kWh of electricity.

21

The number of key electricity conservation projects implemented in 2022

50,214,500 kWh

Of electricity saved in 2022

2022 Key Electricity Conservation Project & Achievement

Energy Conservation Project in Production Process	Achievement	Implementation Entity
Improvement in the production process: produce larger and thinner silicon wafer, and further refine the diamond wire saw to increase the wafer yield	Annual electricity savings of 3,174.6 MWh	TZE
Optimise and upgrade production facilities	Annual electricity savings of 5,827.8 MWh	TZE

Energy Conservation Project in Power System	Achievement	Implementation Entity
Equip transformers with capacitor compensation cabinets additionally	Annual electricity savings of 4,433 MWh	TZE
Save the energy consumption of the PCW and reduce the operation use of the cooling tower fan	Annual electricity savings of 2,230.8MWh	Zhonghuan Crystal
Waste heat recovery for heating	Electricity saving of 30,200 MWh in annual heating seasons (151 days)	Ningxia Zhonghuan
Take cooling water as a free cold source in winter to supply cooling water to equipment that needs cooling throughout the year, reducing the energy consumption of water chilling units in winter	Annual electricity savings of 2,090 MWh	TianJin Zhonghuan Advanced
Upgrade air conditioning system to open fresh air ducts for air supply in winter	Electricity saving of 3,189,1 MWh in annual heating seasons (151 days)	Ningxia Zhonghuan
Equip wet curtain air conditioner in workshops to lower the temperature of air by direct evaporative cooling and reduce use of refrigerators	Annual expected electricity saving of 17,729 MWh	Zhonghuan Crystal
Upgrading of the water system in production: connect the water pipe network directly to the main outlet of the pump and use the pump as an emergency backup	Annual electricity expected saving of 788.4 MWh	Ningxia Zhonghuan
Use of green energy	Annual electricity savings of 3,261.4 MWh	TZE
Upgrade LED lighting	Annual electricity savings of 3,638.6 MWh	TZE
Automation control	Annual electricity savings of 4,739.2 MWh	TZE

Implement Waste Heat Recovery Technology and Optimize Electricity Conservation

In our Tianjin production base, the heat generated from the operation of six air compressors in the power chain is used to heat the pure water in the cleaning tanks of more than sixty washing machines in the workshop by adding thermal energy conversion devices, thus achieving electricity conservation.

In Inner Mongolia and Ningxia production bases, the waste heat from the monocrystalline furnaces is used as a heat source, which is converted into hot water by water source heat pumps to supply the production and office areas. By doing so, the plants can determine the heating time according to the weather changes, while striving to achieve independence over municipal heating. At present, the waste heat recovery technology in our Inner Mongolia plant can provide heating area of 345,000 m^2. The waste heat recovery saves about 200 MWh/day of electricity compared to the electrode boiler, and the total electricity saving in annual heating seasons can reach 30.2 GWh.

Water Management

Water is the precious wealth given by nature to our human beings. With increasing water consumption in our production activities and daily life, it is important to use and protect water resources rationally. The Company strictly observe the Water Law of the People's Republic of China, the Water Pollution Prevention and the Control Law of the People's Republic of China and other laws and regulations. TZE's Board of Directors has overall oversight of the Company's water management strategy, targets and performance. Our subsidiaries set their annual water conservation targets and action plans while the headquarters is responsible for performance assessment.

Water Risk Assessment

We constantly seek to ensure reliable and sustainable water access for our operations. Before water withdrawal, we will conduct analysis and assessment of the current water utilization situation in areas with our facilities, including the rationality of water utilization, the potential impact on local water resources and the preventive measures to reduce our impact on local water resources.

In 2022, we adopted the Aqueduct Water Risk Atlas from the World Resources Institute (WRI) to evaluate water risk levels in areas with our plants. According to the results, five plants in Tianjin were rated medium-to-high risk while one plant was rated extremely high risk. Four plants in Jiangsu were rated high risk. And four plants in Inner Mongolia and Ningxia were rated extremely high risk.

To reduce the impact from water risks, we constantly carry out measures to reduce our dependence on local water resources by establishing emergency response procedures, developing diverse water sources and improving utilization rates.

TZE WRI Risk Assessment

5 Plants

Mid-to-high Risk

4 Plants

High Risk

5 Plants

Extremely High Risk

Diverse Alternative Water Sources and Water Conservation

We understand the importance of diverse alternative water sources in water management. To avoid shutdown due to water shortage, our plants are all equipped with water tanks with a corresponding capacity based on the general maintenance period of local municipal water suppliers.

Our water conservation projects cover all plants. We set annual water conservation targets and action plans. Our subsidiaries formulated regulations such as the Water Conservation Management Policy and Water Conservation Management Control Program, and compiled the list of water conservation projects in compliance with annual water conservation targets. We keep increasing water recycling through collection and reuse, equipment upgrading, wastewater regeneration, etc. In 2022, we implemented 18 key water conservation projects, saving 12,343,500 metric tons of water.

18

The number of key water conservation projects implemented in 2022

12,343,500 metric tons

of water saved in 2022

23.67%

year-on-year reduction in water consumption between 2021 and 2022

2022 Key Water Conservation Project & Achievement

Collection and Reuse	Achievement	Implementation Entity
Wastewater Recycling for Office Toilets	Annual water withdrawal savings up to 60,000 metric tons	TZE
Recycling of Condensate Water from the Central Air-conditioning System for the Cooling Tower	Annual water withdrawal savings up to 123,900 metric tons	Zhonghuan Advanced

Equipment Upgrading	Achievement	Implementation Entity
Reconstruction of overflow trough of cleaning machine with water saving	Annual water withdrawal savings up to 500 metric tons	Huanou
Recycling of backwash wastewater from the grit and carbon filter	Annual water withdrawal savings up to 28,000 metric tons	TianJin Zhonghuan Advanced
Conductivity optimization of the cooling tower	Annual water withdrawal savings up to 715,000 metric tons	Zhonghuan Crystal
Recycling of circulating water discharge from the cooling tower	Annual expected water withdrawal savings up to 578,200 metric tons	Ningxia Zhonghuan

Wastewater Regeneration	Achievement	Implementation Entity
Industrial wastewater regeneration	Annual water withdrawal savings up to 180,000 metric tons	Huanou
Regeneration of concentrated water	Annual water withdrawal savings up to 157,700 metric tons	Zhonghuan Crystal
Regeneration of concentrated water from RO system for water filter tank of the pure water system	Annual water withdrawal savings up to 14,600 metric tons	Huansheng
Regeneration of the rinsing water	Annual water withdrawal savings up to 250,800 metric tons	Zhonghuan Advanced
Hydrofluoric (HF) acid wastewater reclamation	Annual water withdrawal savings up to 446,800 metric tons	Zhonghuan Crystal
Regeneration of grit-containing wastewater for the cooling tower	Annual water withdrawal savings up to 132,900 metric tons	Zhonghuan Advanced
Reclamation of wastewater from PW system for the cooling tower	Annual expected water withdrawal savings up to 288,000 metric tons	Ningxia Zhonghuan

Recycling of Circulating Water Discharge from the Cooling Tower Reduces both Water Consumption and Costs

We have been actively exploring new water conservation and recycling schemes for many years, aiming to reduce both water consumption and our costs. At the full capacity of our plant in Ningxia, the annual displacement of the cooling tower is up to 830,000 metric tons. We recycle 70% of the water discharge from the cooling tower through the wastewater recycling system, reducing water consumption by 580,000 metric tons per year and saving a large number of effluent fees.

Product Water Footprint

We had conducted an assessment of the product's water footprint. The Power Department of our subsidiaries are responsible for collecting water data on our products including water withdrawals, water sources, water quality, wastewater discharge, and amount of water recycling, etc. Our data collection covers phases of our product life cycle including product design, manufacturing, packaging and so on. Meanwhile, our Supply Chain Management Department is responsible for collecting and analysing water consumption data in both upstream and downstream supply chains.

2020-2022 TZE Water Consumption

Indicator	2022	2021	2020
Total Water Consumption (m^3)	22,449,908	29,410,088	14,195,158
Total Amount of Water Recycling (m^3)	391,631,864	562,662,547	16,774,292
Water Intensity (m^3/CNY 10K)	3.35	7.15	7.45

Note:

1. The data are sourced from statistics of TZE.
2. The calculation formular of water intensity is "Water Intensity=Total Water Consumption/ Operating Revenue".
3. TCL Huanxin Semiconductor (Tianjin) Co., Ltd has been changed into a joint-stock enterprise in May 2021, and was not included in the statistics of 2022.

Wastewater Management

Our wastewater is classified into industrial wastewater and domestic sewage. The main pollutants in effluents are COD (chemical oxygen demand), ammonia nitrogen and fluoride, etc. We strictly observe the Water Pollution Prevention and Control Law of the People's Republic of China, the Integrated Wastewater Discharge Standard, the Emission Standard of Pollutants for the Battery Industry and other laws and regulations. Our wastewater is collected and treated internally first through our wastewater treatment facilities until it meets water discharge requirements.

2020-2022 TZE Effluents

Indicator	2022	2021	2020
Total Wastewater Discharge (10,000 m^3)	1,433.52	1,122.62	941.90
Chemical Oxygen Demand (COD) (kg)	1,268,896.00	-	-
Ammonia Nitrogen (kg)	57,961.54	-	-
Suspended Solids (SS) (kg)	728,761.30	-	-

Note:

1. The data are sourced from the statistics of TZE.
2. The Company first disclosed chemical oxygen demand (COD), ammonia nitrogen and suspended solids (SS) in 2022.
3. The increase in total wastewater discharge during the reporting period was mainly due to the increase in the capacity of the Company.
4. TCL Huanxin Semiconductor (Tianjin) Co., Ltd has been changed into a joint-stock enterprise in May 2021, and was not included in the statistics of 2022.

New Wafer Cleaning Technology

To further reduce our water pollutant emission, we have independently developed new materials for wafer cleaning to replace the traditional materials (the mixture of hydrofluoric acid and nitric acid), which made significant improvements in reducing the concentration of fluorine and nitride in wastewater.

At present, the traditional materials (the mixture of hydrofluoric acid and nitric acid) are no longer used in the wafer cleaning process of our Yinchuan Phase VI Plant.

Water Management in Supply Chain

We are keenly aware that we cannot effectively reduce the water footprint of our products without collaborating with our suppliers. While promoting the product's water footprint assessment, we assess not only our own water consumption and wastewater discharge covering all relevant operations but also our suppliers' water management performance.

The Company encourages suppliers to improve water management performance in various way, including passing Environmental Management System Certification, setting water conservation targets, carrying out water conservation projects and reducing wastewater discharge. We have developed a program to reduce water usage in our supply chains and identified critical suppliers with high water consumption based on our assessment results of product water's footprint. Through continuous communication, we help our suppliers to identify the key operations with high water consumption and wastewater discharge, and then accordingly set up their water conservation targets and action plans.

When developing new suppliers, we assess the supplier's water management performance. Our suppliers are required to obtain Environmental Management System Certification. We have incorporated water management performance into the annual performance appraisal of suppliers and continuously paid attention to their promotion of water conservation projects. From 2023 onwards, we will incorporate water conservation projects of suppliers into our onsite assessment and constantly update benchmark practices for promotion.

To further promote our supply chain water conservation program, the Company have established effective communication and data collection mechanism. Meanwhile, we are actively promoting the supply chain water conservation target setting. Suppliers with high water consumption are required to set water conservation targets based on their operations. Through regular communication with suppliers, we assess the water conservation targets proposed by our suppliers to ensure the feasibility of the targets.

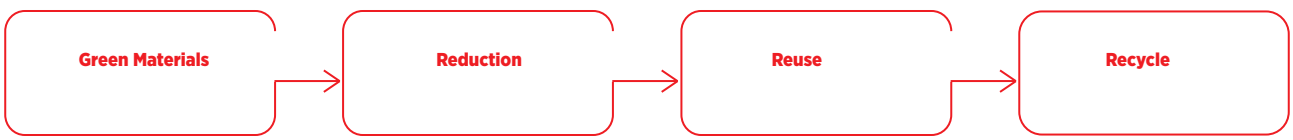
2.3 Promoting Green and Intelligent Manufacturing

While innovating renewable energy photovoltaic products, we insist on high-quality development driven by double track of "manufacturing green" and "green and intelligent manufacturing".

Sustainable Packaging

The Company continues to promote the use of non-toxic, pollution-free, recyclable, renewable or degradable packaging materials, for example, using EPE (pearl cotton) to replace PE (polyethylene). At the same time, we optimize packaging structure, reduce packaging material consumption, strive to achieve minimal packaging and strengthen the recycling of packaging materials. We switch to stainless steel material boxes in the production process and promote the innovation of square rod transport packaging.

In 2022, the proportion of renewable materials used in the production and packaging of the Company's main products and services was 61.28%.



TZE Sustainable Packaging Strategy

Exhaust Gas Management

We properly store, dispose and recycle solid waste to ensure that they meet the requirements for emissions, so as to lessen our impact on the environment while reducing operation risks. The Company carries out online monitoring and self-monitoring in strict accordance with the to the requirements specified in pollutant discharge permit. At the same time, to complete the self-monitoring more objectively, we entrust a qualified third-party company to conduct sampling analysis regularly and upload the results to the online platform of the environmental protection department. The on-line exhaust gas monitoring equipment of our plants upload the data onto the network of the relevant environmental protection department's on-line monitoring data platform. The Company has established emergency procedures for environmental emergencies to ensure the effective operation of the exhaust gas and solid waste management systems.

TZE Exhaust Gas and Treatment Methods

According to the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, the Integrated Emission Standard of Air Pollutants, the Emission Standard of Pollutants for the Battery Industry and other laws and regulations, acidic exhaust gas, alkaline exhaust gas, organic exhaust gas and dust generated from our manufacturing process are all equipped with purification equipments for treatment to meet corresponding standards before they are discharged.

TZE Exhaust Gas and Treatment Methods

Type	Treatment
Acid and Alkaline Exhaust Gas	Discharge exhaust gas that meets the discharge standard after purifying and absorbing treatment in scrubbing towers, and discharge wastewater generated to the sewage treatment system
Organic Exhaust Gas (such as VOCs)	Conduct RCO (Regenerative Catalytic Oxidation) for organize exhaust gas after absorbing treatment by activated carbon or concentrating treatment
Dust Exhaust Gas (Fine Silica Particles mainly)	Treat exhaust gas by dust control devices

2020-2022 TZE Exhaust Gas

Indicator	2022	2021	2020
Exhaust Gas (10,000 m^3)	989,733.63	403,632.85	499,187.54
Nitrogen Oxide (NOx) (kg)	30,912.53	95,866.29	16,464.16
Sulphur Dioxide (SO2)(kg)	2,105.68	0	408.35

Notes:

1. The data are sourced from the statistics of TZE.
2. The increase in total exhaust gas emissions in 2022 is mainly due to the increase in production capacity of the company.
3. TCL Huanxin Semiconductor (Tianjin) Co., Ltd has been changed into a joint-stock enterprise in May 2021, and was not included in the statistics of 2022.

Precision Glue Stick Technology

The Company adopts automatic glue dispenser and Japanese imported glue, and independently develops the track, speed and amount of glue dispensing, which improves the positioning accuracy and bonding stability, effectively avoiding the waste of glue and bad dispensing, and reducing the emission of VOCs from the source.

At present, the concentration of VOCs generated during our production process is far less than the emission limit value of "Electronic Industry" in the Emission Standard of Volatile Organic Compounds for Industrial Enterprises (DB12/254-2014).

