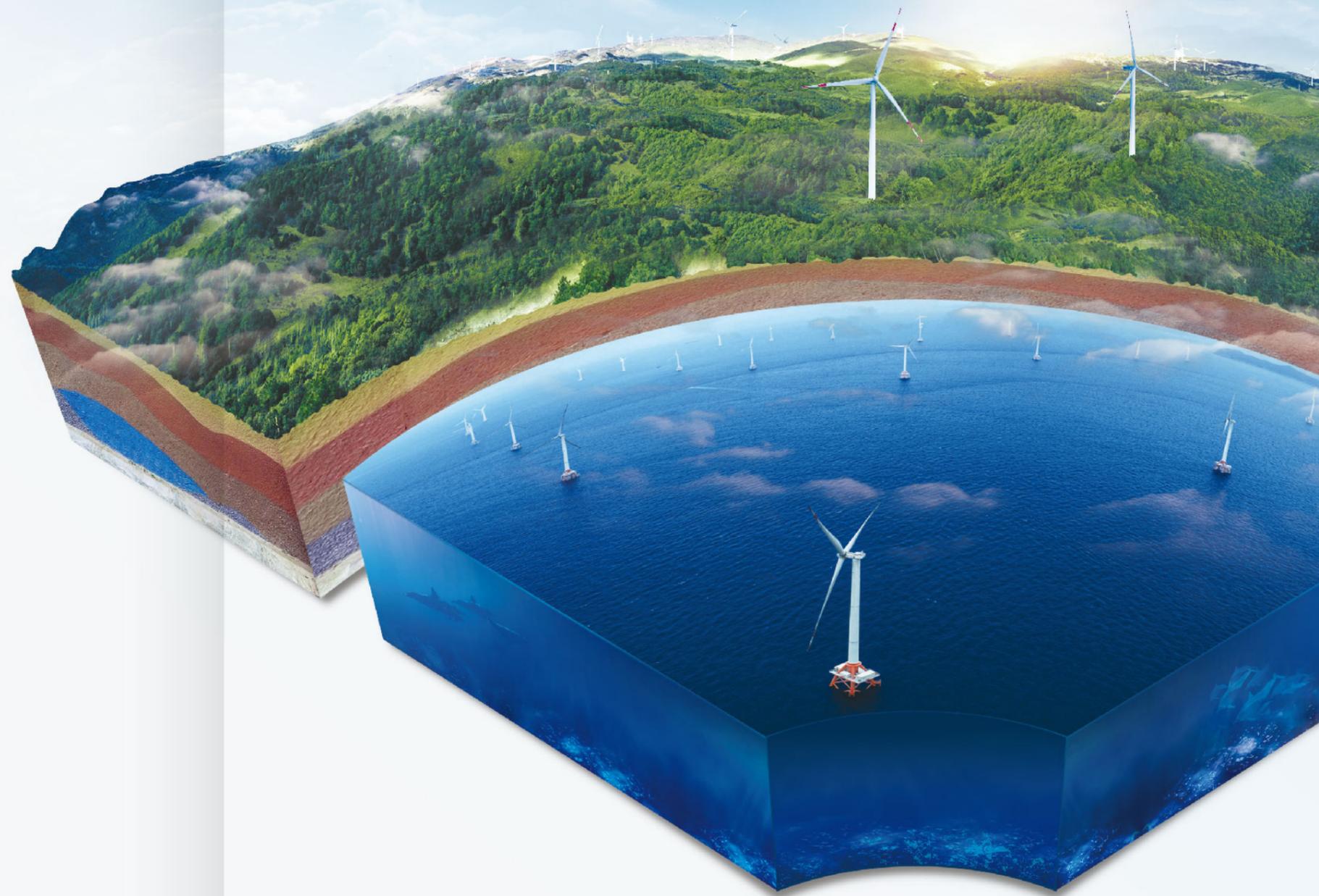




MINGYANG SMART ENERGY
明阳智能
地蕴天成·能动无限



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Address: Mingyang Industrial Park, No. 22, Huoju Road, Zhongshan City, Guangdong Province

Tel: 138660742

Fax: 0760-28138974

Postal Code: 528437

Email: myse@mywind.com.cn

2021 ENVIRONMENTAL SOCIAL & GOVERNANCE REPORT

MINGYANG SMART ENERGY GROUP CO., LTD.

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Chairman's Message



In today's world, the global economy has achieved only a fragile recovery from the depths of the coronavirus pandemic and challenges facing climate summit loom large. In the phenomenal year of 2021, General Secretary Xi Jinping put forward with great foresight to build a new power system dominated by new energy, taking the fulfillment of "carbon peaking and carbon neutrality" (also known as dual carbon) goals as a major strategic decision to bear in mind both the domestic and international interests of the country, so as to lead the dual carbon economy to a new era or epoch on all fronts. This is an important historical task entrusted to us by the times, and it is also a glorious mission of the wind and solar energy sectors in China that acts as the dominant player achieving the 'dual carbon' goals. Over the great historical course, Mingyangers always stand firmly for a focus on innovation and independent development, and take on their due responsibilities of manufacturing high-end equipment for clean energy and pillars of a great power. On our original aspiration and mission to "benefit human society with clean, innovative energy", we endeavor to contribute to environment protection by drawing a green blueprint for the earth where we live with the power of clean, low-carbon energy!

2021 marked an extremely critical year for "reconstructing Mingyang Smart Energy". Back then, Mr. Li Xi, member of the Political Bureau of the CPC Central Committee and Secretary of the CPC Guangdong Provincial Party Committee, visited Mingyang Smart Energy for investigation, sincerely encouraging us to put into play our role as a high-end equipment manufacturing enterprise, and thus contribute to Guangdong's drive to build a "Three Gorges on the Sea" and take the lead in accomplishing the "dual carbon" goal. By keeping the entrustment of the Party and the state in mind, making bold innovations and manufacturing essential equipment, the Mingyang people strive to bring value to our customers and society and improve management quality and operational efficiency, with great emphasis on the "Blue Ocean Strategy" and the "strategy of horizontal and vertical integrations". With this effort, we are on track to achieve the goal of "establishing ourselves as a leader in smart, inclusive clean energy"!

Mingyangers always stand firmly for a focus on innovation and independent development, and take on their due responsibilities of manufacturing high-end equipment for clean energy and pillars of a great power. On our original aspiration and mission to "benefit human society with clean, innovative energy", we endeavor to contribute to environment protection by drawing a green blueprint for the earth where we live with the power of clean, low-carbon energy!

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By taking rejuvenating and serving the country through industries as our own duty, Mingyang Smart Energy has successfully secured six "world firsts" by casting self-innovative essential equipment from China as a great power in the offshore sector, namely, first, our offshore wind power market share; second, our total offshore wind power delivery; third, our 5MW+ large-capacity typhoon-resistant floating offshore wind turbine that has successfully connected to the grid for power generation; fourth, our offshore wind turbine launched with the world's largest stand-alone capacity of 16MW; fifth, the successful application of a three-sphere development solution integrating offshore wind power, seawater hydrogen production and marine ranching; sixth, the awarding of the best onshore wind turbine in the world. With the spirit of innovation and empowerment in making the impossible possible, the Mingyang people are accelerating the comprehensive development of three-dimensional economics featuring deep-sea energy, and pooling our wisdom on the national marine economy, the green development of the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) and the construction of the ambitious "Three Gorges on the Sea" project.

Lucid waters and lush mountains are invaluable assets. Firmly following the path of green development and ecological priority, Mingyang Smart Energy has officially launched "carbon neutrality" actions, Solemnly promise to achieve carbon neutrality at the global business operation boundary in 2023, namely, at the 30th anniversary since the founding of Mingyang, We will remain committed to technological innovation to see carbon neutrality throughout the entire value chain, work together with our partners to empower green and low-carbon development, and help build a zero-carbon economic system. At the same time, Mingyang Smart Energy embeds green-focused DNA and concept in everything from product design, manufacturing, sales to operations and maintenance (O&M). With an aim to build a green and smart wind farm, we will transform energy services and management models based on big data and blockchain, make the connectivity and efficient utilization of green energy possible, and foster the concept of green value among our customers, owners and society at large. Additionally, we are partnering with our suppliers to build a green ecological supply chain, in a bid to fulfill our responsibility and mission of protecting the environment, which we support.

Pursuing sustainable development under the concept of openness and cooperation, Mingyang Smart Energy endeavors to build a community with a shared future for mankind, as well as the global village on which we live. We are active in community development, and take determined steps toward building a high-end, smart, green and cluster-based manufacturing industry of new energy equipment. We are opening new energy industrial bases nationwide, with effectively improved employment capacity for the industry. In response to the nationwide battle against poverty through the new energy industry, we are playing our part in the country's strategies of rural revitalization and common prosperity, other than such invaluable assets as lucid waters and lush mountains that have been preserved.

There is a long way with hard nuts to go and we must work harder! 2022 marks the third anniversary of Mingyang Smart Energy's return to the A-share market, and it is a critical year for us to shift from high-speed growth to high-quality development. The majestic blueprint of "dual carbon" that has been drawn is waiting for the Mingyang people, with a more high-spirited attitude, to explore, a mandate that we should embrace the new era of "dual carbon economy" – a vigorous one ahead of us! We should make new, brilliant progress in a great age by adhering to our commitment and never forgetting why we started!

CHAIRMAN'S 

About Mingyang Smart Energy

Company Profile

Founded in 2006, Mingyang Smart Energy Group Co., Ltd. (stock abbreviation: Mingyang Smart Energy, and stock code: 601615) mainly specializes in the development and design of high-end new energy equipment, megawatt wind turbines and core parts, product manufacturing, O&M, new energy investment and operation and more. Since its establishment, the Company has been standing firm in its promise to serve the country through industries and manufacture high-end equipment, and pursuing an innovation-led approach to independent development. We have crafted a "Mingyang Model" representative of China's independent development of wind turbine, which has received ringing endorsements from international counterparts. And we are making every effort to build ourselves into a leader in essential new energy equipment serving as the "pillars of a great power" in China.

Keeping in mind its mission to create green, inclusive and smart energy and its vision to become a supplier that builds lifecycle value chain management and system solutions for clean energy, Mingyang Smart Energy has evolved into a Chinese leading smart energy business group with global presence through technological and business model innovations. Today, the Company is among the Top 500 Enterprises of China and the World Top 500 New Energy Enterprises, ranking first in offshore wind power innovation globally.

With its global innovation-driven R&D platform network of "one headquarters and five centers", the Company has set up post-doctoral research centers, national enterprise technological centers and national-local joint engineering laboratories, making it a national superior enterprise in intellectual property and a national high-tech enterprise. In addition to participation in the development of nearly 200 international and domestic industry standards, it has obtained more than 1,800 patents and software copyrights, as well as and the design and type certifications of 30-plus models.

Mingyang Smart Energy focuses its business priority on the manufacturing of high-end new energy equipment and smart micro-grid technologies. The building of a smart energy data warehouse and a big data computing cloud platform, accompanied by financial and business-model innovation, has enabled the company to shift its business from service-type manufacturing to re-service with the help of internet technologies, stepping up the development toward the great business that features "smart energy benefiting the world".



 Ranked **18**th among the world top 500 new energy enterprises

 Ranked No. **1** in offshore wind power innovation around the world

 It has obtained more than **1,800** patents and software copyrights

 as well as and the design and type certifications of **30**-plus models.



Corporate Strategy

Over the next three to five years, we will continue to pursue green development. With "transforming clean energy for the benefit of human society" as our mission and "making global clean energy smart" as our strategic positioning and development vision, we are committed to delivering professional lifecycle value chain management and system solutions for clean energy. Upholding the five major ideas of development – innovative development, coordinated development, green development, explorative development and shared development, the Company is, by virtue of technological and business-model innovation, taking proactive approaches to develop supporting industrial service formats and extend the value chain, fueling its transformation from a production-oriented manufacturer to a service-oriented one.