Solid Waste Management

In terms of solid waste management, the Company strictly complies with the requirements of the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste and other laws and regulations. All solid waste generated during our production and operation is stored in special warehouses in accordance with standard requirements, and then transferred and treated by qualified institutions. Before disposal of solid waste, we make registration through the hazardous waste transfer platform of the environmental protection department. We also conduct qualified audits and regular inspections on commissioned institutions, and closely monitors the transfer and disposal of each batch of solid waste, with particular emphasis on hazardous waste.

TZE Solid Waste and Treatment

Indicator	Type	Treatment
Industrial Solid Waste	Sludge	Employ a qualified service supplier for treatment (composting or land-filling)
	Waste products (such as silicon sludge, waste silicon wafers and waste silicon rods)	Employ a qualified service supplier for treatment (recycling)
	Consumables (such as diamond wire and waste crucibles)	Employ a qualified service supplier for treatment (recycling)
Hazardous Waste	Acid-containing waste liquid	Employ a qualified service supplier for treatment (neutralization and physical and chemical treatment)
	Waste packaging materials (such as empty barrels)	Employ a qualified service supplier for treatment (recycling)
	Waste fillers (such as waste activated carbon)	Employ a qualified service supplier for treatment (land-filling, incineration and regeneration)
	Rubber-containing waste (such as waste rubber and rubber barrels)	Employ a qualified service supplier for treatment (incineration)
	Oily waste (such as waste engine oil and waste	Employ a qualified service supplier for treatment (incineration and recycling)
	mineral oil)	Employ a qualified service supplier for treatment (incineration and recycling)
	Waste abrasive sand	After being fully mixed, the mortar is separated into solid and liquid through the pressure filter. After being dried, the solids are used as additives for ceramics, deoxidants for iron and steel plants, refractory materials, etc. The liquid is used as fertilizer and chemical intermediates after being dewatered and discolored.

2020-2022 TCL Zhanghuan Solid Waste

Indicator	2022	2021	2020
Hazardous Waste (metric tons)	1,637.02	1,050.21	2,968.88
Industrial Solid Waste (metric tons)	135,222.67	75,208.50	67,020.49
Recycled/Reused Solid Waste (metric tons)	130,182.86	-	-
Solid Waste Recycling Rate (%)	95.12	-	-

Notes:

1. The data are sourced from statistics of TZE.
2. TZE first collects and discloses total amount of recycled/reused waste and solid waste recycling rate.
3. TCL Huanxin Semiconductor (Tianjin) Co., Ltd has been changed into a joint-stock enterprise in May 2021, and was not included in the statistics of 2022.

2022 Waste Resourcing and Reduction Achievement

Measure	Achievement
Waste liquid recovery from mortar recovery system	Filter press separation of 140 litres of cutting fluid from the system, resulting in the recovery of approximately 112 litres of cutting fluid (80% separation rate) and a 30% reduction in sand consumption
OHT Transport reduces plastic use in the Crystal Phase 6 Plant.	Reduce plastic use by approximately 750 tonnes per year
Recycling of raw material wooden pallets	Save 500 wooden pallets per year

New Coolant Usage Mode

We independently developed a new ultra-thin and large monocrystalline silicon wafer coolant circulation system, which adopts a centralized liquid supply mode and effectively prevents potential liquid overflow.

The system helps us to be more energy efficient, while effectively reducing auxiliary materials, labour, equipment operation and maintenance costs. Compared to the traditional stand-alone cycle mode, the liquid consumption of the system is reduced by 37.5%. And the system also decreases the maximum solid content involved in the cutting process from 8% to 3%, which greatly enhances the quality of our silicon wafers.

A Value-Oriented Strategy for a Brighter Tomorrow

Gaining “social respect and customer trust” and creating a sustainable supply chain is one of TZE’s visions of sustainable development. We follow the management tenets of “setting standards, developing management systems, dynamically identifying problems, and timely reviewing and improving” to constantly enhance our strength and resilience in product quality, customer service and supplier management. By integrating environmental and social responsibility into our supply chain management, we hope to support the overall sustainable development of the industrial chain.

3.1 Achieving Excellence in Quality

Our Management Approaches

Referring to the world-leading quality management philosophy, TZE and our subsidiaries have established a quality management system covering the whole customer service process in all production bases, which has passed ISO9001 Quality Management System certification.

Based on the five main factors (i.e., personnel, machines, raw materials, methods, and environment) affecting product quality, we have formulated and implemented appropriate quality control procedures across the board. Besides, the Company conducts quality management competitiveness analysis from multiple dimensions to explore opportunities for improving the quality system, supply chain quality, process quality, customer service quality and reliability monitoring. With these efforts, the Company has developed and implemented a strict product standard management process in order to ensure continuous improvement and upgrade of product standards, acquire cutting-edge technology information and customer needs timely, and improve product quality and process control. In 2022, the Company developed standards for wafer and crystal products, and updated over XX standards covering the full range of G12 products.

The product standard management process of TZE includes customization solutions, R&D and design and outgoing quality control, which supports the manufacturing of high-quality products with advanced technology and strict benchmarking.

Identification of customer needs, frontier policies, laws and regulations, and introduction of new technologies

◎ Focus on identifying the potential product needs of customers accurately and try to strike a balance between the business indicators of the Company and our product performance.

◎ Introduce new technologies, new products and new equipment to adjust standards according to customer quality feedback, peer benchmarking results, and the latest changes in policies, laws and regulations.

Product standard management and product development control procedures

◎ Share information through the customer information platform and the external information-sharing platform in the process of product standard design and maintenance.

◎ Allow plants to participate in the standardized evaluation of plans, identifying and correcting loopholes.

Product shipment standard and product internal control standard

◎ The Customer Quality Center is responsible for approval and filing management of standards and each BU is responsible for publicizing and implementing standards to eventually form product shipment standard and internal control standard.

Our product quality performance

Indicator	UoM	2022
First pass yield of products	%	99% for modules and 97% for crystals and wafers
Quality feedback frequency	Time	596
General quality feedback frequency	Time	419
Major quality feedback frequency	Time	1
Batch feedback frequency	Time	881

Product Lifecycle Management

Staying highly attentive to product lifecycle management (PLM), TZE codes products to enable product information collection, database construction and product quality analysis in a digital way.

Responsible Marketing

TZE complies with all marketing related laws and regulations and national or local codes of practice applicable to our business and requires employees to sign the Employee Integrity and Self-discipline Commitment to convey the value of responsible marketing.

All marketing and sales activities are subject to internal audit to ensure compliance with laws and regulations. Partners in the upstream and downstream of the supply chain are required to carry out marketing by following the principle of legitimacy, honesty, accuracy and science-based, and not to make any false or misleading advertising. In the future, the Company will improve manufacturing efficiency and cut cost from both hardware and software by considering upgrading hardware facilities and improving digital transformation, to provide excellent products.

Promoting Digital Product Management with Three Codes to Achieve a 25–Year Full Lifecycle Traceability

TZE has carried out digital transformation management of module products, striving to achieve a 25-year full lifecycle traceability of products with three codes.

The Company affixes 3 bar codes on each module, and the barcode images on the module products will be retained for 25 years according to the industry requirements. Beyond that, the relevant production data will also be preserved in full and on a continuous basis to make sure that the product is traceable. Intentionally, we apply inner barcodes to ensure the traceability of the products in light of the potential destruction of outer barcodes when exposed to outdoor areas or other harsh environments for a long time.

By coding products, we expect to provide more comprehensive services for our customers and enhance product quality with real-time big-data analysis, while improving our business layout and boosting development.

Frame

Backboard

Terminal

3.2 Serving Global Customers

To expend its overseas presence and better serve customers around the world, the Company has set up the Customer Quality Center. Focusing on customer quality service and product standard management, the Center conducts intensive quality management in the life cycle of products for a balance between internal/external quality and the manufacturing link in order to speed up response to customers and improve customer service quality and customer experience.

The quality team of the Customer Quality Center, the responsible department of the factory and the sales team identify potential customer quality requirements at the customer information platform according to customer complaints, entrusted survey feedback and customer quality agreements. Also, they carry out a series of rapid responding measures such as internal closed-loop verification, work to respond to single and individual problems, and collect and tackle general quality problems to continuously enhance product quality. Moreover, the Company delivers quality customer service before, in and after sales in the full cycle covering order, technical review, manufacturing supervision, on-site installation, and even safety training for product use in order to improve customer service quality.

The Company has developed and implemented the Regulations on Complaints Management, to ensure that customers get prompt replies and treatments on product quality feedback and return requests. The customer service team and quality management team prioritize and classify quality feedbacks by plants, product class, and cause of defect at the end of each month, develop a summary and deliver it to the plants for reference, so as to keep improving quality.

Customer service performance

Indicator	UoM	2022
Number of customer complaints	Time	927
Number of complaint responses	Time	927
Complaint response rate	%	100
Total training hours for customer service quality	Hour	2,825
Total number of confirmed leakages, thefts or losses of customer data	Case	0

The customer service team investigates and collects customer satisfaction and feedbacks through direct communication and annual questionnaire from the aspects of business service, pre-sale and order delivery management, quality assurance, customer service, customer demand management and technical support, and issues the Customer Satisfaction Analysis Report. We summarize the major problems of products and services identified in the report and take measures to address them. During the reporting period, the customer satisfaction rate was up to 94%.

Under the tide of Industry 4.0, the Company has developed the information-based customer management system to improve the efficiency of customer service and realize efficient cooperation with customers and a standardized global management covering the whole process of "business opportunity-order-customer complaint".

Digital customer management

TZE independently developed the "Customer Relationship Management System" (CRM system) to assist the Company to efficiently identify potential customers and their needs for a better customer service. The CRM system enables a modular function to address customer complaints covering the whole process of "customer complaints - acceptance - processing suggestions - internal correcting - feedback - changing or refunding - customer confirmation".

Protecting Customers' Privacy

Customer privacy protection has always been a main driver for TZE to build and continuously optimize the information security management system. In the TZE Policy on Information Technology Resources, Data Security and Communication System, the Company incorporates the customer privacy protection into the development goal of information security management system and develops a clear security management strategy.

For the management of systems and applications, the Company strives to ensure the stability, continuity and confidentiality of information systems and avoid data leakage or loss due to system failures. In the system, each user owns a unique account and controls the permission to query information in the account. Adhering to the principle of "least privilege, need-to-know", the Company grants each program and user the least privilege they need to accomplish their tasks.

For data protection, the Company establishes a standard data maintenance and operation process and a mechanism in dealing with data use, management, leakage prevention, incident handling and security assessment, to strictly control the whole process of sensitive data from acquisition, transmission to destruction. During the reporting period, the Company launched a special treatment on data destruction that the scrapped computer hard disks were transferred to a specialized company for disposal, striving to eliminate all hidden dangers that may cause customer privacy disclosure. The Company will put more efforts into the protection of private data, using technological means such as encryption and dynamic desensitization to prevent external illegal intrusion and internal unauthorized access to private data.

3.3 Fostering a Responsible Supply Chain

TZE works with business partners to integrate sustainable development into supply chain management. Focusing on improving quality of supply chain, we attach importance to the environmental and social risk management in all links of the supply chain and actively build a responsible supply chain with our characteristics.

Our Management Approaches

In strict accordance with the Law of the People's Republic of China on Tenders and Bids, the Government Procurement Law of the People's Republic of China, the Measures for Administration of Tenders and Bids for Government Procurement and other laws & regulations, the Company has established and implemented a series of internal policies, such as the Supplier Management Regulations, the Supplier Audit Management Regulations, the Procurement Management Regulations and the Quality Feedback Management Policy. In addition, we clearly stipulate the supplier admission process, supplier KPI appraisal and supplier rating system to control the whole lifecycle supplier management.

Admission process

- The Company has established the Sourcing, New Products/New Suppliers Management Regulations, setting rules for the new supplier admission process.
- Conduct a comprehensive assessment from business, technology and qualification, review documents of suppliers related to legal operation, chemical safety instructions, permission on production and transportation of hazardous goods, quality system certificates, etc. Suppliers of new energy and other key raw materials must obtain the ISO9001 System and IATF16949 System certification.
- Test new products and verify their quality according to the Sourcing, New Products/New Suppliers Management Regulations.

Comprehensive evaluation

- Carry out quality verification quarterly and comprehensive evaluation annually for cooperative suppliers according to the Supplier Management Regulations and the Supplier Annual Performance Evaluation Form.
- Grade suppliers to preferred suppliers, alternative suppliers, suppliers with problems to be rectified and suspended suppliers, and knock out the latter two if they don't rectify in time.

Knockout mechanism

- The Company will issue the Purchase Suspension Notice to suppliers that supply Grade A materials and are suspended for procurement over one year, or have quality problems, or fail to meet standards in environmental, labor and other rectification items.
- If the suppliers are suspended over two years for the above reasons, the Company will issue the Notice of Disqualification of Supply to them.

The Strategic Management Department, Procurement Department and production plants of the Company jointly participate in supplier management and audit, with a clear division of work, to establish a proven supplier management process and optimize the structure of supply chain from the periodic performance evaluation, procurement strategy making and raw material quality inspection.

We have established the Supplier Relationship Management (SRM) system, an online co-platform of supply chain to ensure that supply chain management is in line with the above policies and standards and improve supplier management efficiency.

Grade and quantity of raw and auxiliary materials of suppliers in 2022

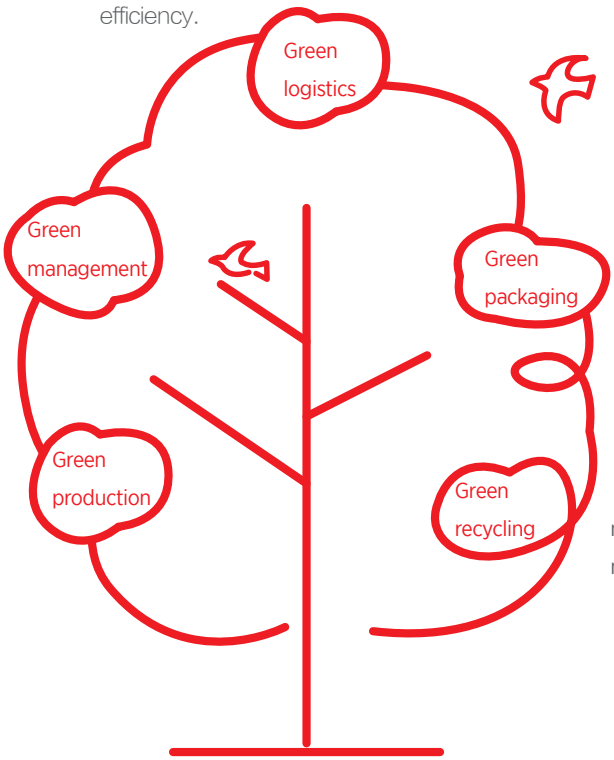
Grade	Scope	2022
A	Raw and auxiliary materials that make up product structure and have significant impact on product quality	139
B	Materials that affect the properties of products	142
C	Auxiliary materials that have general impact on products, other than Grade A/B materials	108
Total		389

TCL Zhonghuan pays close attention to the occupational health and safety of our partners' labors. We require suppliers to obtain the ISO 14000 Environmental Management System, ISO 45001 Occupational Health and Safety Management System and Employee Occupational Safety System certifications. We require suppliers in our supplier list to sign the TCL Zhonghuan Code of Conduct for New Energy Partners and make the occupational health and safety an indicator in the annual performance evaluation of suppliers. If it is found in the process of audit or cooperation that the suppliers fail to meet the requirements of environmental system or violate our management requirements in terms of labor and goodwill, the Company will urge them to rectify. Suppliers failing to meet our management requirements within the rectification period will be knocked out.

Green Supply Chain

With the commitment to building a green supply chain by 2025, TZE encourages our suppliers to practice environmental responsibility and concern carbon emission accounting and performance disclosure, contributing to the national goals of "carbon peaking and carbon neutrality".

The green supply chain focuses on the following five aspects:



Reduce carbon emissions of transportation equipment and improve storage and transportation efficiency.

Establish the formal strategic goals and guidelines of "carbon peaking and carbon neutrality" and improve the green supplier management system to conduct dynamic evaluation, certification and training for establishment of green technology.

Promote the R&D of green technology and reduce carbon emissions in production.

Reduce packaging size and use recyclable and degradable materials in place of conventional materials.

Recycle and reuse packaging materials to minimize their environmental impact.

During the reporting period, the Company carried out carbon trainings for 71 suppliers, and selected 58 suppliers involved in industries with high energy consumption and high pollution (such as chemicals, metals and graphite) as the first pilots to build a green supply chain and collect their "green information". Among them, 49 suppliers can provide comprehensive information and will be selected as key pilots.

The Company carries out green management, supervision and evaluation of suppliers, and discloses the evaluation results of their green projects. By the end of the reporting period, the Company had determined the list of key pilot suppliers in building a green supply chain, improved the supplier control measures, and controlled the harmful substances content in products. In the future, the Company will go all out to achieve the goal of building a green supply chain by 2025 through putting more efforts in the improvement of sustainable production capacity, green training for suppliers and the transformation of energy supply structure to new energy.

Indicator	UoM	2022
Emails sent to suppliers for carbon training	number	71
Suppliers receiving carbon training emails	number	71
Suppliers covered in the first batch of "green supply chain" pilot	number	58
Including: suppliers accounting for over 80% of the purchase amount	number	71 suppliers, accounting for over 90% of the total purchase amount in 2022
Including: chemical suppliers	number	26
Including: suppliers with high energy consumption	number	27

Risk Management of Supply ChainThe

Company places significant emphasis on risk management of supply chain and identifies risks related to suppliers, environment and the society in time to develop countermeasures ahead and improve supply chain resilience.

Our supply chain mainly faces the single source risk and market risk.

- Single source risk: Single sourcing may cause risks in material delivery, quality, and price, so the Company needs to find alternative suppliers, or stops using related materials or initiates independent R&D to reduce single source risks.
- Market risk: The Company keeps up with the latest situation, makes data-based anticipatory judgements, understands the policies promulgated by various countries and seeks opportunities to avoid market risks at home and abroad.

During the reporting period, the Company comprehensively analyzed the suppliers of centralized purchasing materials, updated the Risk Assessment Report of Single Sourcing, and sorted out 27 materials of primary risk and 8 materials of secondary risk. We conduct an all-round investigation into the potential suppliers to avoid single source risk, follow up their admission, and formulate future procurement strategies. In addition, affected by pandemic in 2022, the Company continuously oversees the risks related to the supply chain and updates the logistics support schemes and measures to cope with the logistics and transportation risks brought by the pandemic.

The Company takes the initiative in building a flexible supply chain to enhance the resilience and stability of the supply chain in response to emergencies. Focusing on buffering, efficiency and innovation, the Company adopts information technology to strengthen the communication efficiency among various departments, making supply chain flexible enough to accommodate marketing changes. In addition, the Company enhances the response ability of suppliers by building a buffer stock and improving the delivery efficiency through technological innovation, thus ensuring the supply chain liquidity.

Management of Conflict Minerals

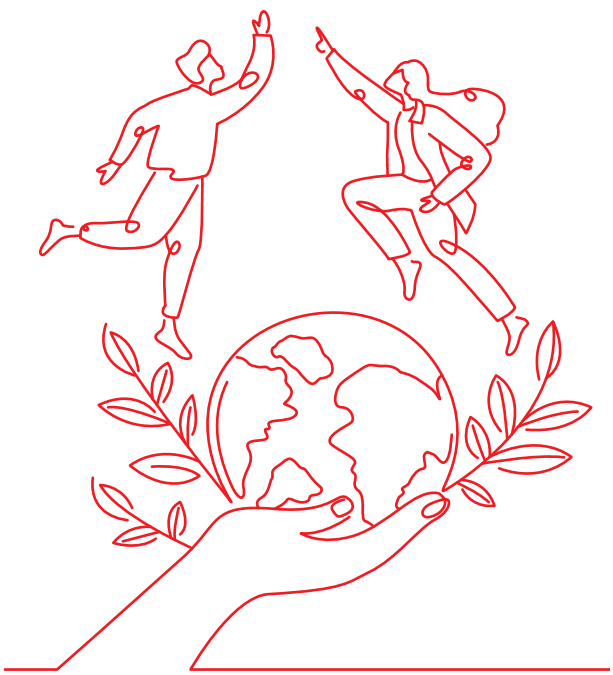
TCL Zhonghuan adheres to the philosophy of "no use of conflict mineral raw materials". The Company knows that mining, trading, processing, and exporting minerals in conflict-affected and high-risk areas not only cause great damage to the environment, but also risk significant negative social impacts. Therefore, the following rules are in place to ensure that metallic materials (including tin, gold, tungsten, etc.) used and sold by suppliers are not in conflict situations.

TCL Zhonghuan has developed the Letter of Commitment Not to Use Conflict Minerals based on the Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains issued by China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC), the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (Third Edition) issued by the Organization for Economic Cooperation and Development (OECD) and the regulations on tungsten, tin, tantalum and gold minerals in conflict areas of the Dodd-Frank Wall Street Reform and Consumer Protection Act, specifying that suppliers shall not use conflict minerals. All suppliers are required to sign the Letter of Commitment Not to Use Conflict Minerals in the admission process. The Company's supplier quality engineer will use the Responsible Minerals Initiative - Conflict Minerals Reporting Template (RMI-CMRT) in the supplier audit process to check suppliers in the supply chain for use of conflict minerals. Suppliers using conflict minerals will be disqualified directly. During the reporting period, we didn't identify any use of conflict minerals by suppliers.

According to the TCL Zhonghuan Code of Conduct for New Energy Partners, partners are required to popularize the conflict minerals regulations to the subordinated partners. Advancement of the digital transformation and the information system enable the Company to use SRM system and IT technology to monitor the geographical location synchronously and archive the place of origin and property of materials. It helps trace the source of production materials, avoid purchasing materials from areas related to conflict minerals, and ensure the reliability of the Company's supplier system in terms of the management of conflict minerals.

Suppliers under investigation for using conflict minerals:

Indicator	UoM	2022
Domestic suppliers	Number	353
Overseas suppliers	Number	4



Embracing Excellent Talents to Chase the Energy of Sunlight

TCL Zhonghuan strives to build a "people-oriented" employer brand and firmly believes that talent is an important cornerstone for the Company to achieve sustainable development.

We always strive to create a diverse, inclusive, and safe working environment for our employees, actively invest resources in employee development, and provide good career development opportunities for our employees. The Company's talent development strategy and management measures have been widely recognized by the society. It was awarded the " Most Sustainable Employers" by Forbes China and the "2022 Top Graduate Employers" by 51Job.

4.1 Focusing on People-Oriented

“People-oriented” is a core value of TCL Zhonghuan's sustainable development philosophy. We take "engineer-respected culture" as the characteristic talent concept of the Company to enhance the sense of belonging of our employees and stimulate the vitality of the organization.

Engineer-Respected Culture

The connotation of "engineer-respected culture" lies in two aspects. One is curiosity. We hope that every engineer in the Company has a strong desire for knowledge and is willing to explore and discover. The second is professionalism. Our engineering team is rigorous and professional in innovation. Their pursuit of innovation and dedication to product quality have been inspiring generations of employees.

An Equipment Engineer in a Race against Time: Zheng Haifeng

In 2010, Zheng Haifeng joined the Company and engaged in crystal equipment maintenance work. At the beginning of his work, he gradually mastered the maintenance methods of each equipment by repeatedly studying equipment textbook and learning hard from his coach. After that, he was busy exploring for his transition to an equipment engineer.

In 2021, Zheng Haifeng participated in the design and construction of plant and equipment in Ningxia as part of the Company's development plan. He and his team came to Yinchuan, Ningxia. During the construction process, based on his experience in plant construction and equipment management of Phase 5 plant, he predicted in advance and dealt with the possible risks in the design of plant and monocrystalline furnace of Phase 6 plant in Ningxia, and completed 28 optimization projects of monocrystalline furnace change projects to ensure the stability of equipment. With the efforts of Zheng Haifeng and his team, the Ningxia plant produced its first monocrystalline silicon wafer in January 2022, once again breaking the "Zhonghuan speed".

Diversity, Inclusiveness, and Equality

TCL Zhonghuan is committed to creating a diverse, inclusive, and equal working environment, and promises to treat workers of different nationalities, genders, countries, ages, and religious beliefs equally. In the Employee Handbook, TCL Zhonghuan Business Partner Code of Conduct and other internal rules and regulations, the Company requires that all employees enjoy equal rights in recruitment, employment, compensation and welfare, training, and promotion.

The Company is committed to protect the safety and health of minors from damage in production. With reference to the requirements of the Law on Protection of Minors, the Company formulates and implements the Regulations on the Special Protection and Management of Minors. We check and confirm the valid identity of candidates in various ways in the process of employee recruitment, employment approval, registration, etc., strictly prohibiting child labor and protecting minors. Once child labor is found, the Company will immediately conduct a thorough investigation of the situation and take serious action against the relevant

The Power of Compatible Culture – Our Female CHO An Yanqing

The lady in the picture is An Yanqing, who has been accompanying the Company for 27 years. She is the current Chief Human Officer (CHO) of the Company and had been working as a workshop director for eight years.

An Yanqing joined the Company after graduation from university. Now as the CHO of the Company, she introduced that the talent strategy of the Company has two aspects: "One is independent training, and the other is compatible culture". Compatible culture means employing talents with an inclusive mindset. She firmly believes that inclusiveness is the core of a great enterprise.

TCL Zhonghuan believes that an inclusive culture is an important force for the sustainable development of our company. We sincerely thank every one of our employees.

persons in charge or business partners. During the reporting period, there was no violation of the Regulations on the Special Protection and Management of Minors.

The Company adopts a "zero tolerance" policy towards forced labor and ensures that every employee can enjoy statutory holidays in accordance with national laws and regulations and company policies. The Company constantly optimizes the work arrangement of front-line workers and adheres to the "four crews and two shifts" scheduling mode for them, so that employees can work and live with more dignity.

In terms of protecting the rights and interests of female employees, we have formulated and implemented the Regulations on the Special Protection and Management of Female Employees with reference to the Special Labor Protection of Female Employees, clarifying the labor contraindications and legal rights of female employees in special physiological stages such as menstruation, pregnancy, and lactation. We set up exclusive baby care rooms in each production base for the convenience of lactating women.

Our Diversity Performance

Indicator		UoM	2022
Total number of employees		Person	17,390
By gender	Male	Person	14,160
	Female	Person	3,230
By age group	30 and below	Person	9,499
	31-50	Person	7,758
	51 and above	Person	133
By rank	Senior management	Person	42
	Middle management	Person	248
	Junior management	Person	491
	Staff	Person	16,609
Number of ethnic minority employees		Person	1,498

4.2 Attracting Talents

Adhering to the employment philosophy of "Everybody has to start somewhere", TCL Zhonghuan embraces excellent talents to continuously enhance innovation ability and competitiveness.

Talent Pipeline Development Strategy

The company strictly abides by the Labor Law, the Labor Contract Law and other laws and regulations, formulates and implements the Recruitment Management Procedures, Employee Management Regulations, Intern Management procedures, etc., supporting the sustainable development of the Company through the construction of talent pipeline.

In order to attract high-tech talents, the Research Institute of TCL Zhonghuan and its subsidiary bodies set up a number of technical special positions during the reporting period, and actively brought in technical personnel matching the needs. The Company provides competitive salary and special subsidies for these employees, implements "one person, one discussion" policy on the introduction and retention of them, and fully considers their will to realize customized recruitment and development planning.

Campus Recruitment

In August 2022, the Company put forward 2023 campus recruitment “Thousand Talents” plan, meaning the number of annual campus recruitment positions will exceed 1,000, nearly double that of the 2022 campus recruitment plan. When promoting the campus recruitment plan, the Company actively responds to and executes the local talent introduction and subsidy policies, achieving the Company's strategic talent reserve while fulfilling our corporate social responsibility of local talent introduction. During the reporting period, for the first time we launched a special recruitment program exclusive for overseas graduates, attracting more overseas students to join us and reserving talents for the Company’s globalization strategy. TCL Zhonghuan attracted more than 500 graduates to join the Company during the reporting period, an increase of more than six times compared to that of 2021.

In addition, the Company actively deepens exchanges and cooperation with colleges and universities and integrates internship programs into campus recruitment process through school-enterprise cooperation projects. During the reporting period, the Company signed 5 new cooperative colleges and universities and introduced more than 300 interns. Many interns receive the Company’s full-time job offers through school-enterprise cooperation projects.

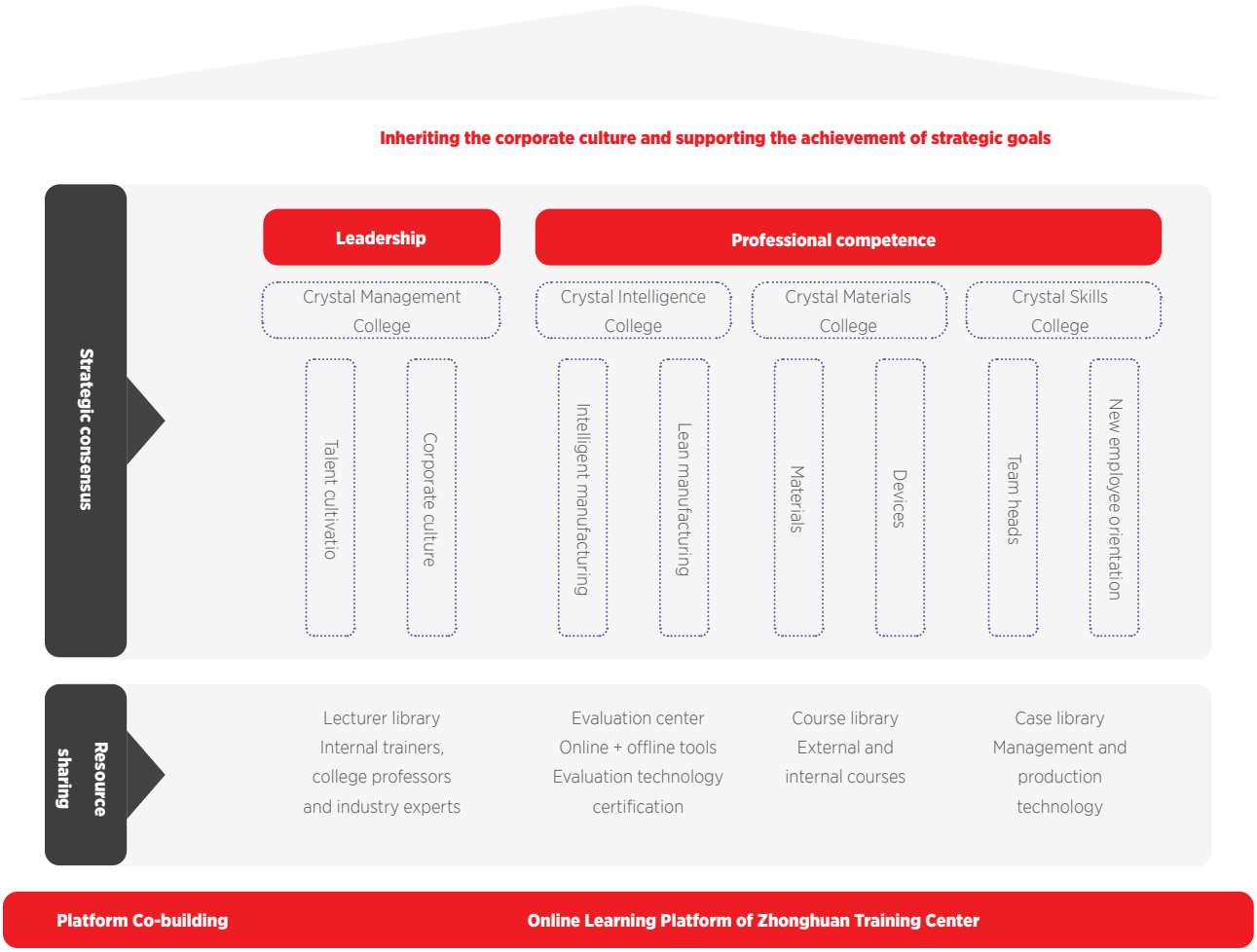
Our New Employee Hires

Indicator		UoM	2022
Total number of new employee hires		person	7,923
By gender	Male	person	6,463
	Female	person	1,460

4.3 Boosting Employee Growth

TCL Zhonghuan offers training programs to all full-time and part-time employees, looking forward to growing together with employees of all ranks and all job categories. The company formulates and implements the Employee Training Management Regulations, establishes the employee training system with Zhonghuan Training Center as the core, and timely adjusts the form and content of training according to the Company's strategy and industry trends.