Company Culture

Our mission

To transform clean energy for the benefit of human society

Our vision

To make global clean energy smart

Our values

Based on the essence of its corporate culture, being "natural-born and initiative-enabled", and the rules of conduct, namely, to **"pursue excellence in operations"**, **"be open and seek shared growth"**, **"meet customers where they are"**, **"break new ground in cooperation"** and **"be contributor-oriented"**, Mingyang Smart Energy endeavors to create a symbiotic business ecosystem together with stakeholders.

Line of Business

Segments Involved

R&D and manufacturing of large-megawatt wind turbines and key parts
 Power station development and operations and aftermarket business
 Leading offshore and onshore wind power solutions
 Other businesses (EPC business for new energy power station, power distribution and sales business, and photovoltaic business, etc.)

Country-wide

In order to get closer to the market and customers, Mingyang Smart Energy has built ten production bases across the country, along with six regional O&M service centers, over 300 spare parts warehouses, and a responsive service platform characterized by production bases + O&M service centers + projects, enabling the customer to be accessible to efficient O&M services and spare parts response channels.

Global Presence

Mingyang Smart Energy has put into operation more than 500 wind farm projects around the world, and exports its products to Italy, Norway, Bulgaria, India, Romania, Pakistan, Japan, South Korea, Vietnam and other parts of the world.



Mingyang Smart Energy has built **ten** production bases across the country
 along with **six** regional O&M service centers over **300** spare parts warehouses

And a responsive service platform characterized by production bases + O&M service centers + projects
 enabling the customer to be accessible to efficient O&M services and spare parts response channels.



Honors & Awards

Honors & Awards China' s Top 500 Private Enterprises; China's Top 500 Private Manufacturing Enterprises

Rewards Organization All-China Federation of Industry and Commerce



Honors & Awards 2021 Word-of-Mouth List of Chinese Public Companies – The Most Growing Listed Company in High-end Manufacturing Industry

Rewards Organization National Business Daily



Honors & Awards Governing Unit of the Guangdong Provincial Federation of Enterprises and the Guangdong Provincial Association of Entrepreneurs

Rewards Organization Guangdong Provincial Federation of Enterprises Guangdong Provincial Association of Entrepreneurs



Honors & Awards 2021 Best Innovative System Solution Supplier in China' s Energy Storage Industry

Rewards Organization China International Energy Storage Conference



2021 Sustainable Development Indicators



Environment

Exhaust emission

Total non-methane hydrocarbon emission: **999.01** kg
 Emission of volatile organic compounds (VOCs): **16,684.68** kg
 Emission of nitrogen oxides (NOx): **257** kg
 Emission of sulfur oxides (SOx): **6** kg

Wastewater discharge

Biochemical oxygen demand (BOD) discharge (in wastewater): **4.40** tons
 Ammonia nitrogen (NH₃-N) discharge (in wastewater): **0.47** tons
 Discharge of domestic wastewater: **488,685.23** m³

Waste discharge

Total amount of hazardous wastes generated: **519.67** tons
 Total harmless wastes generated: **17,942.43** tons

Energy utilization

Power consumption: **93,075,988.78** kWh
 Natural gas consumption: **585,720.63** m³
 Liquefied petroleum gas consumption: **492,749.66** L
 Gasoline and diesel consumption: **427,449** L
 Water consumption: **698,904.175** m³

Greenhouse gas emission

Total emission of greenhouse gas: **63,057** tons of carbon dioxide equivalent (tCO₂e)
 Direct greenhouse gas emissions (Scope I): **3,557** tons of carbon dioxide equivalent (tCO₂e)
 Indirect greenhouse gas emissions (Scope II): **59,500** tons of carbon dioxide equivalent (tCO₂e)
 Carbon dioxide emissions per 10,000 yuan of revenue: **0.02** tons/10,000 yuan

Environmental benefits

(The total wind turbine installation capacity till end of 2021 was 33.2GW)

Carbon dioxide emission reduced by about: **4,650** million tons/year
 Equivalent to quantity of forests rebuilt: **750** million mu/year



Society

R&D

Number of R&D technicians: **2,088**
 Proportion of R&D technicians: **20.70%**
 R&D investment: RMB **1,055,000,000**
 Proportion of R&D technicians: **20.70%**
 Proportion of R&D in operating income: **3.88%**

Employee

Total number of employees: **10,089**
 Labor contract signing rate: **100%**
 Social insurance coverage: **100%**
 Employees with master's degree and above: **561**
 Number of female employees: **1,357**
 Number of ethnic minority employees: **939**
 Training sessions held: **2,381** sessions



Corporate Governance

Total assets: RMB **614.93** (YOY increase: **19.11%**)

Operating income: RMB **271.58** (YOY increase: **20.93%**)

Net profit attributable to parent company: RMB **31.01** (YOY increase: **125.69%**)

Basic earnings per share: RMB **1.6** (YOY increase: **68.42%**)

Ranking of newly installed wind power capacity in globe/China:

Sixth in the world and **third** in China

Ranking of offshore wind power installed capacity: **fourth** in the world and **third**

in China (Data from: Chinese Wind Energy Association of China Renewable Energy Society)

¹ Since the environmental and energy consumption data disclosed by the Company in 2020 and before are internally defined boundaries, in order to improve the disclosure quality and accuracy, this part has been uniformly disclosed according to ISO14064 standard since 2021 and will continue to be disclosed according to ISO standard in the future. Therefore, the energy consumption and emission data in 2021 are not comparable with those previously;

² In 2020, the Company invited the third-party authority China General Certification Center to inspect carbon emission and the total carbon emission is 72,829 tons. Among, Scope I (its direct emissions) includes direct emissions caused by energy use within the organizational boundary, such as emissions of natural gas, gasoline, diesel oil, acetylene, etc.: 6,132 tons; Scope II (its indirect emissions), includes but is not limited to indirect emissions from electricity, heating, cooling and steam purchased or acquired and consumed by the organization: 66,697 tons.

Events on Social Responsibility

Mingyang acquired the project order from an Italian company. In September, Mingyang MySE3.0-135 Wind Turbine Generator was successfully delivered in Italy, which was the first case of Chinese wind turbine brand entering the European market.

Zhang Chuanwei, deputy to the National People's Congress and Chairman of Mingyang, proposed at the meeting to build a high-quality modern rural energy system to promote national rural revitalization, step up the high-quality development of marine energy in Guangdong to pioneer in achieving carbon emission peak, and build the "Maritime Three Gorges" at the economic zone in eastern Guangdong as a new economic system and industrial pillar.

All 55 Mingyang MySE 5.5MW typhoon-resistant semi-direct driven turbines at Zhuhai Jinwan Offshore Wind Farm of Guangdong Energy Group, the largest offshore wind power project at Guangdong-Hong Kong-Macau Greater Bay Area, were connected and put into operation with full capacity.

Mingyang announced a plan to invest RMB3 billion in the project with an annual output of 5GW photovoltaic high-efficiency batteries and 5GW photovoltaic high-efficiency modules to expedite the development of "wind, light and storage" integration.

Mingyang completed R&D and design and released the world's largest 16MW offshore super-large wind turbine, which was certified by DNV.

The first typhoon-resistant HDPE cage in the South China Sea independently developed and designed by Mingyang was officially put into the internal sea area of Mingyang Jiangshaba Wind Farm as the "offshore wind power + marine pasture" technology demonstration project, setting a record of the deepest sea application of HDPE cage in China.

Qinghai Mingyang New Energy Co., Ltd. held a commencement ceremony at Delingha West Export Photovoltaic Industrial Park for the Delingha 500MW Source Network Load Storage Integration Project.

Mingyang Smart Energy, CGN, Guangxi Investment Group and Fangchenggang signed a cooperation framework agreement on building of a new energy equipment industry cluster and the development of offshore wind power resources for hydrogen production with seawater.

On January 26



From March 5 to 11



On April 2



On May 12



On August 20



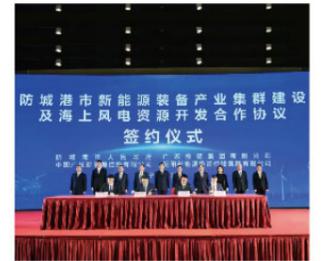
On August 26



On September 24



On September 26



On May 21



On May 26



On June 1



On July 15



On October 19



In November



On December 6



On December 23



Mingyang and Jiuquan Municipal People's Government signed a strategic cooperation agreement on the zero-carbon electricity industrial park and the integration project of source network charge storage.

The world's first typhoon-resistant floating unit MySE 5.5MW independently developed by Mingyang rolled off the assembly line On December 7, and was successfully connected to the grid for power generation on December 7.

Mingyang released its first blueprint of carbon neutrality, undertaking to achieve carbon neutrality in its own operations by the end of 2023 and continue to be devoted to technological innovation for achieving carbon neutrality in the whole value chain.

Li Xi, member of the Political Bureau of the Central Committee and Secretary of the Guangdong Provincial Party Committee, visited Mingyang in person. He earnestly encouraged Mingyang to play a leading role in high-end equipment manufacturing and take the commanding height of the industrial and value chain and make contributions to the construction of "Maritime Three Gorges" and taking the lead to achieve the goals of "carbon emission peak and carbon neutrality" and the high-quality development of "one core, one belt and one district" for Guangdong.

At the 2021 China Windpower, Mingyang released the world's largest self-developed floating generator-MySE11-16MW and the world's largest onshore generator with single-unit capacity-MySE7. X MW.

Mingyang won the bid for the localization development and demonstrative application of wind turbine generator system and ancillary equipment of deep-sea floating wind turbine of CNOOC Renewable Energy Co., Ltd., which is China's first floating system applied in deep and open sea of South China Sea.

Mingyang successfully issued USD200 million green bonds in Macao, which was the first green bond for industrial and commercial enterprises in Macao and the first private sector bond issued by mainland enterprises in Macao.

Mingyang's first self-built offshore wind power project-Mingyang Jiangshaba 300MW Offshore Wind Power Demonstration Project, was connected to the grid for power generation at full capacity.



Social Responsibility Management

- Social Responsibility Planning
- Social Responsibility Organization System
- Stakeholders
- Identification of Substantive Issues

For implementing the new development concept and building a new development pattern, we have been forging ahead towards our common goals: To promote the low carbonization and democratization of energy, and drive the overall layout on globalization, industrial chain, value chain and whole life cycle under the strategy of intelligent clean energy and GSP leadership, thereby benefiting both China and the world with clean energy and smart energy.

Shouldering the responsibility for sustainable development of the mankind, Mingyang has incorporated green, low-carbon and sustainable development into its strategic development framework. On June 1, 2021, Mingyang released the first carbon neutrality blueprint containing clean energy supply solutions, low-carbon energy demand solutions, standardized sustainable development governance framework and refined energy management solutions, with a commitment to achieve carbon neutrality within the scope of controllable operations (scope 1 and scope 2) by the end of 2023, and continue technological innovation to achieve carbon neutrality on the whole value chain for boosting the development of a zero-carbon economic system. Meanwhile, Mingyang Smart Energy also launched the "Urban Energy Brain" solution for carbon neutrality with an aim to provide integrated platform solutions for various application scenarios such as regions of different scales (provinces, cities and regions), green parks, green buildings and green transportation.



Devoted to technological innovation, we launched an urban carbon neutrality solution to boost carbon neutrality for the whole society.



We will continue to reduce physical emissions, and achieve carbon neutrality for operations by the end of 2023.



We will keep increasing the proportion of green and low-carbon power applied.

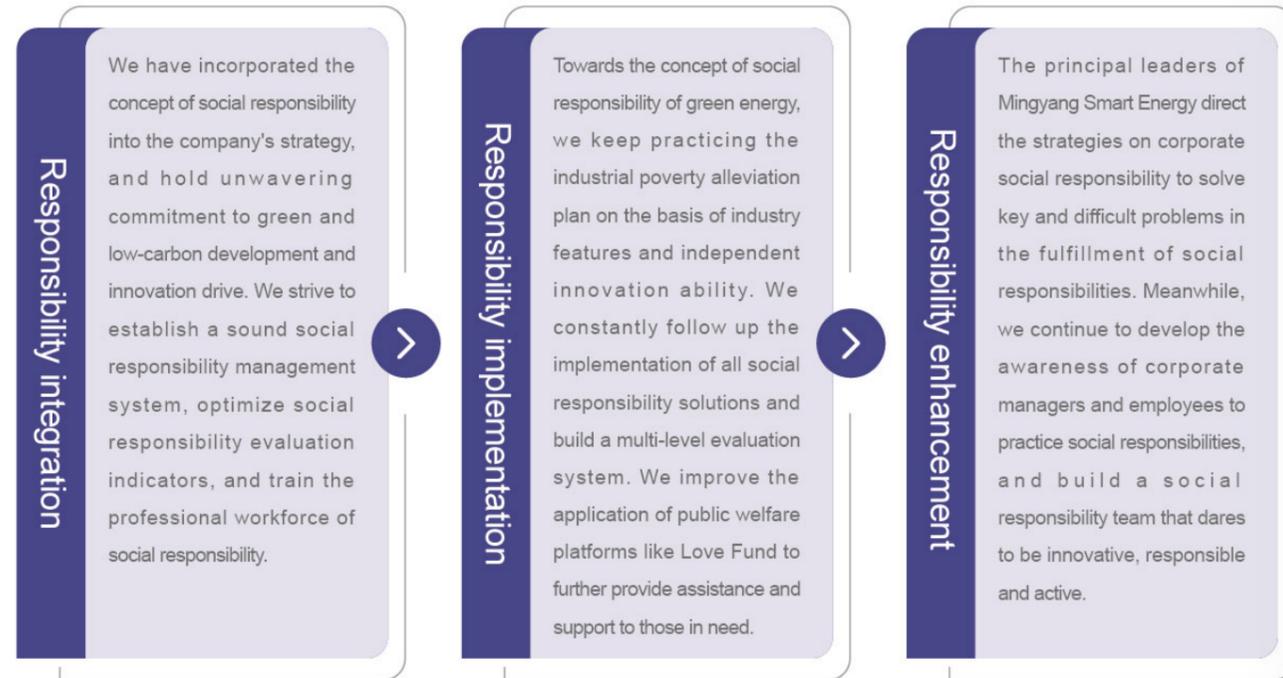


We undertake to formulate the sustainable development strategy under the United Nations Framework Convention on Climate Change, and define the carbon goals for our own and the whole value chain.

1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION
5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS	We support the 17 Sustainable Development Goals (SDGs) of the United Nations (See Annex 3 for details of the response methods and contents).		

Social Responsibility Planning

Adhering to the mission of "developing clean energy and benefiting the human society", Mingyang has integrated social responsibilities into corporate management and built a social responsibility implementation mechanism of "responsibility integration-responsibility implementation-responsibility enhancement" on corporate governance, products, R&D, environment, employees, community and other aspects across the board through top-level design, system guarantee, key indicator formulation, tracking and optimization.



Social Responsibility Organization System

In order to further strengthen the environmental, social and governance (ESG) management and improve the ESG management system for and within the Company, the Company announced the establishment of the Environmental, Social and Governance (ESG) Management Committee (hereinafter referred to as the "ESG Committee") on March 15, 2021.



ENVIRONMENTAL

SOCIAL

GOVERNANCE

ESG Architecture and Responsibilities

Item	Responsibilities
Member of the ESG Committee	The member of the Board of Directors of the Company, including independent non-executive directors. The chairman of the committee is generally the chairman of the Board of Directors or an independent non-executive director.
Competence of the ESG Committee	Right to appoint, access to resources, access to information and right of deliberation.
Functions of the ESG Committee	Supervision of the formulation and implementation of ESG strategy Other functions: including but not limited to monitoring the budget and expenditure, monitoring the internal and external communication, communication with stakeholders and and reviewing reports on ESG.
ESG Execution Group functions	ESG Execution Group is mainly composed of the heads and executors from ESG-related departments. Functions: To meet ESG compliance requirements during work; To identify ESG risks of the Company through constant communication with stakeholders, report the same to the Board of Directors, and formulate management policies and plans for ESG risks. To set ESG management objectives and work plans for approval by the Board of Directors. To report ESG work results and prepare ESG report.

ESG Work Planning

Item	Responsibilities
Improve ESG index system	Build ESG index system for the Group with reference to industry standards and ESG indicators of leading companies
Build ESG management architecture	Define the ESG management architecture
Identify ESG index objectives	Collect data based on the established Mingyang ESG Index System; Define ESG index objectives and the main responsible departments by comparing the current data of benchmarking enterprises.
Objective undertaking	The department responsible for objectives submits the work plan.
Follow-up	Clarify and detail key tasks and form a special team for follow-up.
ESG Report Release	Complete the release of annual ESG report

Stakeholders

Mingyang Smart Energy attaches great importance to the concerns of stakeholders with active communication with them. We endeavor to understand the demands, opinions and suggestions of stakeholders and turn them into the goals for our sustainable development. Meanwhile, the substantive issues concerned by stakeholders are also incorporated into the decision-making mechanism and actual operations, so as to address the reasonable demands of all stakeholders to the greatest extent.

Stakeholders	Concerns of Stakeholders	Mode of Communication
 Shareholders and investors	Corporate profitability Corporate governance standards Information disclosure standards Guarantee of shareholders' interests Profit distribution ability Fair information disclosure	Shareholders' meeting Company reports Periodic reports
 Customers	Technical service quality Product safety and stability Performance in good faith Ability to create value	Strict contract execution Control product quality Constant investment in product R&D Quality products and services provision Customer satisfaction survey
 Employees	Legitimate rights and interests protection Workforce training mechanism Career development platform Salary and welfare protection	Equal and standardized employment Full coverage of labor contract Professional skill training opportunity Provision of a diversified development platform Health and safety protection enhancement
 Suppliers	Compliance with contract requirements in good faith Regulation of procurement management Win-win cooperation Material quality assurance	Fair and open procurement Sound supply chain management Improvement of supplier performance evaluation Long-term strategic partnership Cooperation and exchange mechanism within the industry
 Government and regulators	Operation in compliance with laws and regulations Social benefit creation Economic development boost Scientific and technological innovation capability	Compliance with laws, regulations and policies Tax payment according to law and business operation in good faith Innovation and R&D capability enhancement Stable job provision Local development driven by featured industries
 Communities	Local environmental protection Community construction and development Community charity	Environmental protection and "green operation" Community construction support Industrial and education poverty alleviation Charitable activities in communities

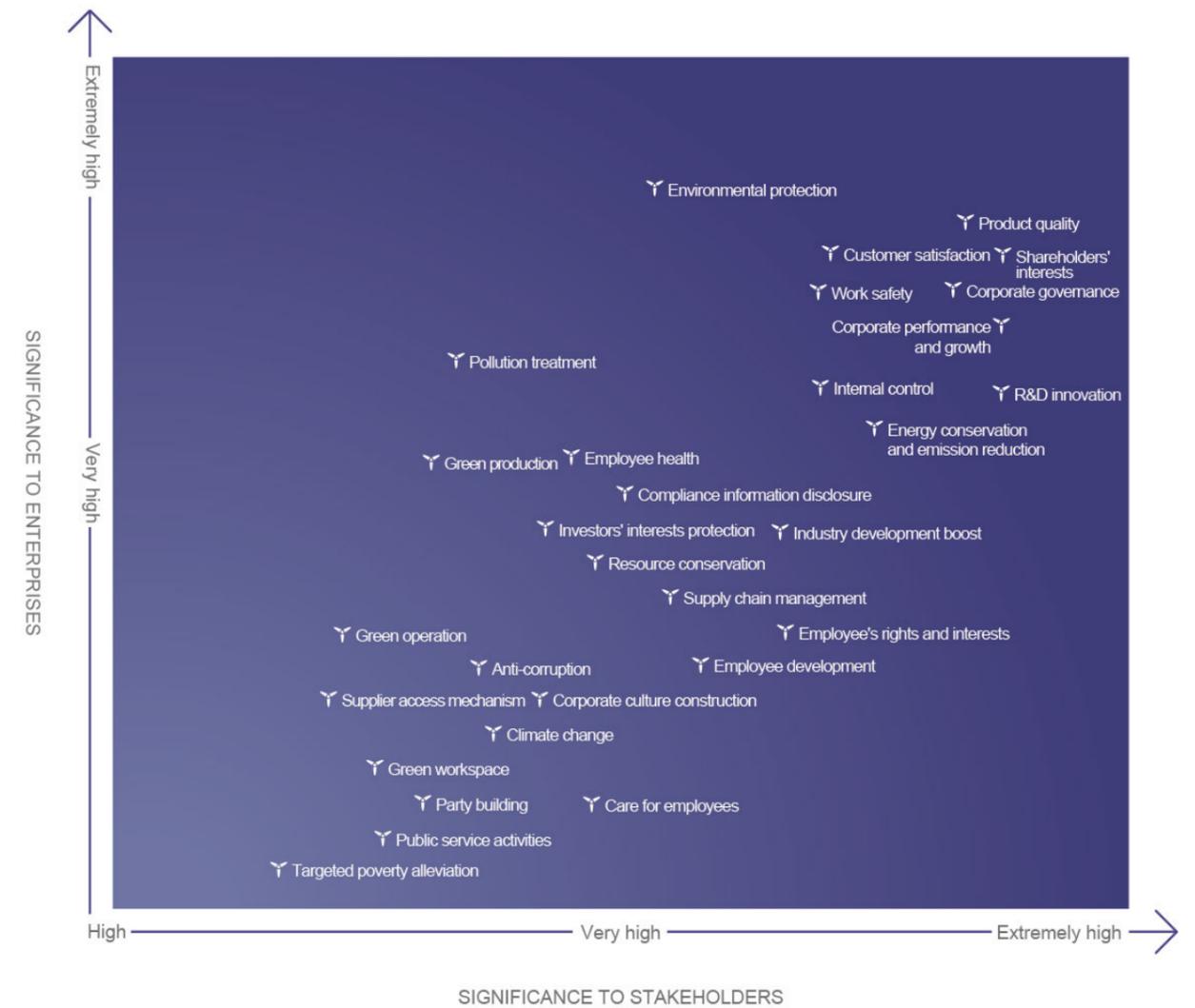
Identification of Substantive Issues

Referring to the standards, guidelines and initiatives relating to environment, society and governance at home and abroad, the Company has identified 26 issues that stakeholders pay close attention to from three dimensions: environmental performance, social performance and corporate governance.

Based on the expectations of stakeholders and the strategies of sustainable development for enterprises, considering the hot issues, state policies, industry development and other factors, we distributed to stakeholder questionnaires on substantive issues on corporate environment, society and governance to evaluate the importance of corporate governance, product service quality, safety production management, employees and society. We collected 131 questionnaires, all of which were valid, with the effective rate of 100%.

With the support of matrix of substantive issues, we finally defined the issues to be disclosed in the Environment, Society and Governance Report of Mingyang Smart Energy.