Zhonghuan Training Center



Zhonghuan Training Center consists of four colleges covering eight major training modules. The four colleges are Crystal Management College, Crystal Intelligence College, Crystal Materials College, and Crystal Skills College. Based on the consensus of the Company's strategic goals, Crystal Management College focuses on leadership construction and is responsible for the promotion and explanation of the Company's culture and talent pipeline strategy. Crystal Intelligence College, Crystal Materials College and Crystal Skills College focus on professional competence cultivation, among which Crystal Intelligence College provides courses of intelligent manufacturing and lean manufacturing, Crystal Materials College provides courses of semiconductor materials and devices, and Crystal Skills College provides courses of team leaders' ability improvement and new employee orientation training, to fully meet the Company's needs of R&D, production and operation.

Our Employee Training Performance

Indicator		UoM	2022
Total number of employees attending trainings		person	5,675
By gender	Male	person	4,431
	Female	person	1,244
By rank	Senior management	person	19
	Middle management	person	157
	Junior management	person	123
	Staff	person	5,376
Total number of training hours provided to employees		hour	567,701.06
Average training hours per employee		hour	32.65
By gender	Male	hour	32.25
	Female	hour	34.36
By rank	Senior management	hour	31.15
	Middle management	hour	40.27
	Junior management	hour	13.83
		hour	33.09

Note:

1. Orientation training for new employee hires is not included in the above employee training data.

2. The formula for calculating the average training hours per employee category in this report is "Average training hours per employee category = Total number of training hours provided to each category of employees / Total number of employees in category " according to the GRI requirements.

The New Chapter of Zhonghuan Training Center V2.0

As an online learning platform of TCL Zhonghuan, our training center adheres to the cultural spirit of people-oriented and teamwork, adopts a mode combining online and offline, and is committed to building a learning organization featuring lifelong learning and growth. Our four modules include:

- **Inheriting culture:** 133 articles on corporate culture have been published in 2022, covering fields such as people-oriented, engineer culture and leadership construction, opening a new window for employees to learn and understand corporate culture.

- **Going global:** 5 offline trainings of globalization strategy have been held in 2022, with 1,267 participants. 10 online courses have been uploaded, with 3,890 viewers. We let all our employee know our globalization vision.

- **Marching toward lean production:** A 12 weeks long learning and sharing activity has been conducted in 2022, with 1,220 participants and 8,914 posts uploaded (including 157 selected posts). Lean quality knowledge is propagated to all industrial team for learning.

- **Know-How**: 2,700 courses have been uploaded in 2022, an increase of 23% over that of the previous year. Among them, 144 internal trainer courses have been updated.

In the future, Zhonghuan Training Center will continue to enrich the content and presentation of various learning themes, letting more employees to jointly promote the steady development of the Company by applying what they have learned into practice.

TCL Corporate Social Responsibility (CSR) training

In 2022, TCL Foundation, CSR Innovation Center, and T Academy jointly launched a series of CSR training courses, including six themes: basic knowledge of CSR, CSR/ESG reporting, corporate carbon management, green finance and responsible investment, CSR communication and cause marketing, and CSR and supply chain management. To meet the diverse learning needs of employees, the training courses are on live, and their video recordings are available for review.

More than 1,000 employees shared their feedbacks and suggestions after the training. About 88% of them felt that the CSR training was of benefit to their work and expected to continually incorporate CSR concepts into practice.

Supporting Employee for Further Study

The Company formulates and implements the Regulations on In-Service Education Management, subsidizing employees to obtain vocational qualification certificates or higher academic diplomas. After employees obtain relevant qualification certificates, the Company will increase their salary as subsidies.

In terms of academic diploma assistance, we provide varying tuition subsidiaries (depending on the type of degree) to employees who obtain associate's, bachelor's, master's, or doctoral degrees. For example, the Company will subsidize 50% of tuition fees for in-service employees who obtain master's or doctoral degrees.

New Manager Training Program

◎ This is a training program for new managers who are promoted internally or introduced externally. The program helps new managers inherit corporate culture, improve management abilities, promote the implementation of corporate strategy, and finally complete their role transformation from staff to manager. The goal of the program is to build a group of managers who have a deep understanding of the Company's strategy and culture and could lead their team well.

◎ The new manager will have nearly 50 days of theoretical learning, then complete practical operation modules in work scenarios, and apply the knowledge to solve real management problems.

◎ In 2022, the practical operation modules of the New Manager Training Program include employee motivation, management collaboration, and task allocation, etc.

4.4 Protecting Employee Rights

Employee Benefits and Compensation

TCL Zhonghuan signs collective contracts and collective wage bargaining contracts annually, covering all full-time and part-time employees. The Company also purchases social insurance for employees, including endowment insurance, medical insurance, employment injury insurance, unemployment insurance and maternity insurance. In addition, the Company provides employees with high temperature allowance and winter heating allowance in accordance with national standards.

In addition to statutory benefits such as paid leave, the Company provides special benefits for employees on their birthdays and weddings. Female employees can apply for maternity leave after their third month of pregnancy. For employees who are pregnant for 5 months or more, the Company conventionally requests them to take maternity leave until childbirth. The Company also provides parental leave for parents of infants and young children.

Parental Leave Performance

Indicator		UoM	2022
Total number of employees that were entitled to parental leave	Male	person	5,122
	Female	person	1,379
Total number of employees that took parental leave	Male	person	1,139
	Female	person	295
Total number of employees that returned to work in the reporting period after parental leave ended	Male	person	1,139
	Female	person	295

We are committed to creating a culture of work-life balance for our employees and working with them to build a more people-oriented workplace culture. We are considering introducing flexible working policy, which will help enhance employees' creativity and productivity.

Employee Motivation Scheme

To ensure the long-term, stable, and healthy development of the Company, TCL Zhonghuan continues to improve the medium-term and long-term incentive mechanism, fully mobilize the enthusiasm and creativity of employees, enhance the cohesion of them, and attract and retain outstanding technical, management, and business talents. In 2022, the Company fully integrates our global leadership strategy, further expands the coverage of the employee stock ownership plan (ESOP), launches the general manager incentive bonus, and adjusts the details of the stock incentive plan of the previous year, letting more employees enjoy the fruits from the Company's development.

2022 Employee Stock Ownership Plan

In August 2022, the Company formulated the 2022 Employee Stock Ownership Plan (Draft), stipulating that the amount of the incentive fund of the 2022 ESOP shall not exceed CNY 395.90 million, and the maximum number of the underlying stocks that can be purchased and held is about 9,654,400 shares, accounting for about 0.30% of the Company's current total share capital. The total number of employees participating in the ESOP is no more than 1,500, including 6 directors, supervisors, and senior managers, and no more than 1,494 middle managers and other staff.

General manager incentive bonus

In 2022, the Company set up the general manager incentive bonus to reward employees who have made outstanding contributions to BU/BG they belong to, with the total amount of CNY 4.055 million.

Employee Performance Assessment

TCL Zhonghuan has formulated a systematic and scientific performance management system as the basis for the compensation evaluation of senior management and employees. As supervisory bodies, the supervisory board and independent directors of the Company are responsible for evaluating the impact of the executive compensation plan on the sustainable and long-term development of the Company. To determine the total annual income of senior management, the Company will conduct the annual evaluation based on the overall operating status of the Company and senior management members' individual performance.

In order to increase the management's attention to the sustainable development of the Company, we incorporate key environmental and occupational health and safety indicators into the performance assessment of senior management in accordance with our Employee Incentive Management System. For the rationalization or improvement proposal, the Company will reward the proposer according to the amount of actual cost saving or loss reduction & avoidance. The Company will give negative incentives to those who are responsible for the breaches of disciplines regarding safety, fire prevention, environmental protection, and occupational health.

Employee Performance Assessment

Indicator	UoM	2022
The percentage of employees subject to regular performance assessment	%	100

Employee Communication

To better understand the real demands of employees and solve their practical difficulties, TCL Zhonghuan has established smooth, transparent, and fair channels for employee communication and appeals.

The company's SSC (Shared Service Center) are equipped with employee service hotline and mailbox, as well as full-time labor relation coordinators. Employees can report their demands on working conditions to SSC by calling the hotline or sending emails. They can also visit SSC offices for on-site communication. SSC and each production base of the company are equipped with anonymous mailboxes to timely collect employee grievances.

Every production base of the Company has set up a rationalization channel, through which employees can timely feedback their suggestions in respect of working process and operation management of the production base. In 2022, the Company received several feasible suggestions on employer brand building, working condition improvement, corporate culture practice, canteen environment, and catering. The Company immediately carried out field research on the proposed content and launched optimization and improvement plans based on the research results, which was well appraised by employees.

At present, employee satisfaction survey is carried out by each production base of the Company. We are planning to optimize the employee satisfaction survey mechanism at the Company level, and based on the survey results, we will optimize the employee benefit policy on a regular basis.

Labor Union and Employee Activity

The Company has established the labor union, and all employees are members of the union. As an important communication channel between the Company and employees, the labor union often communicates with the Company on behalf of employees about their concerns. The Company also respect employees' rights on freedom of association and collective bargaining.

In the aspect of employee activities, our labor union forms several sports tribes, such as basketball tribe and badminton tribe, attracting employees with common interests to join and play together. Every year, the company jointly organizes sports competitions with employee interest tribes, encouraging more employees to fully showcase their talents and enhance colleague friendship.

Employee Performance Assessment

Indicator	UoM	2022
The percentage of employee having a health examination	%	100

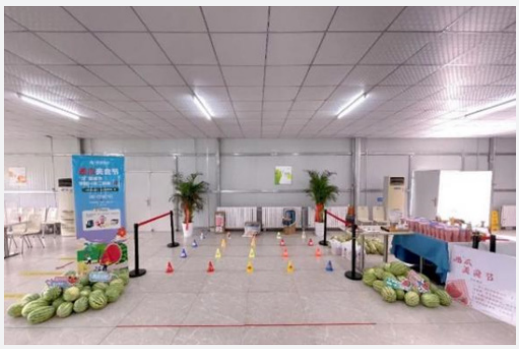
In the aspect of employee activities, our labor union forms several sports tribes, such as basketball tribe and badminton tribe, attracting employees with common interests to join and play together. Every year, the company jointly organizes sports competitions with employee interest tribes, encouraging more employees to fully showcase their talents and enhance colleague friendship.

The 4th Zhonghuan Cup Basketball Game

In the summer of 2022, the Company held the 4th Zhonghuan Cup basketball game with the theme of "Fearless youth never stop", attracting 15 teams and 180 employees to participate, showing the youthful vigor of TCL Zhonghuan staff on the basketball court. Many of the employees who didn't take part in the games formed cheerleaders, cheering from the side of the court. Finally, the game produced the champion, the runner-up, the third-place winner, and several individual awards such as the top scorer.

Qixi Watermelon Gourmet Festival

In 2022 Qixi Festival, Tianjin production base of the Company launched a watermelon gourmet festival with the theme of “Fun summer, meeting in Qixi”. In such a hot summer, the Company provided a wide variety of Xinjiang cuisine and sweet watermelon juice and curried out the game of “throwing to win” to give employees multiple enjoyment.



4.5 Safeguarding Employee Health

TCL Zhonghuan attaches great importance to the occupational health and safety of our employees and firmly believes that protecting the health of employees is an important part of the Company's "people-oriented" philosophy. The Company has established and continued to optimize the occupational health and safety management system and improves the response ability of our employees in case of a real emergency through safety training and drill.

Our Management Methods

We strictly follow the Work Safety Law of the People's Republic of China, the Law on the Prevention and Control of Occupational Diseases of the People's Republic of China and a series of national and local laws and regulations, formulating and implementing 26 internal safety regulations, including the Regulation on the Management of Work Safety Accidents and the Regulation on the Management of Occupational Health.

TCL Zhonghuan takes Safety Production Committee (hereinafter referred to the Committee) as the highest leading body in the management of production safety. The Committee, led by the general manager of the Company and consisting of safety production directors of each department and subsidiary, is responsible for managing the daily affairs of production safety and studying and dealing with major safety issues in production and operation of the Company. The Committee holds a quarterly regional meeting to convey the latest laws and regulations on safety production and conduct special trainings for the problems found in daily safety inspection of the Company.

We require each subsidiary company to establish a safety production management department and equip with sufficient full-time or part-time safety management personnel in accordance with the national and local laws and regulations. The Company has established a safety production responsibility system for all positions and employees, requiring all employees to sign the Safety Production Target Responsibility Statement. The existing safety production management regulations and operating standards have covered 100% of positions and employees of the Company.

We establish the Company's Occupational Health and Safety Management System in accordance with the ISO 45001 Occupational Health and Safety Management System and require subsidiaries to actively obtain ISO 45001 certification. At the end of the reporting period, 9 subsidiaries comply with ISO 45001:2018 certification.

Production Safety

Production Safety Target

According to the classification of safety accidents in the Company's Regulations on the Management of Production Safety Accidents, the annual targets of the accident indicators of each subsidiary company in 2022 are as follows:

◎ Zero grade I and grade II production safety accidents and zero fire accidents.

◎ No more than 3 Grade III production safety accidents reported.

◎ Zero work-related fatalities and serious injuries, and the overall rate of light injuries is no more than 0.2%.

◎ Zero new occupational diseases.

Our Occupational Health and Safety Performance

Indicator	UoM	2022
The number of work-related injuries	time	5
The number of high-consequence work-related injuries among them	time	0
The number of fatalities as a result of work-related injury	person	0
Lost time injury rate (per 1,000,000 hours worked)	%	0.12

Note:TCL Zhonghuan deals with production safety accidents seriously in accordance with four principles: 1) inspect accident/incident files; 2) analyze problems and loopholes in the investigation process; 3) improve the management of accident/incident files; 4) prevent similar accidents/ incidents from happening again. In addition, we refine the accident accountability system, formulate the procedures for dealing with safety accidents and set management objectives of production safety, carry out annual assessment of the implementation of accountability system, and check whether the objectives are met.

Dual Prevention Mechanism

In accordance with the requirements of the new Work Safety Law of the People's Republic of China came into force in 2021, TCL Zhonghuan carries out the dual prevention mechanism, establishes and implements the Regulations on Hierarchical Control of Safety Risks and the Regulations on the Investigation and Management of Hidden Hazards, to guide each BG/BU to optimize the safety risk identification and control mechanism and implement safety inspections by levels for a better control of safety risk.

We formulated the Annual Safety Hazards Inspection Work Plan and strictly implemented it. In 2022, we organized more than 40 inspections of production bases for potential safety hazards, including comprehensive safety inspections and special safety inspections of hazardous chemicals, electrical facilities, and mechanical equipment. A total of 1,210 safety hazard items have been inspected and all of them have been rectified.

Safety Production Information Management Platform

◎ The Company has established and launched safety production information management platform, which is divided into groups, regions, sectors, and company ports, including 10 management modules, 38 sub-modules and 80 specific tasks.

◎ We use this platform to conduct real-time safety supervision and hazard data trend analysis for our factories.

6 core functions of our safety production information management platform

◎ Visualization of standardized basic management information of safety production

◎ Push plans and tasks in real time and record the whole process in real time

◎ Specialization of risk identification and control, forming a risk database

◎ Hazard investigation and special operation dynamic control

◎ Collect real time safety dynamic information and establish safety information database

◎ Expert teams regularly identify production safety laws, regulations, and standards, and establish safety think tanks

Prevention of Occupational Disease Risk

In order to effectively protect employee health and achieve the goal of zero new occupational diseases, TCL Zhonghuan has formulated and implemented a series of internal rules and regulations such as the Regulations on the Safety Management of Hazardous Chemicals and the Regulations on the Management of Labor Protection Equipment. The Company conducts annual inspections on the factories involved in occupational disease factors and takes immediate preventive actions according to the inspection results.

We inform and train employees involved in operation positions with occupational disease risks in advance, equip them with labor protection equipment and carry out annual occupational health examination for them. Once an employee is found to have potential occupational disease, he or she shall be transferred to another position immediately to avoid occupational diseases.

Indicator	UoM	2022
The percentage of employee having a health examination	%	100

Safety Training

TCL Zhonghuan formulates and strictly implements the Regulations on the Management of Safety Education and Training, which requires our safety management personnel, hazardous chemicals and occupational health management personnel, special operation personnel, special equipment operators, fire control room personnel and automatic fire facilities operators must hold relevant professional qualifications. For new employees, employees transferred from other positions and employees returning to work, they must receive three-level production safety training.

The Company formulates the Annual Safety Training Schedule and carries out several safety trainings for all employees of the Company and for employees in special positions. At the same time, we build and constantly update professional safety training materials and question bank, helping our employees learn better by teaching and testing.

In 2022, TCL Zhonghuan completed the annual safety training plan online and offline. We conducted 375 safety training activities, including 25 special training sessions which involved 6,775 employees. Additional trainings on limited space, first aid and safety-related party have also been conducted.

Emergency Rescue Skills Practice Training

In June 2022, the Company invited Tianjin Binhai Blue Sky Rescue Team to organize a training on emergency rescue skills. The training modules include cardiac resuscitation, hemostasis, and bandaging, etc. The rescue team members instruct our employees step by step and answer their questions. This training improves employees' ability to protect themselves and others in case of emergency and cultivates their awareness of being the first responsible person for their own safety.

375

The number of safety training activities in 2022

Safety Drill

TCL Zhonghuan formulates and strictly implements the Annual Emergency Drill Schedule, so that employees can apply the knowledge and skills learned in safety training to practice. In 2022, the Company and our production bases carried out a total of 298 emergency drills, including 11 special drills on the topics of poisoning and suffocation, limited space, environmental protection accidents, fires and explosions, scalding accidents, drowning accidents, electric shock accidents, natural disasters, special equipment, silicon dust explosions and mechanical injuries. 1,696 employees have participated in these special drills.

298

The number of emergency drills in 2022

TCL Zhonghuan Fire Safety Month

Adhering to the safety management policy of abiding by laws and regulations, people-oriented, production safety and reducing occupational risks, the Company holds Fire Safety Month activities in our production bases. The modules of activities include fire safety knowledge teaching and testing, fire drill and fire safety skills competition, etc., allowing employees to apply their fire safety skills into practices and raising their safety awareness for better fire prevention.

Devoting to Social Service and Public Welfare

TCL Zhonghuan incorporates public welfare and community services into the work arrangement and planning of the Company, continuously increases investment in public welfare and advocates public welfare culture, contributing to advancement of rural revitalization and prosperity for all.

Our domestic production bases are located in Tianjin, Inner Mongolia, Yixing Jiangsu and Yinchuan Ningxia, ranking top in both building size and investment scale in these cities. Our industrial parks and projects make contributions to the economic development, employment, resource localization, development of new energy industry chain and business competitiveness in local areas.

5.1 Committing to Social Responsibility

TCL Zhonghuan has been deeply involved in the charity for many years and participated in various public welfare activities of TCL Public Welfare Foundation, such as talent training and rural revitalization, harnessing our strengths to fulfil our social responsibility.

TCL Foundation

TCL Foundation was established in 2012. Adhering to the values of "pursuing public interests and promoting social progress" and the purpose of "creating education and growth opportunities for the vulnerable groups and seeking community welfare and sustainable development of the environment", the Foundation is committed to three major public welfare fields, including basic education and assistance, special groups care, and major disaster relief, actively carrying out social charity campaigns and fully fulfilling social responsibility.

Development history of TCL Foundation

2022

TCL Photovoltaic Solar School

TCL Zhonghuan donated photovoltaic rooftop solar power generation systems to schools. The electricity generated is fully transmitted to the grid, which brings continuous profits to the schools and contributes to sustainable education assistance and high- quality development of rural education

2022

Charity donation to an under-developed village in Erwangzhuang Town, Baodi District

We made field research on the assistance progress at Jingjiazhuang Village, Erwangzhuang Town, and showed care to assistance team. TCL Zhonghuan donated CNY 200 thousand to Jingjiazhuang Village

2019

Little Musician+

We launched the "Little Snow Music Player" for children who have limited access to music to enrich education resources in rural regions, bring various famous Chinese and foreign songs to them for appreciation, and inspire every child with the power of music

2013

TCL Project Hope Candlelight Award

We initiated the plan to reward rural teachers who dedicated to rural education at the front line, demonstrating their professional ethics and pursuits, to encourage more outstanding teachers to get involved and drive the development of rural education

2015

Rose Initiative

Our employee volunteers visited rural teachers and told their stories to the public

2019

A.I. (Love) into Home

We developed the "Eagle" storytelling machine with AI technologies to tell stories to left-behind children in parents' voice

TCL Project Hope Candlelight Award

TCL Zhonghuan always keeps social welfare in mind and is keen on public service. With the intention to better care about, support and help people with disabilities, the Company, cooperated with Tianjin Chuangmei, set up an employment base to help them find jobs. TCL Zhonghuan supports the community in a special way. On 16 May 2021 (the 31st National Disability Day), we organized a Color Run public welfare activity and donated CNY 10,000 to the Tianjin Welfare Fund For The Handicapped.

TCL Zhonghuan Color Run

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5.2 Innovating Public Service Practice

Light is the best gift given by nature. By exploiting the power of light and transforming it into electricity via "photovoltaic+" technologies, we keep exploring ways to pay back to nature and the society.

TCL Zhonghuan connects photovoltaic industry with rural revitalization in an efficient way, and actively promotes photovoltaic programs for poverty alleviation, driving the development of labor and material resources in underdeveloped areas. Our efforts integrate new energy utilization, energy conservation and emission reduction into poverty alleviation, fully pushing green and sustainable development in rural areas. We actively implement national policies, such as the Opinions on Supporting Photovoltaic Poverty Alleviation and Regulating the Land Use of Photovoltaic Power Generation Industry and the Smart Photovoltaic Industry Innovation and Development Action Plan (2021-2025) issued by the National Energy Administration, Ministry of Industry and Information Technology of the People's Republic of China and other departments. As a response, we launch poverty alleviation programs by photovoltaic power generation in Inner Mongolia, Hebei, Yunnan, Sichuan and other regions. Considering the industrial characteristics and resource advantages of different regions, we select poverty-stricken regions meeting photovoltaic construction conditions, and actively carry out photovoltaic power generation projects for poverty alleviation.

By the end of the reporting period, the Company had constructed 6 photovoltaic power plants for poverty alleviation, which are all ground-based centralized power plants. Our poverty alleviation programs are in line with the distribution of poverty-stricken population. The above power plants will provide 6,901 poverty-stricken families without working ability with sustained income of about CNY 3,000 every year for 20 years.

Zhonghuan Renewable Energy Chongli Shengyuan Cheqigou Photovoltaic Power Plant

On 20 February 2022, the Beijing 2022 Olympic Winter Games came to a successful conclusion. Beijing 2022 Olympic Winter Games is the first "carbon-neutral" Olympic Winter Games. Its 26 venues across the three competition zones are all powered with green energy. Our Zhonghuan Renewable Energy Chongli Shengyuan Cheqigou Photovoltaic Power Plant is the only ground-based centralized solar photovoltaic power generation project for poverty alleviation in the core area of the Olympic Games. With an installed capacity of 30 MW, the plant is able to produce approximately 44.53 million kWh of green electricity each year. While protecting the environment, this power plant plays an effective role in alleviating poverty, improving the lives of 1,000 poverty-stricken households with an annual poverty relief fund of CNY 2.25 million for 20 years.

TCL Zhonghuan supports rural education by introducing photovoltaic programs to schools. We initiated the "TCL Photovoltaic Solar School" program together with the TCL Foundation. Specifically, we donate photovoltaic rooftop solar power generation systems to schools. The electricity generated is fully transmitted to the grid, which brings continuous profits to schools and contributes to sustainable education assistance and high-quality development of rural education.

Shanxi Hanzhong "TCL Photovoltaic Solar School" was launched!

In September 2022, the first "TCL Photovoltaic Solar School" was launched in Hanzhong, Shaanxi Province. We donated photovoltaic rooftop solar power generation systems to four schools including Caomiao Primary School in Xixiang County, Hanzhong, Shaanxi Province. The revenue from power generation in 25 years, amounting to about CNY 1.68 million, will be used to improve school environment and help poor students. In addition, the Foundation has already introduced its existing public welfare projects such as "Eagle Story-telling Session" and "Little Snow Music Class" into these schools, forming a sound public welfare funding system.

We are on a journey of green and low-carbon public welfare exploration. In the Shaanxi Hanzhong project, the installed capacity of photovoltaic rooftop solar power generation system is 54 kW, and the average annual power generation capacity is 47,305 kW. Using green and clean electricity, the four schools have saved 1,892 metric tonnes of standard coal and reduced carbon dioxide emissions of 4,716 metric tonnes, equivalent to planting 260 thousand trees.

5.3 Encouraging Engagement in Public Welfare

The Company keeps investing in public welfare undertakings and encouraging employees to take part in public benefit activities. In order to regulate charity donations and reinforce the management of donation-related matters, we have formulated and implemented the Regulations on the Management of Social Welfare Donations in 2022, which clarifies the major orientations, principles, methods, management and approval procedures of donations, aiming to improve the transparency in donation.

TCL Zhonghuan's major donation orientations

Social welfare undertakings

Education, science, culture, health care and medical services, sports, environmental protection, energy conservation and emissions reduction, construction of public facilities, etc.

Poverty alleviation, disaster relief and vulnerable groups

Areas suffered from natural disasters, areas of paired assistance, areas of targeted assistance, etc.

Social groups including Charity Federation, Red Cross Society, Disabled Persons' Federation, Youth Development Foundation, and vulnerable groups

Other social welfare undertakings

Social welfare undertakings that promote social development and progress

TCL Zhonghuan donation principles

- Voluntary
- Practical
- Practical
- Honest

In 2022, and gave indirect donations of CNY 22,175.6 thousand through the TCL Foundation. The donations were mainly used in implementing the Company's distributed county-wide development programs and photovoltaic school-aiding plans in targeted areas where ground-based projects will be launched in the future. We also care for left-behind teenagers as well as teachers and students in need. Therefore, we carry out programs such as "TCL Project Hope Candlelight Award" and "A.I. (Love) into Home" to help them.

Giving a favor to people in need and adding more flavor to their lives – Charity donations to an under-developed village in Erwangzhuang Town, Baodi District

On 21 July 2022, the charity donation to an under-developed village in Erwangzhuang Town, Baodi District was successfully completed with support from the TCL Foundation. Zhang Xuenan, Deputy Chief Engineer of TCL Zhonghuan, on behalf of the Company, visited the Jingjiazhuang Village to follow up the progress of the poverty-alleviation assistance, and donated CNY 200 thousand to Jingjiazhuang Village to support the development of various undertakings in this area.

TCL Zhonghuan's donation of CNY 200 thousand to Jingjiazhuang Village

The Company encourages employees to participate in all kinds of volunteering activities and public welfare project application. In 2022, our employees participated in the "Rose Initiative" under the TCL Project Hope Candlelight Award. They visited 29 rural teachers from 29 schools in 12 provinces such as Sichuan, Yunnan, Guangxi, by means of cn"field visit" + "online interview".

CNY **22,175.6** thousand

Total donation amount in 2022

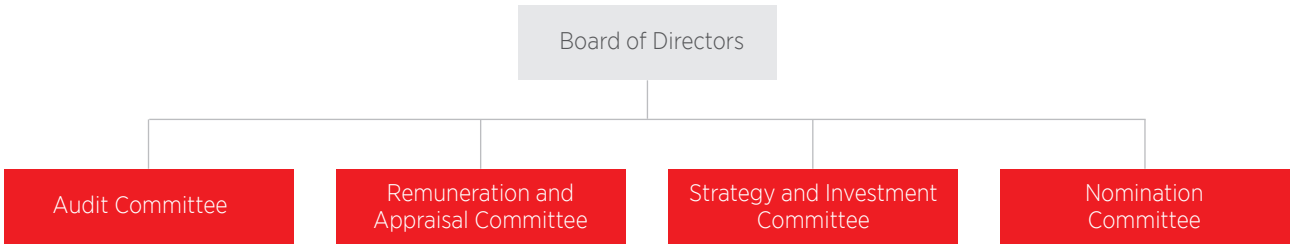
6,000 people

Number of registered volunteers in 2022

Reinforcing Corporate Governance with Full Disclosure and Transparency

6.1 Efficient Governance

Corporate Governance Structure



TCL Zhonghuan has established the Board of Directors ("the Board") and the Board of Supervisors in accordance with the Company Law of the People's Republic of China and the Articles of Association. And the Company elects directors and supervisors in strict compliance with the stipulated procedure to achieve a balanced distribution of power.