Matrix of Substantive Issues for 2021 Environment, Society and Governance Report



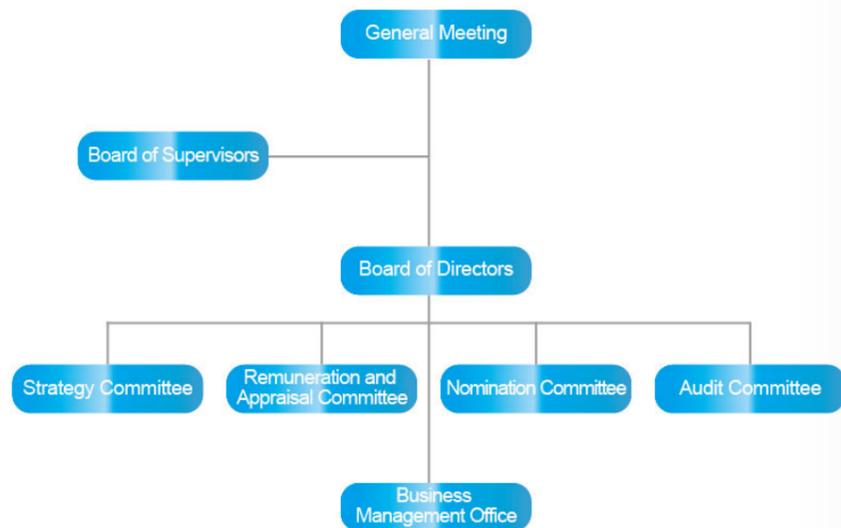


Initiative · Corporate Governance

In accordance with the Company Law, Securities Law, Code of Corporate Governance for Listed Companies and other laws, regulations and normative documents, Mingyang Smart Energy has been optimizing the corporate governance structure and system to further clarify the responsibilities of power institutions, decision-making bodies, supervision institutions and management to reach a balance, thereby laying a solid foundation for the sustainable development for the Company.

- Corporate Governance System
- Risk Control
- Internal Audit
- Anti-corruption Efforts
- Investor Relations and Information Disclosure
- Return to shareholders
- Topic 1·Party Building of Mingyang

Corporate Governance System



The Company has a standard and independent corporate government structure, of which the general meeting, Board of Directors, Board of Supervisors and Special Committees of the Board of Directors duly perform their duties on deliberating all major issues for the operation of the Company. Members of the Board of Directors have rich experience in management, and lay a great emphasis on the daily operation and management, financial position, major investment and financing and other matters of the Company, and carefully review all proposals considered by the Board of Directors, in a bid to make effective suggestions and proposals for the Company's operation and development, and promote the sustainable, stable and healthy development of the Company's production and operation.

In 2021, the Company held five general meetings and reviewed and approved 37 proposals, including the Proposal on Profit Distribution Plan in 2020, Proposal on the Company's Private Placement in 2021, and Proposal on Proposed Issuance of Overseas Corporate Bonds. In the same year, the Company also convened 14 meetings for the Board of Directors to review 60 proposals, 13 meetings for the Board of Supervisors, 2 meetings of the Strategy and Budget Committee, 3 meetings of the Remuneration and Assessment Committee, 1 meeting of Nomination Committee and 6 meetings of the Audit Committee.



Company held **five** general meetings **2** meetings of the Strategy and Budget Committee

Reviewed and approved **37** proposals **3** meetings of the Remuneration

Company also convened **14** meetings **1** meeting of Nomination Committee

Board of Directors to review **60** proposals **6** meetings of the Audit Committee.

13 meetings for the Board of Supervisors

Risk Control

Mingyang Smart Energy formulated several long-term systems like the Risk Management System, with an aim to ensure the Company operates in compliance with laws and regulations from the aspects of system formulation and control and dynamic management including initial information of risk management, risk assessment, risk management strategy, risk management supervision and improvement, and risk management organization improvement.

Risk control is composed of system control and special control.

System control: With focus on the inspection on legal affairs, the Company has been optimizing the texts, systems and procedures, including the completeness of system documents, the task achievement of responsible persons, and the standardization of project approval requirements.

Special control: For specific risk items or early warning: 1) formulation of risk prevention plans; 2) handling of risk events (including timeliness and effectiveness). The Company takes various measures to reduce the possibility of risk events, or restrain the possible losses within a certain range, in order to avoid the unbearable damages incurred by risk events.

Risk control training system

For risk control, the Company has designed a series of training courses and formed a specific training system, including:

New apprenticeship training	It is designed to improve the legal awareness of front-line employees, including the interns under apprenticeship management, and protect their labor rights and interests.
Training for matters concerned under sales contracts and risk prevention	By sorting out the risks under sales contracts, it aims to prompt the legal risks with frequent occurrence in sales and project management and propose relevant suggestions for associates in sales and project management departments.
Training on risk prevention for winning contract from the perspective of judicial decision	The training aims to deepen the understanding of the Bidding Law and enhance the ability of practice upon studying on classic cases and drawing lessons from the capability of practice. The training targets at interested colleagues from Legal Risk Control Department, Bidding Department, Contract Business Department and other departments.



Risk management system

	Collection	Integrate the unfavorable factors of internal and external environment and combine the risk management performance and internal control evaluation results to find the vulnerable spots in management;
	Identification	Identify foreseeable risks in business activities, define risk assessment methods and conduct risk assessment;
	Analysis	Conduct a thorough analysis and evaluation of risks, check the effectiveness of existing risk management measures, identify major risks, and propose available countermeasures;
	Assessment	Conduct risk management evaluation according to the current risk management plan and form periodic and annual risk management evaluation reports;
	Prevention and control	Improve the management business process according to the comprehensive evaluation, and apply pre-job training for the managers of risk control.

Internal Audit

In order to enhance the management and governance of the Company, the Audit Committee under the Board of Directors set up a permanent organization - Supervision and Audit Department to supervise, verify, evaluate and verify the economic activities of various departments and subsidiaries. The Company formulated the Internal Audit System, Internal Audit Reward and Punishment System, Internal Audit Problem Rectification Management System and other relevant procedures to regulate the internal audit of the Company and further implement and clarify the relationship among responsibilities, rights and interests for each post.

The internal audit team of the Company has the professional and business ability to engage in auditing. During the reporting period, the Supervision and Audit Department completed routine audits on annual economic benefits, wind farm operation and maintenance management and EPC project operation and management, and conducted a number of special audits including engineering, sales, infrastructure, operation and management. In 2021, the Company audited 11 cases related to internal audit, including operation and management audit, special audit report and senior management dismissal audit, so as to improve the internal audit system of the Group in an all-round way and practice the internal audit function.

Through internal routine and special audit, the Company effectively regulated the key links of the Company's operation and management from the long-term mechanism, while avoiding operational risks and reducing property losses.



Anti-corruption Efforts

Mingyang Smart Energy formulated the Anti-fraud Management System, Discipline Inspection and Supervision Management System and other systems, and the Supervision and Audit Department is responsible for anti-corruption. In order to prevent corruption, improve and enhance the operation and management environment, considering the actual situation of the Company, the Supervision and Audit Department conducted joint inspections on key positions of various departments and subsidiaries of the Company from time to time. In the meantime, the Company also conducted anti-fraud investigation for all reports and complaints.

In 2021, the Company organized several online training sessions for management staff, and endeavored to strengthen the awareness of preventing integrity risks of management institutions and departments at all levels of the Company through lectures, case analysis, knowledge contest, and selection of integrity pioneers, thereby strengthening the ideological and moral and integrity of employees.

In July, 2021, the Group held an activity themed on "Integrity Publicity and Education Month" to reiterate integrity discipline, reinforce the awareness of "rule compliance", and promote the consciousness to escape from corruption within the Company. In order to enhance the integrity within the Company and give full play to the demonstrative and leading role of the advanced figures, we have selected the "Pioneers of Integrity and Anti-Corruption in 2021".

In addition, we also set up complaint boxes in the office area and at the information work platform, arrange full-time staff in charge of registration, and take effective measures to protect those who make reports and cooperate with the investigation.

Complaint Hotline:+86-(0)760-28138838

Email:audit@mywind.com.cn

Address: Supervision and Audit Department of Mingyang Industrial Park, No.22 Huoji Road, Zhongshan Torch Hi-tech Industrial Development Zone, Zhongshan City, Guangdong Province



Investor Relations and Information Disclosure

The Company formulated the Management System of Investor Relations in accordance with the requirements of Shanghai Stock Exchange and CSRC, and earnestly implemented the requirements in the work related to investor relations, including the formulation of investor relation files and the training on investor relation regulations, which effectively maintained the legitimate rights and interests of investors, especially medium and small investors. During the reporting period, the Company continued to strengthen communication with investors and fully listened to investors' suggestions on the Company's development for continuously improving work quality of investor relations and further promoting investors' recognition of the Company's strategic positioning and development direction. The shareholding ratio of institutional investors in the Company has continuously increased through continuous and stable investor relations work. Overseas investors have also recognized the Company unanimously and the shareholding ratio of overseas investors is at the front rank in the same industry.

	<p>Care for shareholders</p>	<ul style="list-style-type: none"> - In deliberating major issues that affect the interests of small and medium-sized investors, the general meetings count the votes for small and medium-sized investors separately; - With full consideration of the return to investors in profit distribution, the Company distributes dividends to shareholders as per the prescribed proportion of distributable profits in the current year; - And timely discloses the product profile, project progress and performance on the official website as an access to the Company's information in time for investors.
	<p>Response to investor's doubts</p>	<p>The Company actively response to the investors' questions through the hotline. In 2021, the Company responded to more than 1,300 investors through the hotline and answered 258 questions through online, with a response rate of over 98%.</p>
	<p>Information disclosure</p>	<p>With a great emphasis on information disclosure and investor relations management, the Company has been disclosing its information on China Securities Journal, Shanghai Securities News, Securities Daily, Securities Times and the website of Shanghai Stock Exchange in a truthful, accurate, timely, fair and complete manner to all investors, so as to increase the transparency of the Company and earnestly safeguard the legitimate rights and interests of the Company and all shareholders. According to the Securities Law and the regulations of Shanghai Stock Exchange, a total of 156 announcements were disclosed in 2021, all of which met the requirements of Shanghai Stock Exchange. The Company successfully and effectively disclosed the annual reports, semi-annual reports, first quarterly reports and third quarterly reports, and properly solved the problems found in the reporting process. In the meantime, the Company constantly improves the internal information disclosure system and corporate governance system, and urges relevant obligors to comply with the regulations on information disclosure, confidentiality of major information, and the registration of inside information. The Company lays stresses on the accuracy, legality, authenticity and completeness of information disclosure, timely controls and discloses as required the major information of each subsidiary/department.</p>

Return to shareholders

The Company has formulated a profit distribution policy that effectively safeguards shareholders' rights and clarified the principle and form of profit distribution, the specific conditions and proportion of cash dividends, the conditions of stock dividend distribution, the review procedures of profit distribution, and the adjustment mechanism of profit distribution policies: where cash dividends are available, the profits distributed in cash shall not be less than 10% of the distributable profits that can be realized in the current year. The relevant contents have been disclosed in the prospectus of the initial public offering.

The Company's profit distribution plan for 2021: the cash dividends of RMB2.21 (tax inclusive) will be distributed to all shareholders by every 10 shares, with a total cash dividend of RMB46,525' 0,000. In 2021, the Company's cash dividends accounted for 15% of the realized net profit attributable to shareholders of the parent company. The balance of undistributed profits after distribution is carried forward to the next year.

In case of any change to the share capital of the Company after the Board of Directors and general meeting of the Company deliberates and approves the profit distribution plan and before the plan is implemented, the Company will adjust the distribution ratio in the principle of "fixed total cash dividends" based on the total share capital on the date of recording while implementing the distribution plan.

Operating results in 2021

In 2021, the Company realized basic earnings per share of RMB1.6/share, with a year-on-year increase of 68.42%.

Profit distribution plan for 2021

Cash dividends of RMB **2.21** (tax inclusive) will be distributed to all shareholders by every 10 shares

With a total cash dividend of RMB **46,525** 0,000

Operating results in 2021

Realized basic earnings per share of RMB **1.6** /share

With a year-on-year increase of **68.42**%



Topic 1

Party Building of Mingyang

3 general party branches

396 registered Party members

65% are engaged in technical front line

23 party branches

of which **59%** are aged under 35

82% hold bachelor degree or above

The Party Committee of Mingyang, established in 2010, is the first Party committee for private enterprise in Zhongshan. It now has 3 general party branches, 23 party branches and 396 registered Party members, of which 59% are aged under 35, 65% are engaged in technical front line, and 82% hold bachelor degree or above.

2021 was a year of milestone that ushered in the 100th anniversary of the Communist Party of China (CPC). Mingyang Smart Energy held the third Party Congress, which, under the leadership of Party Secretary and Chairman Zhang Chuanwei, proposed to work together for harmonious development.

I Take the opportunity of the centenary of the Party to strengthen ideas and beliefs.

1. Constant improvement of the perception on politics with enhancement of learning.

The Party Committee of the Group organized employees to watch General Secretary Xi Jinping's speech on July 1, held a special meeting to learn and carry out the spirit of the 6th Plenary Session of the 19th Central Committee, and organized senior managers to study the spirit of important speeches and instructions of Li Xi, member of the Political Bureau of the Central Committee and Secretary of the CPC Guangdong Provincial Committee, while inspecting Mingyang, and supervised the implementation of such requirements on a regular basis. Zhang Chuanwei, Party Secretary and Chairman, took the lead in compiling his experience titled From the Great Achievements of the Party to the Development of Mingyang Group, which was forwarded by Zhongshan Daily, China Energy News, Toutiao, China Electric Power News and other media.



Photo All Employees Watched General Secretary Xi Jinping's Speech on July 1

2. Activities to celebrate the 1100th anniversary of the CPC were carried out.

The Party Committee of Mingyang held a series of activities such as a general meeting celebrating the 100th anniversary of the founding of the CPC, building an exhibition hall for Party building, recording a flash to celebrate the 100th anniversary of the CPC and filming an MV of You Are My Family and actively carrying out activities such as voluntary Party building instructors to teach Party history, secretaries to give party classes, Party history knowledge contests, and centennial party celebration essays themed "Our People and Our Words". Enhance Party Building with the Study of Party History issued by the Party Committee of Mingyang was rated as an innovative case of non-public party building work in Guangdong Province and extensively released across Zhongshan City.



Figure A Flash to Celebrate the 100th Anniversary of the CPC



Figure MV of You Are My Family

3. Practices under the theme of education on the history of revolution

The Party Committee of Mingyang organized educational activities on the theme of "A Journey of Zunyi" and a film watching - The Battle at Lake Changjin to call for holding firmly ideals and beliefs, keep in mind the original aspiration, and stimulate the enthusiasm and ambition of the Party members of starting businesses.



Figure Education Activity Themed on "Red Journey to Zunyi"



Figure Watching a Patriotic Film - The Battle at Lake Changjin

II Build a solid fortress in fighting with focus on organizational construction.

1. General election of the Party Committee of the Group is put across.

On June 29, the Group held the 3rd Party Congress and elected the new members of the Party Committee and Commission for Discipline Inspection, of which Chairman Zhang Chuanwei was elected the Party Secretary.

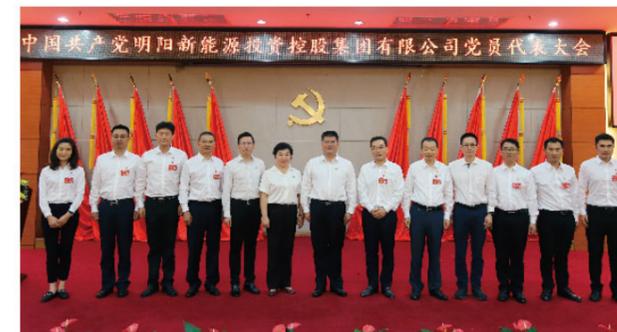


Figure General Election of Party Committee

2. Further strengthened institutionalization of Party building.

We have successively formulated the Procedural Rules of the Party Committee, Procedural Rules of the Commission for Discipline Inspection, Joint Conference System of Party and Government and Supervision and Management System of Party Members and Cadres, and issued Action Plan of Party Style Construction and Speech Channel Construction Plan to promote institutionalization, normalization and standardization of party building.

3. Perfecting the guarantee and assessment mechanism of Party building work.

We will independently set up the Party Committee Office (Party and Mass Work Department), allocate five full-time staff members, and hire party workers commended by the central government as voluntary instructors for party building work. We will conduct the debriefing evaluation of the secretaries in Party (general) branches for the first time and promote the implementation of the Group's Party building at all levels by sorting out work, identifying the problems and strengthening the responsibilities.



Figure Being Appointed Voluntary Instructors for Party Building Work



Figure Debriefing Evaluation of Secretaries in Party (General) Branches

III Support the central tasks with focus on Party building.

1. Party members can be active and brave pioneers.

In the front-line work of R&D, production, market and operation and maintenance, 105 pioneer posts, research teams and commandos of Party members have been set up to provide a wide platform for Party member employees to innovate and tackle challenges. Among them, the research team of Party members of Wind Energy Research Institute of the Group independently developed and launched the largest floating 16MW offshore wind turbine in the world. We exclusively interviewed more than 10 advanced models of Party members, among whom Chen Sifan, an engineer of the Group Research Institute, "floating at sea for 200 days a year" was included in "Xuexiqiangguo", which further stimulated the spirit of Party member employees and the masses to start businesses.



200 Days a Year at Sea, a video about Chen Sifan, Chief Engineer of Wind Energy Research Institute and Deputy Director of System Research Office of Mingyang Smart Energy, is included in the feature film on Camera Today on the "Xuexi Qiangguo" learning platform, and is recommended in the home page.

2. Party co-building and strengthening cooperation on business.

The Group has held Party co-building activities respectively with Guangdong Branch of China Construction Bank, Guangdong Power Grid Corporation of China Southern Power Grid, Guangdong Branch of Three Gorges Group and other units and promoted business exchanges through Party building activities, thus promoting the win-win interaction between Party building and business operation.



Figure Signing Ceremony for Co-Building of Party Branches

3. Earnestly perform their duties and actively participate in the administration and discussion of state affairs.

Under the demonstration that the Party Secretary and the Chairman took the lead in earnestly performing the duties of NPC deputies, the relevant leaders and cadres of the Group, as local NPC deputies, CPPCC members, Party representatives and other related posts, actively exerted the advantages of Mingyang Group, made suggestions, and promoted local economic and social development.



Figure Warm Heart to Front-line Workers

2. General election of the Women's Federation of the Group.

On August 21, under the leadership of the Party Committee, the Group successfully completed the general election of Women's Federation. Through lectures, training and other activities, the Group united and led female employees to improve their skills to make greater contributions on posts with practices.



Figure General election of the Women's Federation

3. Actively carry out popular cultural and sports activities.

In order to enrich the life of employees, the Party Committee of the Group has built some new football fields, basketball courts and runways in the park. Meanwhile, the Party Committee of the Group led the trade union and the Youth League Committee to organize the 14th Sports Games and basketball, football, table tennis and badminton leagues, and carried out over 100 activities such as youth fellowship and theme league building, creating a favorable atmosphere. In 2021, the Youth League Committee of the Group was awarded the "Demonstration Organization of Non-public League Construction in Guangdong".



Figure To Build a New Football Field and Basketball Court to Prepare for the 14th Sports Games

4. Volunteer service for civilization construction.

The Group has now 286 registered volunteers who provided 20 voluntary services like voluntary blood donation, condolence to empty nesters, assistance in pandemic detection, and voluntary repair of household appliances in 2021, with a total service time of 1,350 hours.



Figure. Visits to Empty Nesters



IV Optimize the atmosphere within the organization with emphasis on group-related work.

1. Condolence for front-line employees.

Related leaders of the Party Committee of the Group respectively led a team to investigate and survey and offer condolence and solutions for our workers at 25 engineering operation and maintenance projects onshore and offshore, in a bid to bolster their morale and strengthen their sense of belonging and identity.



Figure Warm Heart to Front-line Workers



Initiative · Partner Responsibility

- Customer Responsibilities
- Suppliers' Responsibilities
- Topic 2·“Green Energy for the Benefit of the World” – We Are Always on the Road

SDGs 16: PEACE, JUSTICE AND STRONG INSTITUTIONS

Promote a peaceful and tolerant society conducive to sustainable development, provide access to justice for everyone and build effective, responsible and tolerant organization at all levels.



SDGs 17: PARTNERSHIPS FOR THE GOALS

Strengthen implementing measures and revive global partner of sustainable development.



Customer Responsibilities

The main strategic customers of the Company include CGNPC, China Three Gorges Corporation, China Huaneng Group, China Power Investment Corporation, Datang, China Huadian Corporation and other large state-owned power groups. Over 2021, the Company won the bids for 10,906,700 KW orders, including 9,899,200 KW of onshore orders and 1,007,500 KW of offshore orders.

Through regular Customer Satisfaction Survey, the Company objectively and comprehensively analyzes all aspects concerned and strives to further improve customer satisfaction by resolving customer concerns. The Company conducts customer satisfaction survey each year by means of questionnaire, and makes comprehensive evaluation from many aspects such as product delivery ability, project progress, technical service, product quality, fault handling, personnel quality and customer complaint handling.

In 2021, the recovery rate of Company's surveys was 100%, from which a satisfaction score of 83.8 was recorded.

	2021	2020
Content	Product quality Delivery capability Equipment/product satisfaction Logistics & transportation Early stage (before pre-acceptance) Project progress Operation & maintenance service Tower supervision Engineering technical service Customer complaint service	Product delivery capability Project progress Technical service Product quality Fault handling Personnel quality Customer complaint handling
Recovery rate	80%	83%
Comprehensive score	83.1	82

Measures to Improve Customer Satisfaction

1. We will give reasonable suggestions for frequently occurred faults of wind turbines; strengthen the ability to analyze faults and timely issue analysis reports with effective solutions; improve the response speed of the fault handling, enhance the ability of troubleshooting and provide effective solutions; reinforce the service awareness of technicians, accelerate the service response and strengthen the communication with customers.
2. We will enhance the management and control of transportation service providers, enrich the professional knowledge and service awareness of road exploration personnel, and optimize the management of equipment transportation and delivery process.
3. We will conduct effective management of operation and maintenance personnel to avoid excessive turnover, and provide professional training to improve the skills of on-site operation and maintenance personnel; strengthen the control and training of on-site safety operations like early hoisting and commissioning; ensure that on-site annual and regular inspections are carried out as scheduled; strengthen on-site spare parts management and supply; speed up the fault on site, and summarize the causes of repetitive faults.
4. We will apply control to the third-party component suppliers, including cause analysis and troubleshooting.
5. We will monitor the blade production process to improve the blade quality; strengthen the cause analysis of faults on site and speed up the progress of troubleshooting.
6. We will improve the timeliness of customer complaint reply; track and control the implementation after reply; and make a reasonable project delivery plan.

Suppliers' Responsibilities

In the supply chain construction and management, we strictly implement the rules like Supply Chain Development and Capacity Building Procedures, Procurement and Supply Chain Capacity Management Procedures, Corporate Social Responsibility Statement and Letter of Commitment, Supplier Access Operation Guidelines, Management Measures of Supplier Performance Evaluation, and Supplier Quality Assurance Manual, and require suppliers to develop with the Company and regulate their operations. We advocate and encourage our partners, peers and other organizations to work together with the Company to create inclusive and low-cost clean energy, transform natural energy into a new method of development that is shared and produced by the people to drive the progress of human civilization and benefit the people. We also urge and promote enterprises on downstream supply chain to operate in compliance with regulations towards a high quality in production, manufacturing, transportation, construction and after-sales.

In order to improve suppliers' awareness of corporate social responsibility, according to the social responsibility principles and policies of Mingyang Smart Energy, suppliers are required to conduct self-inspection according to this principle and requirements from the aspects of business ethics, worker, health and safety, environment and supplier social responsibility management, so as to establish a healthy and benign supply chain. The Company also requires suppliers to comply with relevant international, state and local laws and regulations.