Our Board has established four committees to discharge its duties and ensure effective business management, including the Audit Committee, Remuneration and Appraisal Committee, Strategy and Investment Committee, and Nomination Committee. These committees provide decision-making consultation for the Board, and oversee the execution of the business management, internal control system and the Board's resolutions.

Meanwhile, our Board and committees jointly contribute strategies and decisions to the development planning, business management, risk control, senior management and reserve talents recruitment, senior management performance evaluation, internal control, and internal audit. Also, we enhance our business planning and risk prevention capability by professional knowledge and scientific methods.

The responsibilities of our four committees are as follows:

The Audit Committee oversees and manages the internal control system and audit activities of the Company, lead the relevant personnel of the Compliance Department who are responsible for internal audit and internal control to independently and objectively perform their functions and powers in accordance with the laws and regulations and the provisions of the Company, and ensure the effective implementation of relevant systems and processes.

The Remuneration and Appraisal Committee, as the administrative institution for the appointment, remuneration and appraisal of senior management in the Company, is responsible for formulating the remuneration standards and plans for executives, reviewing the performance of their duties and conducting the annual appraisal, and preparing and submitting a scientific and reasonable remuneration plan to the Board for review.

The Strategy and Investment Committee reviews and analyzes market trends and competitive environment to prepare strategic plan and supervise progress towards objectives. They also deliberate on the Company's strategic cooperation agreements and prudently evaluate and deliberate on major investment opportunities.

The Nomination Committee evaluates the Company's governance structure and manpower needs, proposes nominations for candidates for the Board, and ensures that the election procedures of directors are in strict compliance with the requirements in the Articles of Association. It also reviews the job responsibilities of senior management and responsible for the appointment of them.

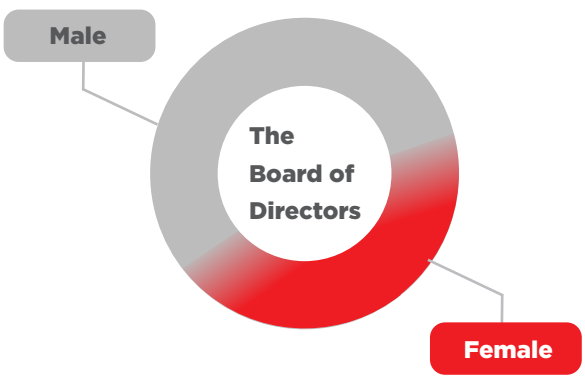
Our Board of Supervisors, with a view to protect our shareholders' interests and in compliance with the regulations such as the Rules of Procedure of the Board of Supervisors, conscientiously performed its duties, conducts effective supervision over and issues independent opinions on the material matters, connected transactions, financial status, performance of directors and senior management.

Diversity and Independence of the Board of Directors

TCL Zhonghuan believes that enhancing the diversity and independence of the Board is beneficial to the sustainable development of the Company. And the diversity and independence are necessary elements to improve corporate governance and support the achievement of strategic objectives.

Diversity of the Board of Directors

TCL Zhonghuan always emphasizes the diversity and equity of the Company's operation and decisions. To ensure diversity of the Board so that the quality of decisions can be improved by bringing different views and expertise into play, the Company takes diversity into account when planning the composition of the Board from various perspectives, including gender, age, cultural and educational background, ethics, professional experience, skills, knowledge and tenure of service. All appointments by the Board are made based on talent merits, with due regard to the interests of the Board and the Company in an objective manner and with a view to enhancing the innovation capability of the Company through the diversity of the Board. In 2022, the Board consist of nine directors, of which four are female directors, accounting for 44.44%.



Independence of the Board of Directors

Working in accordance with regulations such as the Rules of Procedure of the Board of Directors, the Rules of Procedure for Independent Directors and the Rules for Independent Directors of Listed Companies, our directors attend the meetings of the Board and shareholders. If they fail to attend the meetings in person or by proxy on two consecutive occasions, they shall be deemed that they are unable to perform their duties, and our Board shall propose the dismissal and replacement of such directors at the meeting of shareholders. In 2022, our board held nine meetings with 100% attendance.

The Board strictly implements a decision-making system of collective deliberation, independent voting and personal responsibility institution, and encourages directors to fully express opinions on one-person-one-vote basis. We established a standardized and transparent system publicity and disclosure of material matters, safeguarded the integrity of minutes and proposal materials of the Board meetings. Also, we established a system of follow-up, implementation, and post-evaluation of the Board's decisions to improve liaison and communication with other governance bodies. We have a total of 9 directors in our Board, three of whom are independent directors (accounting for 33%) and all independent directors hold key roles in our special committees.

All directors actively participate in various training programs on business ethics, anti-corruption, ESG and emissions peak and carbon neutrality training, and perform their duties with integrity, diligence, and responsibility.

Performance Evaluation of Senior Management

The remuneration of our senior management strictly follows the decision-making procedures. The Remuneration and Appraisal Committee is responsible for formulating the remuneration plan of senior management, of which the remuneration and appraisal of directors and supervisors are assessed and approved by the Board and the meeting of shareholders, and the remuneration and appraisal of senior management are assessed by the Board and then finally implemented. At the same time, as the supervisory body, the Board of Supervisors and our independent directors are responsible for assessing the impact of the senior management remuneration plan on sustainable and long-term development of the Company, and then provide a final opinion on whether there is any circumstances that are detrimental to the interests of the Company and shareholders. The corresponding quota of target stocks of our directors, supervisors and senior management is calculated based on their individual performance assessment results.

Board Meeting Attendance in 2022

Meeting in 2022	Time
Board of Directors Meeting	9
Audit Committee Meeting	6
Nomination Committee Meeting	1
Remuneration and Appraisal Committee Meeting	4
Strategy and Investment Committee Meeting	4
Board of Supervisors Meeting	9

Investors' Rights and Interests

TZE strictly adheres to regulations such as the Rules for the Shareholders Meeting of Listed Companies and the Rules of Procedure for the Shareholders Meeting to organize the meetings of shareholders. We also formulate the Investor Relationship Management System to ensure that all shareholders especially minority shareholders have equal, voting duties and fully exercise their rights.

The Company was awarded the highest rating of "A" by the information disclosure work assessment of the Shenzhen Stock Exchange, ranking in the top 18% of listed companies, which proves our good management in standardized operation, cash dividend and share buyback, investor relationship, information disclosure quality and ESG performance.

We actively promote and communicate with our investors through two official WeChat accounts – "TZE" and "TZE Investor Relations", and organize regular investor Q&A sessions. Apart from answering investors' concerns and objections in detail, we also publish an "Investor Relations Activity Record " through our official WeChat accounts to record all relevant investor-related activities and Q&A transparently to facilitate our investors to communicate with us in time. In 2022, TZE received a total of 1,200 calls from the investor hotline, responded to 389 questions on the platform, organized 384 online and offline roadshows and 62 strategic meetings, and received more than 100,000 investors. Also, we were awarded the "Best Practice in Annual Report Performance Disclosure for Listed Companies" from the China Association for Public Companies and the "Award for Most Investment Value" from China Securities Journal, which are testimonies to our successful relationship with our investors.

TZE 15th Anniversary Special Project—— "Building a dream road towards the light"

In 2022, the 15th anniversary of TZE's listing, the Company organized the anniversary celebration with the theme of "Building a dream road towards the light", which provided an opportunity for our investors to deeply understand the Company and received undiluted enthusiasm.

We conveyed our vision and achievements through interactive videos and told the story of TZE in the aesthetics of light and shade, which enables investors to be familiar with the Company quickly. The total Self-media views reached more than 47,000 times.

During July 21 to 22, 2022, we organized the "15th Anniversary of Listing and Investor Reception Day" event in Yinchuan, Ningxia, which aims to promote communication with the capital market, enhance our image and influence in the capital market by organizing investor visits to the automated production line, as well as conducting on-site presentations and interactive Q&A sessions. A total of 374 people participated in the event, including 149 institutions.

(Scan QR code to view)

Live Q&A sessions of senior management and investors

The Crystal Phase 6 Plant Tour

Tax System

TZE strictly complies with the tax laws and regulations of the countries and regions with our facilities, discloses and clarifies such detailed information as different income tax rates, taxpayers, and preferential taxation of the Company and our subsidiaries in the annual report. We are committed to providing accurate and truthful financial reports, refraining from false or misleading data and information disclosures, and ensuring that financial records are kept compliantly. Please refer to the Tax section of the TZE Annual Report in 2022 for detailed information related to tax.

6.2 Business Ethics

Compliance and Business Ethics

Our Ethics Code

TZE strictly complies with the principle of fair competition. We promote anti-bribery in business activities in accordance with laws and regulations such as the Contract Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China, and the Criminal Law of the People's Republic of China, strengthen the internal control mechanism to be honest and trustworthy. We guide the employees and other stakeholders (such as customers, suppliers, etc.) to comply with the laws, regulations as well as code of conduct of the Company, adhere to honesty and trustworthiness, and project a more positive image of our company.

We formulated the Management Regulation on Combating Commercial Bribes as the code of business conduct and require all employees of TZE and our subsidiaries to strictly comply with the system. Also, any form of commercial bribery and unfair competition is prohibited, which includes contact with governmental authorities, business negotiation with customer business representatives, product procurement with suppliers, project implementation with contractors, and all other commercial activities or external contacts. Additionally, we formulated the Code of Conduct for TZE Partners, which requires all suppliers and partners to comply with internationally accepted standards including employees' rights protection, anti-discrimination, anti-monopoly, anti-unfair competition, anti-commercial bribery, health, safety and environmental responsibility, network and information security, intellectual property and confidentiality and compliance management to continuously promote the sustainable development of our suppliers.

Compliance Training

To ensure corporate compliance governance, TZE carries out a series of compliance tasks, compliance training and publicity programs in such aspects as market transaction and business partner, safety and environmental protection, information security and labor safety. The training covers all full-time and part-time employees on topics such as export control, economic sanction, labor protection and competition restrictions. We also further team up with our subsidiaries to conduct compliance publicity focusing on trade secret protection and learning of the constitution.

Market Transaction and Business Partner

- To meet the needs of foreign customers on supply chain traceability, the Company employs a law firm to launch the supply chain traceability investigation and establish the traceability mechanism;
- With the ever-increasing national supervision and punishment for monopolistic actions, the Company gives risk warnings for anti-monopoly declaration in the legal support of projects, and cooperates with business units to make anti-monopoly declarations.

Safety and Environmental Protection

- Strictly comply with Environmental Protection Law of the People's Republic of China, Water Pollution Prevention and Control Law of the People's Republic of China, Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes, Soil Pollution Prevention and Control Law of the People's Republic of China, Measures for Pollutant Discharge Permitting Administration, Provisions on the Prohibition of Using Child Labor, Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, Special Labor Protection of Female Employees and other laws and regulations related to environmental protection and occupational health and safety, we timely revise the inetnal mangement process and related documents, and improve the Company's management mechanism;

◎ The Company develops a complete safety production and risk assessment system. Our regulations on safety managment include Provision for Administration of Environmental Protection Management, Regulations on the Investigation and Management of Hidden Hazards, the Regulations on Hierarchical Control of Safety Risks, Regulation on the Management of Occupational Health, Regulations on the Safety Management of Hazardous Chemicals, Regulations on the Management of Safety Education and Training, etc.

Information Security

◎ The Company works out the information security strategy based on the trade secret protection system, and develops the data security management requirements for its digital transformation department pursuant to the Data Security Law of the People's Republic of China;

◎ The Company attaches great importance to data protection and personal privacy protection, and ensure that the operation of the our information system complies with relevant national laws and regulations;

◎ The Company continuously promotes the authentication of data and information security management systems. Our operation system obtained ISO27001 certification. Our security team also obtained other professional security cerrifications such as CISSP, CISA, CDPSE, CISP, etc.

Labor Safety

◎ The Company revises its corporate management regulations in terms of competition restrictions, anti-corruption, anti-malfeasance, faithful performance of duties and personal information protection, and also incorporates these aspects into the Employee Handbook;

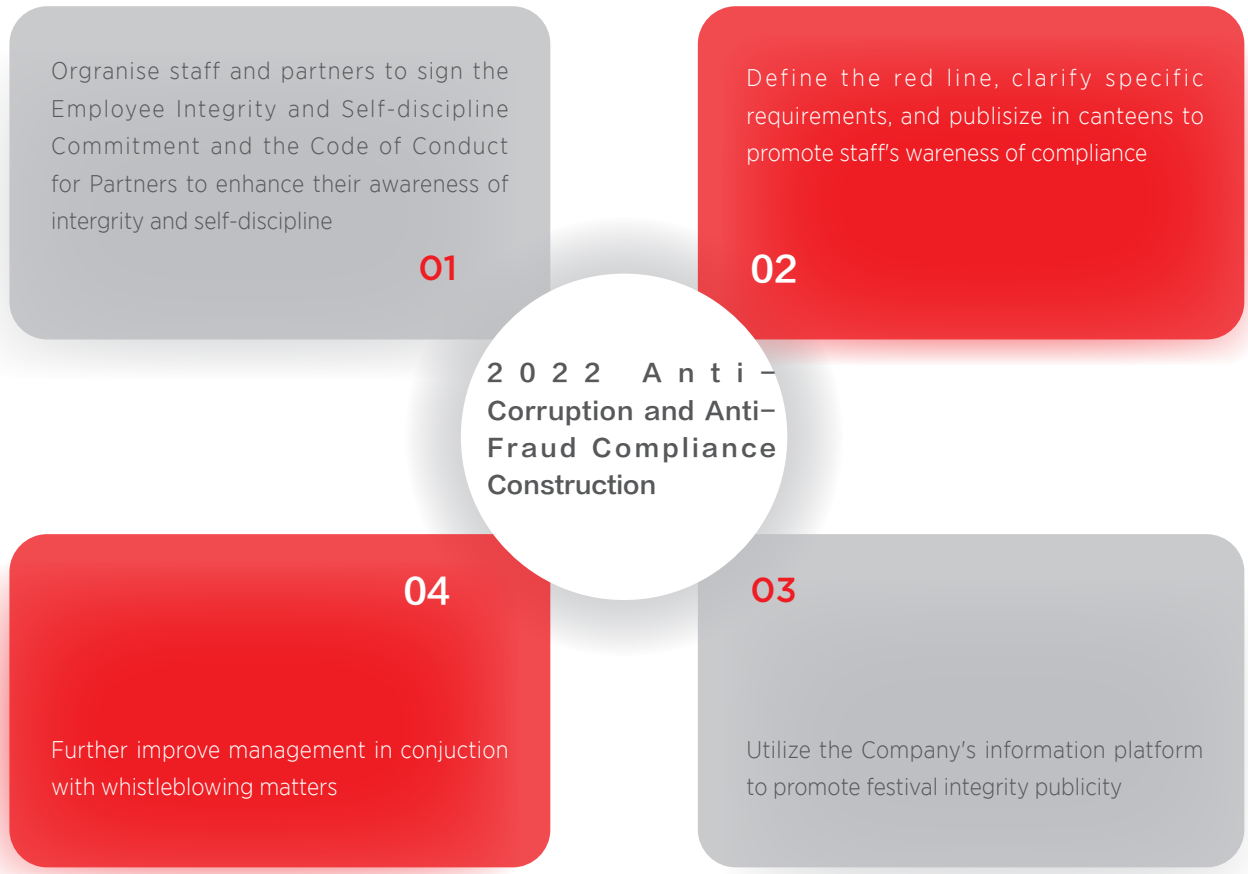
◎ The Company works out the competition restriction management requirements and work plans for its human resource department.