The Company encourages and guides suppliers to operate in full compliance with procurement guidelines for self-inspection or supplementary certification. The suppliers listed in annual audit for failure to meet the requirements on environmental and occupational health must prepare improvement plans within a time limit and take corresponding actions.

The Suppliers of the Company are required to make the following commitments to fulfill responsibilities under SA8000:



Comply with all requirements under SA8000 and local labor laws and regulations:

- It is prohibited to use any child and forced labor and accept any supplier or subcontractor using child or forced labor.
- It is required to respect workers' freedom and avoid any form of forced labor.
- It is required to create safe and healthy working and living conditions for employees.
- It is required to promote labor-management cooperation and safeguard employees' freedom of association and collective bargaining.
- It is required to provide an equal and fair working environment without any form of discrimination.
- It is required to respect the basic human rights of employees and avoid any form of degrading the dignity of employees.
- It is required to make reasonable arrangement on production plans, working hours and rest and vacation for employees.
- It is required to provide reasonable wages and benefits to meet at least the basic needs and minimum wage standard for employees.
- It is required to comply with applicable laws, regulations and standards on environmental protection, and abide by local practices on environmental administration.
- It is required to maintain plant safety procedures to prevent unauthorized shipments (e.g. drugs, dangerous goods or explosives, biological and other contraband).



Accept and actively assist in the on-site audit of social responsibilities, and provide the required information truthfully and completely.



Take corrective and remedial measures in time for any nonconformities in violation of SA8000 standards.

The Company holds or assists in holding cooperation exchanges and supplier conferences on new energy industry chain on an irregular basis to enhance the awareness and competence of suppliers under cooperation. Also, the Company encourages suppliers to work with Mingyang in innovation and healthy development and achieve the goals of "carbon emission peak and carbon neutrality" and "control of total energy consumption and energy use intensity" towards a high-quality development under the guide of the 14th Five-Year Plan.

For the application of green genes and concepts in all links of product design, manufacturing, sales, operation and maintenance, the Company has developed a perfect procurement principle. Under the same conditions, the Company will give priority to those with better performance in social responsibility practices, and encourage suppliers to operate according to ISO140001 standards and pass the third-party certification of ISO140001.

In 2021, the Company explicitly required suppliers to pass and obtain ISO9001 or IATF16949, ISO14001, ISO18001 and other management system certifications, and encouraged suppliers to adopt and pass SA8000 certification. In strict compliance with the requirements on management system and physical quality control, the Company applies the results of supplier access review to select suppliers with stable and reliable quality, guaranteeing the quality control from the outset.

In 2021, the Company had 107 parts suppliers, of which 72 obtained ISO14001 certification, accounting for 67.29% of the total. The suppliers in cooperation with the Company are all standard and well-known leading enterprises of the industry, not involved in any case of pollutant discharge against laws on environmental protection.

Of which **72** obtained ISO14001 certification

Accounting for **67.29**% of the total



Topic 2

"Green Energy for the Benefit of the World" – We Are Always on the Road

To achieve the objectives for carbon peaking and carbon neutrality represents a major strategic decision made by the CPC Central Committee in taking into account both domestic and international situations, and it is an easy choice for effort put forth to address noticeable resource and environmental constraints and achieve lasting and sustainable development of the Chinese nation. It is given that "dual carbon", an extensive and profound movement for social and economic change, will generate a new model for the development of China's "dual carbon economy" and bring new opportunities for a new round of high-quality economic and social development. China pledges solemnly to peak carbon emissions before 2030 and achieve carbon neutrality before 2060, which is also the responsibility and historical contribution of Chinese new energy companies, including Mingyang Smart Energy, to mankind.

The moment the "30.60" carbon emission reduction target was announced, we called on the whole company to start the research and deployment of carbon neutrality strategy, taking a long hard look at the carbon emissions of all our subsidiaries and bases, developing carbon emission reduction plans according to local conditions, and inviting the third party, China General Certification Center (CGC), to provide assistance and certification.

We found in the process that, for the new energy sector in this journey, how to help the community achieve the dual-carbon goal matters more than to meet the carbon neutrality target by itself. Based on sufficient research and detailed calculation, Mingyang Smart Energy has formulated and released a blueprint for carbon neutrality, which includes four sections: clean energy demand solutions, low-carbon energy supply solutions, refined energy management solutions, and standardized sustainable development governance structure.

The integrated industrial layout of wind, light, storage and hydrogen helps to create an integrated comprehensive energy solution

Integration of wind, light, storage and hydrogen

"source-network-load+" integration

Comprehensive energy interconnection and reciprocal projects

Supplier of overall solutions

Mingyang is committed to becoming a supplier of overall solutions for integration of wind, light, storage and hydrogen, "source-network-load+" integration and comprehensive energy interconnection and reciprocal projects. According to the characteristics of resources, customized research and development of equipment will provide the best solution for rural revitalization, effective utilization of scenery and smart construction and operation of zero-carbon cities, and realize clean, non-subsidized, low electricity price, intelligent power supply and inclusive business model.

We firmly promote the high-end, intelligent, green and clustering of the new energy equipment manufacturing industry, take the integration and development of the four major business sectors of "wind-light-storage-hydrogen" as the direction, lay out new energy industrial bases, effectively enhance the industry's ability to absorb employment, retain green mountains and clear waters in the poverty alleviation of the new energy industry, and help the country revitalize the countryside.

In the field of wind power, Mingyang insists on high power generation, high availability and low power cost. It has successively launched customized and 1.5-16 MW MySE semi-direct drive internationally leading series of onshore wind turbine products with unique design such as low wind speed type, typhoon resistance type and plateau type with the advanced concept of life cycle management and aerospace-grade lean production mode. It is the only enterprise with independent research and development and production capacity of generator, gearbox, blade and three electronic control systems in the whole industry.



In the photovoltaic field, we have built the largest production line for photovoltaic modules of cadmium telluride buildings in China. Mingyang's new generation of 100MW cadmium telluride thin-film battery production line is widely applied in building photovoltaic integration projects. The applicability of products breaks the traditional photovoltaic application field and is widely used in building photovoltaic integration projects. Benchmarking demonstration projects such as National Speed Skating Oval for Winter Olympic Games have been built. Since 2021, we have announced an investment of RMB 3 billion to build a new generation of heterojunction solar cells and modules with the largest capacity of 10GW. Batteries based on N-type silicon wafers have greater potential for improving efficiency. In the next ten years, it is a clear trend in the industry that N-type silicon wafer-based battery technology will replace P-type battery technology. Heterojunction (HJT) solar cells will be the third technological revolution in the photovoltaic industry. In the later stage, it is expected to reach 30% of efficiency level by adding stacked technology with HJT as the technology platform.

In the field of energy storage, we have built an industrial chain of integrated energy storage system, inverter system and energy management system and provided a complete set of low-carbon energy products and services including microgrid system, energy storage integration, inverter, power management equipment, energy management system, intelligent power distribution cabinet, etc., providing energy storage system solutions for wind power and photovoltaic power plants as well as offshore operation platforms.

In the field of hydrogen energy, we focus on the R&D and manufacturing of hydrogen production from seawater and hydrogen storage, hydrogen transportation and hydrogenation equipment, lay out hydrogen production from pure water, alkaline water and seawater, and build an industrial chain of production-storage-transportation-processing equipment. The first demonstration project of hydrogen production from seawater in Mingyang has been put into operation, which can provide clean and cheap green hydrogen to the market on a large scale.

Two-wheel driving of reducing costs with technologies and innovating models to create ultra-low new energy consumption kWh costs

Innovation and independent research and development

Road of rise of industry from following to leading

To realize the green and low-carbon transformation of energy

Contributing wisdom and strength

Technological innovation is the key for the high-quality development of wind power industry to promote large-scale application. Our independent innovation capability has been continuously released. Through reducing costs with technologies, the unit cost and kWh cost have been reduced to the same level as photovoltaic and we have embarked on a road of rise of industry from following to leading. Innovation breakthrough of core technology and coordinated progress of industrial chain are the key with the change of development modes and regions in the development of wind power plants from a large base to a distributed form, from low wind speed on land to deep and remote sea,

Mingyang always insists on innovation and independent research and development. It has overcome the worldwide technical problems of offshore wind power development in many violent typhoon zones with independent innovation. It has launched the largest semi-direct drive typhoon-resistant large-scale offshore wind turbine in the world with 5-16 MW and independent intellectual property rights with the advanced concept of life cycle management. It has developed floating foundations and innovative floating wind turbine islands suitable for deep water zones,

forming the most complete product line of offshore wind power in the world to adapt to various wind conditions. Flexible DC delivery system and device on deep and remote sea successfully passed the appraisal for national products. The 3D development scheme of hydrogen production by seawater and marine pasture has entered the practical application stage, This has realized the efficient, economical, safe and large-scale development of offshore wind power. It is accelerating the comprehensive construction of three-dimensional economy from "Double 10" to "Double 100" of energy sources in deep and remote sea and contributing wisdom and strength to the national marine economy, the green development of Guangdong-Hong Kong-Macau Greater Bay Area and the grand project construction of "Three Gorges at Sea" .

The core of leading the high-quality development of new energy industry is model innovation. To realize the green and low-carbon transformation of energy, it is necessary to make clean energy embrace the era of fair price through model innovation and benefit the people with lower electricity prices. The smart energy innovation of "two integrations" belongs to such major model innovation. We took the lead in exploring the layout of "two integration" projects in China. Mingyang's Inner Mongolia Tongliao Project which commenced in 2021 is the first smart energy innovation model and benchmark demonstration project in China. Another example is the three-dimensional integration, development and innovation of marine energy sources. While leading the scale and economic development of offshore wind power with innovation, Mingyang promotes the three-dimensional integration development of marine pastures based on offshore wind farms and realizes the three-dimensional integration development of green energy and blue marine economy.

We create traction demand with smart energy application scenarios, promote high-end new energy technologies, application scenarios and industrial ecologicalization, build a new industrial ecology with integration of industrial form, adhere to "low carbon, low price and low energy consumption" , and explore the application scenarios and implementation paths of new power systems with new energy sources as the main body.

Low-carbon energy solutions to help high-energy-consumption industrial enterprises reduce carbon emission

- For zero-carbon parks and zero-carbon towns
- Providing solutions and project construction
- For high-energy-consumption industries such as petrochemicals and steel
- Providing low-carbon solutions

Mingyang has officially launched the "carbon neutrality" layout action, providing solutions and project construction for zero-carbon parks and zero-carbon towns and providing low-carbon solutions for high-energy-consumption industries such as petrochemicals and steel.

We have implemented Tongliao Scenery Multi-Energy Storage Complementation and Smart Energy Zero-Carbon Park Project with Integrated Source, Network and Load, providing zero-carbon city implementation plans for Shaoguan City in Guangdong Province, East Island in Zhanjiang, Xinyang City in Henan Province and Baotou City and Tongliao City in Inner Mongolia. Meanwhile, we are providing low-carbon solutions for large leading central enterprises such as Sinopec and Baowu Steel, promoting globalization, the overall layout of the whole industrial chain, the whole value chain and the whole life cycle, taking the 30th anniversary since founding as a new starting point, striving to become one of the Fortune Global 500 enterprises and making smart energy benefit China and the whole world!