Compliance Audit

We establish an audit supervision, prevention, and control system on the basis of "prevention before incidents, management and control during incidents, and supervision after incidents". According to applicable laws and regulations, the Company conducts audits in connected transactions, guarantee business, fund raising, external investment and major engineering projects to ensure that the Company's business complies with laws and regulations, and enhance the authenticity and completeness of information disclosure. In 2022, fourteen audit projects and inspections were completed, including ten business areas such as logistic costs, procurement business, customs compliance, and canteen management. Our audits covered the new energy materials industry, semiconductor materials industry, new energy battery components industry, regional pooling platform supply chain platform, etc., with a coverage rate of 100%. There was no violation of laws and regulations during the reporting period.

Anti-Corruption

Adhering to the guideline of "addressing both symptoms and root causes, valuing both punishment and prevention, and giving priority to prevention", the Company formulates detailed policies and systems in respect of the supervision and administration over anti-corruption and other aspects of compliance of laws and discipline, which includes the Management Regulation on Combating Commercial Bribes, Management Regulation on Supervision, Management Regulation on Blacklisted Suppliers and Management Measures for Punishing Employees Receiving Gifts, etc. Also, we publish and disseminate the policies and systems via the Company's intranet. We standardized our supervision processes and conduct annual audits on all business units. In 2022, our key series of anti-corruption and anti-fraud compliance work is as follows:



As for the management of internal staff, we strengthen internal control and training to prevent operational risks and ethical risks and promote diligence and integrity of personnel in key positions. Meanwhile, we develop management methods for personnel in key positions, focusing on the supervision of key personnel in key positions (leadership cadres, cadres, etc.), carrying out management, rotation, and supervision of duties, and strengthening the supervision of performance and accountability for deployment.

In 2022, we made full use of our information platform to conduct all-staff festival integrity publicity. We sent the TCL 2022 Anti-Fraud Bulletin to our senior management and employees through our mailbox, guiding them to learn from cases and understand regulations to prevent careless mistakes and strictly punish corruption. By 2022, 14,140 employees in key positions have signed the Employee Integrity and Self-discipline Commitment, with a signing rate of 81%.

As for the management of external suppliers and partners, we promote integrity cooperation, properly prevent and control integrity risks, and enhance the awareness of integrity and self-discipline between the Company and our suppliers. On August 25th, 2022, we participated in the "Manufacturing Industry Integrity Compliance Seminar" organized by the Trust and Integrity Enterprise Alliance. The Company formulates the Code of Conduct for TZE Semiconductor Partners in accordance with the requirements of the Contract Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China, the Criminal Law of the People's Republic of China and other laws and regulations. We also integrated the spirit of the Party's eight-point frugality code and the requirements related to integrity in employment into the development of the code. As of 2022, 1,341 partners have signed the code, with a signing rate of 95%.

In 2022, a total of 17,399 employees participated in anti-corruption training, with a total participation time of approximately 115,933.33 hours. Besides, new staffs are provided with additional red line education, which provides clear integrity and ethical guidelines.

Anti-Corruption Training in 2022

Training	Number of participants
Board of Directors	9
Middle and Senior Management	290
Other Employees	17,100
Total	17,399

Publicity of Integrity through Multimedia

TZE has a specialized department, which is responsible for the publicity of integrity culture of the Company. Our subsidiaries assist to complete the integrity publicity work and carries out their publicity work specifically and creatively with an integrity culture publicity framework.

The channels for promoting the culture of integrity include: (1) internal publications, WeChat official accounts, websites, advertising screens, and other media; (2) internal email and other systems; (3) internal company premises such as offices and company canteens; and (4) external platforms such as the Integrity Culture Forum, ect.

In 2022, the Company held a training on the theme of the "red line of integrity" to clearly publicize to all employees and senior management the specific requirements and boundaries of integrity:

In 2022, we used our information platform to conduct integrity publicity:

The Company's publicity release on integrity during the Chinese New Year was read 17,588 times. The publicity of National Security Education Day was carried out on April 15th. The publicity release to publicize International Anti-Corruption Day on December 9th received 21,935 hits.

Whistleblowing Mechanism

We encourage employees and external parties to report incidents of corruption in our operations to our internal audit department or Audit Committee, including bribery, extortion, fraud, money laundering, etc.

To provide a secure whistleblowing channel for all stakeholders, TZE established the Management Regulation on Supervision to regulate the management of all types of complaints and whistleblowing. The Company clearly provides a unified whistleblowing email address, mailing address, and telephone number to ensure direct whistleblowing channels. Our audit and supervision institutions arrange for the incidents received by the whistleblowing mailbox and telephone to be managed by a special team, which deals with the problem in accordance with the problematic clues. All whistleblowing emails (including anonymous and real-name types) are required to be registered and replied to within 24 hours, and corresponding treatment opinions are required to be proposed in accordance with the content of the whistleblowing and disposed of accordingly after approval by the leadership. During the reporting period, the Company did not receive any whistleblowing reports.

Additionally, the Company protects whistleblowers. Information about the whistleblower including name, department, and company name is kept strictly confidential. When making an investigation or verification, the original or copy of whistle-blowing materials and the whistleblowers are forbidden to be shown and exposed; the handwriting of anonymous whistle-blowing letters and materials are forbidden to be identified; whistle-blowing materials are forbidden to be borrowed from external parties. Furthermore, retaliation against whistleblowers is strictly prohibited. Those who illegally disclose the information of whistleblowers or retaliate against them shall be dismissed and their labor contracts shall be terminated, or they shall be transferred to judicial authorities for punishment according to relevant laws.

Reporting Procedures

1

◎ Whistle-blowing cases are required to be registered within 24 hours.

◎ Whistle-blowing channels in TZE:

Telephone:23789766-3228

Email:jubao@tzeco.com

2

◎ Audit and supervision institutions assign dedicated personnel or establish a special team to understand the situation, investigate and collect evidence

3

◎ Complete the investigation and evidence collection within the prescribed time, draw preliminary conclusions, and report the conclusions to the management

4

◎ Convene special meetings to review the reported cases and investigation results, and find the solutions

5

◎ Provide feedback to whistleblowers

◎ Complete the filing of case materials and transfer them to the archives administration for unified management and permanent preservation of supervisory files

Intellectual Property Protection

Intellectual property is an important component of a company's success and competitiveness. TZE adheres to the principles of honesty and professionalism as the foundation of our business and strives to apply industry best practices to operations through an intellectual property management system covering the whole life cycle of products.

In the research and development process, we attach great importance to the protection of technological achievements. We form domestic and international patent layouts, prioritize patent quality, and cultivate high-value patents. The Company has formulated and implemented the Intellectual Property Management System and Patent Management Regulations based on relevant regulations such as the Patent Law of the People's Republic of China, Detailed Rules for the Implementation of the Patent Law of the People's Republic of China, and Specifications for the Administration of Intellectual Property Rights of Enterprises. We encourage our employees to invent and create independently, promote technological progress in production, and improve our market competitiveness and economic efficiency. For more information on R&D, please refer to section 1.3 “Creating Low-Carbon Products”.

TZE has established a "full lifecycle management system" for intellectual property and patents, conducting due diligence investigations, and continuously monitoring intellectual property risks. We conduct risk assessments at multiple stages including product research and development, production, launch, and export, and construct a safety protection network to safeguard our own and others' intellectual property and continue to expand patent layout in the direction of high-quality "smart manufacturing".

TZE Intellectual Property

Application Status	Number
Intellectual Property Acquired	1,223
Invention Patent	149
Utility Model Patent	1,035
Design Patent	1
Integrated Circuit Layout Design	21
Software Copyrights	17
Patent under Application	747

Note: TCL Huanxin Semiconductor (Tianjin) Co., Ltd has been changed into a joint-stock enterprise in May 2021, and was not included in the statistics of 2022. In this form, 69 intellectual property (33 invention patents and 36 utility model patents) obtained by TCL Huanxin Semiconductor (Tianjin) Co., Ltd. and 57 patents under application are deducted.

2022 TZE Low-Carbon & Electricity-Saving Patents	
Power consumption reduction gas guide device for single crystal furnace (Patent NO.: N202220433081.4)	Photovoltaic cell, imbricated cell string and photovoltaic module (Patent NO.: ZL202222047583.6)
During the reporting period, we optimized the gas guiding structure inside the single crystal furnace and repurposed the circular graphite felt used in the gas guiding structure after being cut into pieces by the furnace bottom graphite felt, achieving the reuse of waste. This technology achieves an average power reduction of 2 kW, resulting in significant cost savings. If applied to 1,000 single crystal furnaces with an electricity price of CNY 0.3 per kilowatt-hours and an effective operating time of 600 hours per month per furnace, a single furnace could save CNY 360,0001 per month, resulting in an annual cost reduction of CNY 4.32 million.	Silver paste is used to conduct electricity through printing during the battery production process. Component terminals are welded onto the silver paste to transmit current using conductive welding strips. This technology utilizes laser grooving to create slots in the main grid of solar cells and embeds conductive welding strips inside, improving the quality and stability of photovoltaic cells while ensuring equipment precision. The welding strip replaces the silver paste of the main grid, eliminating the process of printing the main grid silver paste, resulting in an estimated cost reduction of CNY 0.289 per cell (CNY 0.029 per watt). Moreover, it enhances the reliability of the electrical connection between the main grid and the auxiliary grid.

Note: 1. Calculation formula of monthly cost reduction: 2kw*0.3 CNY/kWh*600h*1000.

Information Security and Privacy Protection

To protect the security of the information system and prevent negative impact on customers, the Company and society resulting from data breaches and network intrusions, the Company has developed the TZE Information Technology Resources, Data Security, and Communication System Policy in accordance with the Cybersecurity Law of the People's Republic of China and other national laws and regulations. Also, we have prepared a series of procedural documents, operational guidelines, and record forms to establish a comprehensive information security management system.

The Company has established a Digital Transformation Committee ("Digital Committee"), which has the Digital Transformation Information Security Technical Group responsible for the design, operation, supervision, and assessment of the Company's network and information security.

Our Digital Committee conducts regular information security reviews and issues timely feedback reports on identified problems. Additionally, for high-risk threats such as computer viruses, a semi-monthly risk report is issued, and regular system risk inspections across all aspects of information management are performed to eliminate vulnerabilities. The Digital Committee also issues monthly summary report on system stability, security incidents, and system changes, which are further summarized and analyzed in the quarterly and annual information security reports. During the reporting period, there were no significant information security incidents within the Company.

In addition, TZE is actively promoting the certification of Graded Protection of Information Security to improve the information security management according to relevant standards. In 2022, Inner Mongolia and Ningxia production bases obtained the certification of Graded Protection of Information Security for six important business systems. We are also leading the way in obtaining ISO27001 certification. The Company's security team members have obtained multiple certifications, including Certified Information Systems Security Professional (CISSP), Certified Information Systems Auditor (CISA), Certified Data Privacy Security Expert (CDPSE), Certified Information Security Professional (CISP), etc., which provide reliable professional technical support to the maintenance of our information security.

To maintain awareness of employee against information security breaches, the Company sends quarterly email security warnings to employees during important meetings, major events, or major security incidents in the industry. In December 2022, the Company organized a network security emergency drill to improve the practical skills of technical personnel in handling emergencies through the simulation of business interruption caused by system abnormality.

In September 2022, TZE invited 360 (a cybersecurity company) to conduct on-site cyber security awareness training for our employees, with more than 1,000 employees participating, to reduce the risk of information security incidents caused by employee negligence.

The Company also conducts training on information security, conducts research and gap analysis on the information security management status of major manufacturing subsidiaries and platform subsidiaries. Then, we identify and fix security vulnerabilities and rectify and repair them one by one.

Information Security Gap Analysis Project with QAX

We invited QAX to assess the current situation of our network and information security and released the Investigation Report on TZE Network and Information Security, which evaluated aspects such as security management system and organization, safe operation and maintenance of software and hardware, information security personnel training and network security. By benchmarking against the security requirements drafted by QAX, the report accurately identified the Company's shortcomings in information security and formulated a blueprint for information security construction for the next three years, along with detailed implementation plans.

6.3 Risk Control

Risk Management System

TZE incorporates risk management into all links of our operations and implements special risk governance and internal audits for various risks to ensure proper risk management, continuous development and strict compliance with relevant compliance regulations. Additionally, a series of charters and codes have been established to regulate our operations, mitigate risks associated with operational procedures and ethical constraints, and achieve sustainable development.

To manage the regular risks in our daily operation, we take practical and effective measures to make improvements in risk prevention and control, potential dangers identification, and routine management by implementing policies and systems that apply to each functional department. This ensures that the Company's strategies are properly promoted, and potential risks are prevented.

Functional Departments

- Resoponsible for internal audits and management in respect of the business risks and opportunities in accordance with the system
- Identify risks timely, strengthen self-control and business controls to reduce the probability of risk occurrence

Compliance Mangement Department

- Design a compliance and timely feedback system to effectively manage risk throughout the "pre-exe n - execution - post-execution" cycle for each function
- Conduct regular internal reviews to prevent potential risks

Audit Committee

- Supervise the Company's compliance review, review the Company's risk assessment reports to ensure the effective implementation of risk management measures

With rapidly evolving and emerging risks, the Company regularly issues an internal "Bi-monthly Risk Management Bulletin" to identify the latest developments in emerging global risks and opportunities. During the reporting period, we have identified emerging risks and opportunities, including geopolitics, climate change, biodiversity, energy and carbon, labor human rights, sustainable supply chains, health events, exchange rate changes, and ESG-related policies and regulations. We have used quantitative data to conduct a stress analysis of our operations to forecast changes in our operating environment and conditions. We have also assessed trends and development of risks in the short, medium and long term to explain the potential impact on the Company's financial and strategic decision and to further develop corresponding measures according to the assessment results. Climate-related risks and opportunities have been disclosed in accordance with the TCFD framework, as detailed in section 1.1 “Our Actions towards Climate”.