IV Performing duties for the country and doing their duty for the people, Zhang Chuanwei, a deputy to the NPC, made suggestions at NPC & CPPCC

- Promote the Implementation of the National Rural Revitalization
- Low-carbon energy in the countryside
- Early realization of carbon peaking and carbon neutrality in
- Green energy for the benefit of the world

From March 5 to 11, 2021, the Fourth Session of the 13th National People's Congress was held in Beijing. Chairman Zhang Chuanwei submitted eight proposals including Building a High-Quality Modern Rural Energy System to Promote the Implementation of the National Rural Revitalization Strategy, actively making suggestions on building a high-quality modern rural energy system to promote national rural revitalization, accelerating the high-quality development of marine energy in Guangdong to take the lead in achieving carbon peaking and building "Three Gorges at Sea" in the exclusive marine economic zone of eastern Guangdong to build a new economic system and create a new pillar industry. Zhang Chuanwei pointed out that the current rural energy supply is incompatible with the development of the national rural revitalization strategy in terms of quantity, structure and quality. At present, farmers with the lowest income are consuming the most expensive energy. To realize the growing demands of hundreds of millions of farmers for a better life, there is huge room for clean, efficient and safe new energy to develop. Hundreds of millions of farmers are not only producers and consumers of energy, but also beneficiaries of green energy. The development and construction of new energy can become an innovative economic benefit model and contribute to the early realization of carbon peaking and carbon neutrality in China through the construction of green and low-carbon energy in the countryside.

On September 24, the 5th (2021) Annual Conference of Energy Industry Development in China and Exhibition of Innovation Achievements was held in Beijing. Zhang Chuanwei, Chairman of Mingyang Group, won the title of "(2021) Leader of Private Enterprises in Energy Industry Helping 'Carbon Peaking and Carbon Neutralization'" and was the only leader in wind power industry who won this award. Meanwhile, Mingyang won the honor of "Annual Efficient Solution of Energy Industry" by virtue of the technical scheme of clean energy power supply system in Yangjiang Base, which reflects the independent innovation, advancement and high efficiency of Mingyang Smart Energy. In the future, Mingyang Smart Energy will deeply integrate energy production, energy transmission, energy consumption, energy supervision and energy market data to jointly form a new form of energy system, improve efficiency of development and utilization in energy, and promote the opening of energy market and industrial upgrading.

"GREEN ENERGY FOR THE BENEFIT OF THE WORLD" is Mingyang's long-standing belief which runs through the core of the whole operation and strategy. Carbon neutrality is highly consistent with the goal and mission of Mingyang Smart Energy. It is believed that it will help Greater Bay Area and even the whole country achieve the "30, 60" decarbonization goals from its own energy conservation and emission reduction to the green development of the upstream and downstream of the industrial chain by actively implementing the carbon neutrality action plan.



Mingyang Smart Energy Carbon Neutrality Blueprint

Solutions for clean energy demands

Create a supply system of renewable energy in the largest proportion

- Establish several zero-carbon industrial parks
 - Solution of Green and Low-Carbon Intelligent Park
 - Solution of Green and Low-Carbon Office Buildings
- Increase the industrial layout of areas abundant with green energy sources and actively participate in green electricity market-oriented transactions



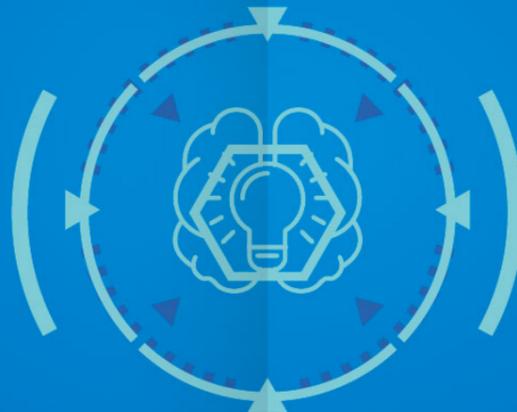
Standardized governance mechanism for sustainable development

Take sustainable development as the key to the Company's business strategy and future development

- Building normalized sustainable development organizations and mechanisms
- Actively and regularly disclose the Company's ESG-related information with high quality and announce the Company's carbon emission and emission reduction transcripts to the public
- Carry out research on carbon footprint of life cycle in products and devote to technological innovation to reduce carbon footprint
- Guide employees to actively practice low-carbon work and lifestyle
- Actively and regularly disclose the Company's related information in environment, society and governance with high quality



Urban energy brain



Green parks

- Smart micro-internet
- Comprehensive energy service
- Energy-saving optimization
- Carbon emission monitoring

Green energy sources

- Smart wind electricity
- Smart energy storage
- Smart photovoltaics
- Multi-energy complementation

Low-carbon operation

- Digital planning
- Carbon emission supervision
- Energy saving supervision
- Policy management

Dynamic perception in the whole region

Smart scheduling of the whole scene

Forecasting of power source & load

Full-service data convergence

Full life cycle management

Economic & safe scheduling

Smart operation

- Forecasting of supply and demand
- Forecasting of goods in stock
- Economic scheduling
- Flexible power grid

Green transport

- Smart charging
- Smart trip
- Smart parking

Energy consumption and emission management in refined manufacturing

Design and use solutions with the best environmental benefits and the lowest energy consumption

- Intensive design of products
- Access advanced digital energy efficiency management technology and platform
- Optimal design and improvement of production process and production facilities
- Continuously optimize packaging and logistics solutions
- Explore low-carbon materials to replace
- Green supply chain
 - Formulate green supply chain standards, form a reasonable inclination to environmental attributes, and issue an initiative of green supply chain to guide upstream and downstream to join



Low-carbon energy supply solutions

Provide integrated solutions of wind, light, storage and transportation with the lowest carbon

- Continuously invest in green power stations such as wind energy power stations and photovoltaic power stations
- Rural revitalization solution
 - The terminal is replaced by green electricity, so that clean energy can truly achieve universal benefits
- Solutions for low-carbon cities
 - Technically and economically feasible solutions to help realize carbon neutrality in the region and the society





SDGs 7: AFFORDABLE AND CLEAN ENERGY
 Ensure affordable, reliable and sustainable modern energy of everyone.



SDGs 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE
 Build risk-resistant infrastructure, promote tolerant sustainable industries and accelerate innovation.



SDGs 11: SUSTAINABLE CITIES AND COMMUNITIES
 Build tolerant, safe, risk-resistant and sustainable cities and communities.



SDGs 13: CLIMATE ACTION
 Take emergency action to deal with climatic change and its influence.



Initiative · Products and Services

- Innovation and R&D
- Smart Energy Business
- Quality Management
- Smart Operations and Maintenance and Lifecycle Management

Through the years, Mingyang Smart Energy has stayed committed to green development and ecological priority, and has been adamant on leading the way in energy conservation and emission reduction. It has had a cumulative installed capacity in excess of 33.2GW globally and the environmental benefits it has brought amount to the reduction of carbon dioxide emissions by 4,650 tons per year, of the order of 750 million cubic meters of reforestation per year.

We embed green DNA and concept in everything from our product design, manufacturing, sales to O&M. Targeting the construction of green and smart wind farms, we provide innovation in energy services and management models, based on big data and blockchain, toward the connectivity and efficient utilization of green energy. We bring the concept of green value to customers, owners and the whole of society, and together with our suppliers we are building a green ecological supply chain and fulfilling the responsibility and mission of supporting and protecting the environment.

Innovation and R&D

Product innovation management

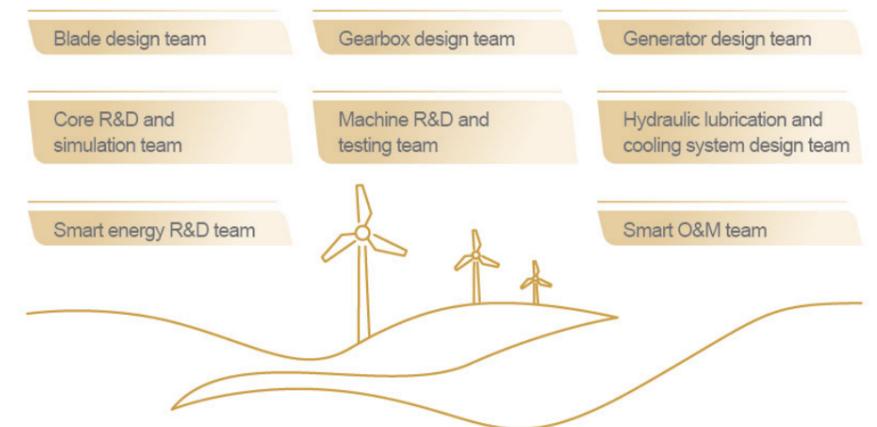
State-of-the-art technology has always been flagged by Mingyang Smart Energy as the core competitiveness of an enterprise. With the creation of value for customers as its launching pad, the Company continues to pay attention to customer needs, with the priority given to the manufacturing of high-end new energy equipment and smart energy technology, the integration of 5IABCDE (5G, IOT, AI, Blockchain, Cloud, Big Data & Digital Twin, Edge Computing), and the creation of smart energy data warehouses and big data-enabled cloud platforms for energy. Additionally, by virtue of financial innovation and business model innovation, we are building a cluster of Mingyang Smart Energy's advantageous industries and a value-sharing business ecosphere, developing sustainable energy technology, and boosting the technological upgrading of the energy industry.

<p>In terms of product technology innovation</p> 	<p>Mingyang Smart Energy closely focuses on the goal of "two highs and one low", delivering customized and personalized products and services, overall lifecycle solutions as well as offshore wind turbine units from anti-typhoon type applicable to southern areas to anti-low temperature type suitable for northern areas to intertidal zone type – all with independent intellectual property rights. We are extending our innovation to the whole value chain of new materials, new components, new devices and new solutions, and has successively conquered a wide range of major key technologies for, among others, offshore super-large typhoon-resistant wind turbines, marine energy and marine engineering systems, deep-sea flexible DC transmission systems, high-end core components and new materials.</p>
<p>As for engineering technology innovation</p> 	<p>Taking our self-developed and designed floating wind turbines and foundations as an example, they enable industrialized digital manufacturing, modular construction, and on-shore assembly and shipment in their entirety to the target sea area, greatly reducing offshore operation time and construction costs. We also deliver innovation solutions for large-scale and economical development of offshore wind power.</p>
<p>As to innovation in operational technologies</p> 	<p>Mingyang Smart Energy has established smart demand management for the whole life cycle of wind farms. By means of big data, 5G transmission, AI and cloud computing, it resorts to digital and smart management platforms to enable intelligently managed and unattended wind farms, including the smart environment adaptive system within the wind turbine in marine environments such as offshore typhoons and salt fog, providing customers with lifecycle asset management and smart operation services.</p>

The Company has always maintained a high proportion of R&D input, constructed three major process structures of product/technical planning, product/technological development and product/project delivery, carried out the optimization, improvement, release and issuance of important systems, such as control procedures for new product development, flowcharts and responsibilities of new product development, administrative measures for R&D rewards and management practices for R&D review. At the same time, we stay actively engaged in the optimization and upgrading of the PLM system and the construction of foundation platforms, providing substantial support for a gain in business operation efficiency, a cut in business operation costs and the stability of business operation process.



On this basis, the Company pools global resources together and has the domestic leading blade design team, gearbox design team, generator design team, core R&D and simulation team, machine R&D and testing team, hydraulic lubrication and cooling system design team, smart energy R&D team and smart O&M team. It has established a national enterprise technology center, a national and local joint engineering laboratory, a wind power technology engineering laboratory in Guangdong, an engineering center and a post-doctoral research center in Guangdong, the East China Research Institute in Shanghai, Shenzhen Quant-Cloud Energy and more, with high-end cutting-edge R&D centers in Silicon Valley, Hamburg and Beijing.



In order to intensify the leadership and management of its scientific and technological endeavor and thus make it evolve toward a scientific and standardized direction, the Company has developed a host of innovative management systems, including the Management Practices for R&D Projects, Regulations on Technical Expert Base, the Administrative Measures for R&D Rewards, the Patent Management Measures, the Thesis Management Measures, the Administrative Rules for Technological Innovation, the Rules of Procedure for Innovation Committee, the Control Procedures for New Product Development, and the Control Procedures for Technical Changes.



Technological or R&D input

The Company plans for the collaborative innovation of products and the industrial chain guided by a "global view of the industrial chain", allowing for the extension of its innovation capability to the whole value chain of new materials, new components, new devices and new solutions, and bringing leading technologies and product lines, both offshore and onshore.