ESG Key Quantitative Performance

Issues	Indicators For Quantitative Disclosure	UoM	2022	2021	2020
Economy	Total assets at the end of the period	CNY 100 million	1,091.34	779.79	587.2
	Operating revenue	CNY 100 million	670.10	411.05	190.57
	Net profit	CNY 100 million	68.19	40.30	10.89
	Earnings per share	CNY	2.12	1.3162	0.3770
	Cash dividends	CNY 10K	39,093.78	35,549.07	18,197.56
	Cash dividend plan	CNY / every 10 shares	1.0	1.1	0.6
Greenhouse gas emissions	Scope 1 and Scope 2 emissions	tCO2e	4,890,931.53	3,774,515.00	-
	Scope 1 emissions	tCO2e	32,260.62	20,597.00	-
	Scope 2 emissions	tCO2e	4,858,670.90	3,753,918.00	-
	Scope 1 and Scope 2 emissions Intensity	tCO2e/ CNY 10K	0.73	0.92	-
	Scope 1 emissions intensity	tCO2e/ CNY 10K	0.005	0.005	-
	Scope 2 emissions intensity	tCO2e/ CNY 10K	0.73	0.91	-
Energy management	Natural gas	cbm	3,867,760.00	2,880,687.82	806,550.70
	Steam	cbm	28.42	99,613.55	27,594,561.30
	Total electricity consumption	MWh	5,268,918.42	4,414,449.08	3,067,424.01
	Electricity purchased (green electricity not incl.)	MWh	5,229,462.76	-	-
	Green electricity	MWh	39,455.66	-	-
	Energy intensity	MWh/CNY 10K	0.79	1.07	1.61
	Investment of resources conservation	CNY	28,657,500.00	-	-
	Electricity saved through electricity conservation projects	kWh	50,214,528.14	-	-

Issues	Indicators For Quantitative Disclosure	UoM	2022	2021	2020
Exhaust gas management	Exhaust gas	10K cbm	989,733.63	403,632.85	499,187.54
	Nitrogen oxide (NOx)	kg	30,912.53	95,866.29	16,464.16
	Sulphur dioxide (SO2)	kg	2,105.68	0.00	408.35
Water management	Total water consumption	cbm	22,449,908.20	29,410,088.00	14,195,157.56
	Water derived from municipal water supply system	cbm	15,799,622.20	10,677,112.00	7,299,259.31
	Total amount of water recycling	cbm	391,631,864.20	562,662,547.00	16,774,292.00
	Water intensity	cbm/CNY 10K	3.35	7.15	7.45
	Water saved through water conservation projects	metric tons	12,343,487.20	-	-
	Total wastewater discharge	10K cbm	1,433.52	1,122.62	941.90
	Chemical oxygen demand (COD)	kg	1,268,896.00	-	-
	Ammonia nitrogen	kg	57,961.54	-	-
	Suspended solids (SS)	kg	728,761.30	-	-
Solid waste management	Hazardous waste	metric tons	1,637.02	1,050.21	2,968.88
	Industrial solid waste	metric tons	135,222.67	75,208.50	67,020.49
	Recycled/reused solid waste	metric tons	130,187.08	-	-
	Solid waste recycling rate	%	95.12	-	-
	Packaging materials	metric tons	13,318.43	11,978.00	7,670.47
	Recycled packaging materials	metric tons	2,582.46	289.30	185.40
	of finished	metric tons	13,318.43	11,978.00	7,670.47
	products	metric tons	2,582.46	289.30	185.40
	Renewable materials of main products and services	metric tons	5,299.76	-	-

Issues	Indicators For Quantitative Disclosure	UoM	2022	2021	2020
R&D	R&D investment	CNY 10K	377,100	257,653.92	90,921.98
	Proportion of R&D expenditure in operating revenue	%	5.62	6.27	4.77
	Proportion of R&D employees in total employees	%	7.20	8	8.64
	Number of patents	piece	1,223	975	732
	Number of patents for invention	piece	149	154	127
	Number of utility model patents	piece	1,035	797	582
	Number of design patents	piece	1	-	-
	Number of integrated circuit layout design	piece	21	-	-
	Number of software copyrights	piece	17	-	-
	Number of patents under application	piece	747	613	518
Product quality	First pass yield of products	%	Module: 99	96	93
	Crystal & Wafer: 97	96	93	940	1,042
	Quality feedback frequency	time	596	940	1,042
	General quality feedback frequency	time	419	414	705
	Major quality feedback frequency	time	1	5	0
Product responsibility	Customer satisfaction rate	%	94	-	-
	Number of customer complaints	time	927	-	-
	Complaint response rate	%	100	-	-
	Total training hours for customer service quality	hour	2,825	-	-

Issues	Indicators For Quantitative Disclosure	UoM	2022	2021	2020
Employment	Number of employees	person	17,390	13,371	10,258
	By age group: 30 and below	person	9,499	6,386	4,904
	By age group: 31-50	person	7,758	6,851	5,236
	By age group: 51 and above	person	133	134	118
	By ethnic group: the Han	person	15,892	12,359	9,572
	By ethic group: ethnic minority	person	1,498	1,012	686
	Proportion of male employees	%	81.43	81.27	79.26
	Proportion of female employees	%	18.57	18.73	20.74
	Proportion of female executives	%	26.19	30	30
	Number of employees in need receiving assistance	person	552	29	33
Development and training	Proportion of trained employees in total employees	%	32.63	64.95	24.3
	By gender: male employees	%	78.08	82.63	76.3
	By gender: female employees	%	21.92	17.37	23.7
	By function: management	%	5.27	4.48	41.6
	By function: professional	%	37.74	44.79	2.5
	By function: technology	%	34.15	40.63	24.2
	By function: marketing	%	2.27	2.20	1
	By function: operation	%	20.56	7.90	30.7
	Average training hours of all employees	hour/person	32.65	28.78	26.8
	By gender: male employees	hour/person	32.25	28.06	26.2
	By gender: female employees	hour/person	34.36	32.16	28.9
	By function: management	hour/person	23.16	20.09	33.4
	By function: professional	hour/person	11.0	1.54	22.3
	By function: technology	hour/person	3.35	1.36	24.2
	By function: marketing	hour/person	0.89	0.51	28.2
	By function: operation	hour/person	42.69	314.60	20.3
	Number of courses at the online learning platform	course	2,473	1,093	910
	Number of trainees	person	145,460	136,476	84,968

Issues	Indicators For Quantitative Disclosure	UoM	2022	2021	2020
Occupational health and safety	Coverage of physical exam	%	100	100	100
	Number of employees who died caused by work injuries	person	0	0	0
	Number of work injuries	case	5	7	27
	Lost time injury rate (per 1,000,000 hours worked)	%	0.12	-	-
	Number of safety education and training activities	time	375	709	413
	Number of emergency drills	time	298	271	112
Corporate governance	Number of directors in the Board of Directors	person	9	9	9
	Number of female directors in the Board of Directors	person	4	4	4
	Proportion of female directors in the Board of Directors	%	44	44	44
	Number of independent directors in the Board of Directors	person	3	3	3
	Proportion of independent directors in the Board of Directors	%	33	33	33
	Number of general meetings of shareholders	time	3	4	4
	Number of meetings by the Board of Directors	time	9	17	22
	Number of meetings by the Board of Supervisors	time	9	9	12
	Number of meetings by special committees of the Board of Directors	time	15	16	23
Compliance and anti-corruption	Number of completed corruption lawsuits filed against the issuer or its employees	case	0	0	0
	Number of employees receiving anti-corruption training	person	17,390	1,300	270
	Proportion of suppliers signed Code of Conduct	%	95	-	-

Note:

1.Source of environmental statistical data: the 14 subsidiaries of TZE Renewable Energy Technology Co., Ltd. (please see the List of Subsidiaries for detail information). The statistics of greenhouse gas emissions include all subsidiaries and their supporting facilities. Statistics of other environmental data in 2022 include only subsidiaries while those of Huanzhi in 2022 include the company itself and its canteen.

2.In 2022, the emission (total wastewater discharge, exhaust gas, hazardous waste, and industrial solid waste) increased significantly compared with that in 2021 as the Company expanded its production with rising production capacity. The decrease in steam consumption was due to the change of TCL Huanxin Semiconductor (Tianjin) Co., Ltd to a joint-stock enterprise company in May 2021, which is not included in the 2022 statistics.

3.The GHG emission statistics for the GHG categories include CO 2, CH 4, N 2O, HFC s, PFC s, SF 6, NF 3 and follow the ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. In this report, 'Scope 1' represents Category 1 of ISO 14064-1:2018: Direct GHG emissions and removal. 'Scope 2' represents Category 2 of ISO 14064-1:2018: Energy indirect GHG emissions.

4.The calculation formular of energy intensity is "Energy Intensity=Total Electricity Consumption/ Operating Revenue". The calculation formular of water intensity is "Water Intensity=Total Water Consumption/ Operating Revenue".

5.TCL Huanxin Semiconductor (Tianjin) Co., Ltd has been changed into a joint-stock enterprise in May 2021, and was not included in the statistics of 2022. In this report, 69 intellectual property (33 invention patents and 36 utility model patents) obtained by TCL Huanxin Semiconductor (Tianjin) Co., Ltd. and 57 patents under application are deducted.

6.Orientation training for new employee hires is not included in the employee training data.

7.The formula for calculating the average training hours per employee category in this report is "Average training hours per employee category = Total number of training hours provided to each category of employees / Total number of employees in category " according to the GRI requirements.

Independent Assurance Statement

SGS

ASSURANCE STATEMENT

SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE CORPORATE SUSTAINABILITY REPORT OF TCL ZHONGHUAN RENEWABLE ENERGY TECHNOLOGY CO., LTD FOR 2022

NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS-CSTC was commissioned by the TCL Zhonghuan Renewable Energy Technology Co., Ltd (thereafter as "TZE") to conduct an independent assurance of the Chinese version of the 2022 Corporate Sustainability Report of TCL Zhonghuan Renewable Energy Technology Co., Ltd (hereinafter called "the Report").

INTENDED USERS OF THIS ASSURANCE STATEMENT

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

RESPONSIBILITIES

The information in the Report and its presentation are the responsibility of the directors and the management of TZE

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

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance and standards, which including:

- ☒ The principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) as:
  - GRI 1: Foundation 2021, for report quality
  - GRI 2: General Disclosure 2021, for organization's reporting practices and other organizational detail
  - GRI 3: Material Topics 2021, for organization's process of determining material topics, its list of material topics and how to manages each topic
- ☒ and the guidance on levels of assurance contained within the AA1000 series of standards.

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

- ☒ SGS ESG & SRA verification regulations (Refer to GRI Principles and AA1000 Guides)

The Assurance has been conducted at a moderate level of scrutiny.

REPORTING CRITERIA

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

Reporting standards	
1	The <Listed Company Social Responsibility Guide> By Shenzhen Stock Exchange
2	GRI Standards 2021(Reference)

ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, onsite interviews with relevant TZE employees at their headquarters located in No.10, South Haitai Road, Huayuan Industrial Zone (Outside the Ring), Tianjin New Technology Industrial Park, China.; Documents and records are reviewed and confirmed with relevant employees of other subsidiaries as necessary.

LIMITATIONS AND MITIGATION

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

The on-site verification was only at the TZE head-office and did not involve other branches.

This verification only conducted interviews with staff of TZE and access to relevant materials and didn't involve external stakeholders.

STATEMENT OF INDEPENDENCE AND COMPETENCE

SGS is the world's leading inspection, verification, testing and certification company, SGS is recognized as the global benchmark for quality and integrity. SGS is a global leader in inspection, testing and verification, operating in more than 140 countries/ areas, providing services including management systems and service certification; quality, environmental, social and ethical audits and training; environmental, social and sustainability report assurance. SGS affirms that it is a completely independent organization from TZE, and that there is no bias or conflict of interest against TZE, its affiliates and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised of CCAA registered ISO 9001, ISO 14001, ISO 45001, ISO37001, ISO37301 auditor and SGS recognized CSR/ESG lead auditor.

VERIFICATION/ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, the information and data contained within the Report verified is accurate and reliable, which have provided a fair and balanced representation of corporate sustainability activities by TZE in 2022. There was no non-compliance with reporting standards in any material topics.

The CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

In our opinion, The Report of TZE for 2022 is presented in accordance with the Introduction disclosure requirements of the <Listed Company Social Responsibility Guide> by Shenzhen stock exchange and refer to GRI standard (2021)

REPORT PRICIPLES

Accuracy
The information in the Report was accurate, which could disclose more qualitative and quantitative information on performance for stakeholders.

Balance
The Report disclosed the positive and non-positive information, basically complying with the balance principle.

Clarity
The Report used various expression ways such as words, charts, graphs, photos and combination with the case analysis, it was easily understood by stakeholders.

Comparability
The Report disclosed performance indicators of TZE in 2022, some performance indicators were disclosed the historic information for comparison.

Completeness
The Report covered the identified material aspects and their boundaries and relatively completely reflected the significant impacts on economy, environment, and society, so that the stakeholders could assess the performance of TZE in the reporting period.

Sustainability Context
TZE presented its efforts to the sustainable development in economic, environment and social aspects. The performance was presented in the sustainable context.

Timeliness
The data and information in the Report was on a regular schedule and available in time. TZE will report on a regular schedule with one year to assure the good timeliness.

Verifiability
TZE has established the management process about the sustainability report, and it was timely collected, recorded, and analyzed the information and data which disclosed in the report. The information and data disclosed in the report are realistic and verifiable.

Management Approach
The report discloses the management approach of determined material topics.

KEY PERFORMANCE INDICATOR DISCLOSURE

TZE had disclosed the key performance indicators about the economic, environmental, and social subject which applicable to the relevant reporting Guides.

Findings and recommendations
Detail report of the good practices, findings and recommendations for continuous improvement were presented in SGS internal management report which has been submitted to TZE.

Sign:

For and on behalf of SGS-CSTC

David Xin
Sr. Director – Knowledge
16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

Mar. 20th, 2023
WWW.SGS.COM

Global Reporting Initiative (GRI) Content Index

Statement of use	GRI used	Appliable GRI Sector Standards
TZE has reported in accordance with the GRI Standards for the period from 1st January 2022 to 31st December 2022.	GRI 1: Foundation 2021	No appliable GRI Sector Standards

GRI Standard	Disclosure item		Page
GRI 2: General Disclosures 2021	2-1	Organizational details	About the Report
	2-2	Entities included in the organization's sustainability reporting	List of Subsidiaries
	2-3	Reporting period, frequency and contact point	About the Report
	2-4	Restatements of information	ESG Key Quantitative Performance
	2-5	External assurance	Independent Assurance Statement
	2-6	Activities, value chain and other business relationships	Entering TZE
	2-7	Employees	P68
	2-8	Workers who are not employees	None
	2-9	Governance structure and composition	P89
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GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	None. Please refer to P42
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GRI 308: Supplier Environmental Assessment 2016	3-3	Management of material topics	P62
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GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	P76
GRI 408: Child Labor 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	None. Please refer to P67
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	None. Please refer to P68
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	P85
	413-2	Operations with significant actual and potential negative impacts on local communities	None. Please refer to P42
GRI 414: Supplier Social Assessment 2016	3-3	Management of material topics	P60–61
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	414-2	Negative social impacts in the supply chain and actions taken	None. Please refer to P61, P64

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GRI 418: Customer Privacy 2016	3-3	Management of material topics	P60
	417-2	Incidents of non-compliance concerning product and service information and labeling	P51
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List of Subsidiaries

No	Full name of company	Abbreviation of this report
1.	Tianjin Zhonghuan Advanced Material Technology Co., Ltd	Tianjin Zhonghuan Advanced
2.	Tianjin Huanzhi New Energy Technology Co., Ltd	Huanzhi
3.	Tianjin Huanou Semiconductor Material Technology Co., Ltd	Huanou
4.	Ningxia Zhonghuan Solar Materials Co., Ltd.	Ningxia Zhonghuan
5.	Inner Mongolia Zhonghuan Crystal Material Co., Ltd.	Zhonghuan Crystal
6.	Inner Mongolia Zhonghuan Advanced Semiconductor Material Co., Ltd.	Inner Mongolia Zhonghuan Advanced
7.	Inner Mongolia Zhonghuan Photovoltaic Materials Co., Ltd.	Zhonghuan Photovoltaic
8.	Wuxi Zhonghuan Applied Materials Co., Ltd.	Zhonghuan Applied Materials
9.	Zhonghuan Advanced Semiconductor Materials Co., Ltd.	Zhonghuan Advanced
10.	Huansheng Photovoltaic (Jiangsu) Co., Ltd.	Huansheng
11.	Huansheng New Energy (Jiangsu) Co., Ltd.	Huansheng Jiangsu
12.	Huansheng New Energy (Tianjin) Co., Ltd.	Huansheng Tianjin
13.	Tianjin Huanou New Energy Technology Co., Ltd.	Huan0u New Energy
14.	Tianjin Zhonghuan New Energy Co., Ltd.	Zhonghuan New Energy