In 2021, the Company invested RMB 10.55 billion in R&D (capitalized R&D expenditures included), accounting for 3.88% of operating revenues, or a level above the industry average. At the same time, Mingyang Smart Energy continued to focus on the introduction and training of high-caliber R&D personnel at home and abroad, and through hands-on practice, it has gathered, trained and tested a large number of inter-disciplinary talents with rich practical experience who have systematically mastered wind power theory. At present, there are 2,088 R&D persons and a technical team consisting of 13 doctors, 316 masters and 790 undergraduates. The R&D team comprises 33 chief engineers, 76 deputy chief engineers and 122 engineers in charge.

The Company invested RMB **10.55** billion in R&D (capitalized R&D expenditures included)

Accounting for **3.88**% of operating revenues

There are **2,088** R&D persons The R&D team comprises **33** chief engineers

A technical team consisting of **13** doctors **76** deputy chief engineers

316 masters **122** engineers in charge

790 undergraduates

R&D achievements

In 2021, in terms of machine research and development, Mingyang Smart Energy made the following achievements: the MySE8.3-180 semi-direct-drive offshore typhoon-resistant wind turbine unit was connected to the grid at full power in Xinghua Bay, Fujian; the MySE5.5 floating unit was successfully hoisted and connected to the grid for power generation, making it the world's first typhoon-resistant floating wind turbine, the first national-level floating model project, and another major achievement leading China's offshore wind power industry to the deep sea. For research on technological innovation, an integrated operations and management platform for smart wind farms was developed, and the application of new technologies such as the IoT, big data and AI in wind farms resulted in the digital and intelligent operations and management of wind farms. Meanwhile, we paid attention to market value-added transformation services, completed the development of MyGroup, a smart integrated control system that helps explore new value-added service orders and create profits, and finished the research and verification on the performance improvement of gear materials and the development of high-performance marine concrete. Also, we took a deep dive into how to reduce the weight of the gearbox and improve the torque density and into new concrete materials, so as to satisfy the market demand and enhance the competitiveness of the product. In R&D infrastructure construction, the Company built a new test bench and a concrete laboratory at the Sharwei base, providing physical support for the development of new products and technologies.

As of the end of 2021, the Company has carried out a total of 102 R&D projects, including 24 for machines, 30 for key components, and 46 technological innovation projects, covering 1.XMW-15+MW model marine and land products of all categories.

Project Category	Machine	Component	Technology	Others	Total	Proportion
Major	14	13	3	0	30	29.4%
Key	10	11	14	1	36	35.3%
General	0	6	29	1	36	35.3%
Total	24	30	46	2	102	100%
Proportion	23.5%	29.4%	45.1%	2.0%	100%	



Special R&D projects

01

MySE5.5-155 typhoon-resistant floating offshore wind turbine

The MySE5.5-155 typhoon-resistant floating offshore wind turbine, independently developed by Mingyang Smart Energy, was finally rolled off at the Yangjiang Wind Turbine Factory on May 26, 2021, successfully installed at a million-kilowatt offshore wind farm in Shapa, Yangjiang, Guangdong on July 13, 2021, and successfully connected to the grid for power generation on December 7.



02

Typhoon-resistant -resistant HDPE aquaculture net cage

With the rising of offshore wind power development and construction costs and the reduction of feed-in tariff, offshore wind power development is faced with severe challenges. In this context, the Company actively explores the path of the integrated development of offshore wind and fishery, and takes the lead in exploring the new model of "marine granary + blue energy" for the intensive and ecological development of marine resources.

Since typhoons occur frequently in the South China Sea, traditional HDPE aquaculture net cages with poor resistance to wind and waves are not suitable for deep-sea wind farms. Our marine engineering office has carried out a load of R&D, design and optimization work for traditional HDPE aquaculture net cages, and successfully developed the first typhoon-resistant HDPE aquaculture net cage in China. So far, the cage in trial has been tested by typhoons such as Typhoon Lionrock and severe sea conditions, and has proved a good condition in the safety and operations of the cage.



03

Mingyang Smart Energy' s third-generation central monitoring system – a Central Control 2.0 project

To continuously increase the customer' s recognition of Mingyang Smart Energy' s smart series products, and resolutely support the Group' s strategic needs of combining advanced information technology with traditional manufacturing, we completed the development of the Central Control 2.0 project in 2021. In keeping with the Group' s wind turbine products in terms of forward-looking research and development, the system has been comprehensively upgraded in the stability, scalability, functional coverage, and the aesthetics of the interface in a way that ensures the best just got even better and to take the lead in the industry!



04

Complete-machine full-power test bench in Shanwei

In 2021, the 16MW test bench independently developed and designed by Mingyang Group was successfully completed. Located in Mingyang Smart Energy' s Shanwei base, this test bench represents the Company' s complete-machine full-power test bench with the largest capacity.

At present, the capacities of the test bench can support the type test in the 11MW prototype machine workshop. To meet the later upgrade of the wind turbine, both the electrical system and foundation of the test bench are designed to reserve a 16MW loading capacity. The biggest characteristic of this test bench is that it adopts flexible connection and towing scheme, which can minimize the cost and meanwhile meet the loading capacity of the whole machine. The full power test of the tested fan can be realized by over-generating the frequency converter at the towing end. This test bench has become the leading benchmark in the industry.

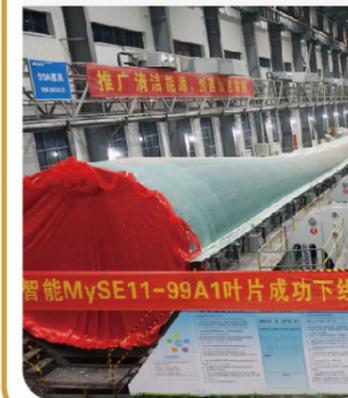
In terms of intelligent design, the control program and intelligent man-machine interface of the test bench are also independently developed by the testing and certification room where the data of all points of the fans can be collected and stored in real time and the test data can be displayed in real time. The effective combination of digital twins is realized by comparing the theoretical calculation and simulation data with the measured data in fields. This plays a positive role in performance verification, fault analysis and life prediction of fans.



05

Blade material R&D project – pultruded hybrid carbon/fiberglass plate

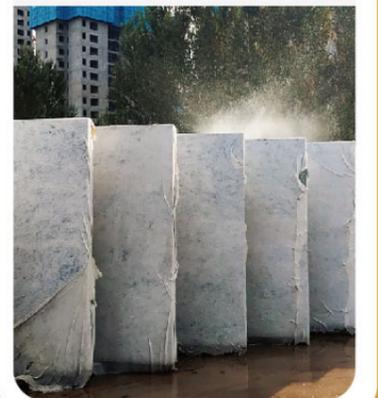
In 2021, a carbon/firberglass plate was successfully developed and applied to Mingyang Smart Energy M y S E 1 1 - 9 9 A 1 and MySE8.3-89A1 blades. Both of these two models have completed the full-scale static test at one time. After applying a super load, they performed well, with all the indexes of inspection complying with the requirements of the specification and living up to the design objectives. That means the blade developed and manufactured by Mingyang Smart Energy can adapt to various extreme working conditions in the actual service process. Also, it is a testament to Mingyang Smart Energy' s leading and reliable blade R&D and manufacturing capabilities, and provides a solid foundation and valuable experience for the development of various blade innovations in the future.



06

160m hybrid tower project

On September 3, 2021, Mingyang Smart Energy' s first prefabricated member of hybrid tower was successfully rolled off the production line. The completion of design and certification of the 160m hybrid tower has enabled Mingyang Smart Energy to show perfect mastery of the key core design technology of the new 160m and higher ultra-high steel-hybrid tower system. This also empowers the Company with the ability to independently design and develop hybrid towers of this height, and a design breakthrough in this field in China, and speaks to its ability and attitude in unremitting technological innovation. Thanks to the Company' s energetic support and promotion, an increasing number of projects began to apply self-developed hybrid towers, such as Lingbi, Wolong and other projects, as the precast concretes of two MySE5.0-166-HH140m prototypes for the Kailu, Tongliao project came off the assembling line.



Intellectual property protection

Intellectual property management and protection measures

As a national high-tech enterprise, national technology innovation demonstration enterprise, national intellectual property advantage enterprise, key intellectual property protection enterprise in Guangdong, and intellectual property standard implementation pilot enterprise in Guangdong, the Company remains committed to independent innovation and the implementation of the strategy of innovation-driven development. To step up the development of innovation systems and creative power, enhance the core competitiveness of independent development, and improve its competitiveness in domestic and international markets, we value invention and creation, underpin the combination of technological innovation and independent intellectual property rights, lay emphasis on the scientific management and strategic application of intellectual property rights, and enhance the enthusiasm of employees for invention and creation. Proceeding from the actual situation of our strategic planning, we have established an intellectual property management system and formulated relevant intellectual property management measures, in accordance with the Patent Law of the People's Republic of China, the Outlines for Building a Powerful Country with Intellectual Property Rights, the Rules for Implementation of the Patent Law of the People's Republic of China and other relevant laws and regulations. The Company's knowledge management system covers the following three aspects:



Patent rights

The Company has set up special positions with designated persons responsible for intellectual property management, covering the fundamental management of intellectual property rights (e.g. personnel, systems), intellectual property-related resource management (e.g. financial resource management, information resource management), every stage of intellectual property-related production and operations (e.g. research and development activities, sales, foreign trade), the operational control of intellectual property rights, the management of intellectual property-related documents and contracts and more. In addition, the Patent Management Measures, the Management Practices for R&D Projects, the Administrative Practices for R&D Rewards, and the Rules for Technological Innovation Management, among others. Meanwhile, we have established an intellectual property data platform. Through the PatSnap database, we stay current with the latest patent data at home and abroad, so as to avoid repeated research that in turn wastes company capital, as well as the infringement of other people's intellectual property.



Copyrights (thesis and software copyrights) and trade secrets

The Company has developed the Thesis Management Measures to provide guidance for the registration of computer software copyrights and works. Besides, we have developed the Provisions on the Examination of Technical Confidentiality, the Contract Review Procedures and others. To protect what is specified in them, we have taken such actions, such as identifying with password setup, establishing physical measures and institutional measures, and leaving traces, and provide regular checks.



Standards

As a national high-end equipment manufacturing wind power equipment standardization pilot organization, wind power standardization complex pilot organization in Guangdong, secretariat of the Guangdong Technical Committee for Standardization of Wind Power, and 5A "standardized good behavior enterprise", the Company has developed standardized management specifications including the Measures for the Administration of Technical Standards. Also, we are actively engaged in standardization work at home and abroad, and research on standards and other relevant topics at home and abroad – which has been fully endorsed.

Scientific payoffs

Table 1 Statistics on the number of innovative R&D projects

The Company's Cumulative Number (Including Data in Previous Years)	Design Patent	Patent for Utility Models	Patent for Invention	Copyrights
Number (accepted + authorized)	25	767	441	95

Table 2 Statistics on the number of intellectual property rights

Indicator	Unit	2021	2020
Cumulative number of patents applied for domestically	Patent	1,316	1,119
Cumulative number of utility patents applied for domestically	Patent	514	426
Cumulative number of patents applied for overseas	Patent	1	2
Cumulative number of patents granted overseas	Patent	1	0
Domestic standards the Company participated in formulating	Standard	163	139
International standards the Company participated in formulating	Standard	17	17
Cumulative number of copyrights	Copyright	311	275



Smart Energy Business

Mingyang creates traction demands with smart energy application scenarios, promotes high-end new energy technologies, application scenarios and industrial ecologicalization, builds a new industrial ecology with integration of industrial forms, adheres to "low carbon, low price and low energy consumption", and explores the application scenarios and realization paths of new power systems with new energy as the main body.

Ocean Energy Integration

On August 26, 2021, the Company's first anti-typhoon HDPE breeding test cage was successfully installed and put into Mingyang Shaba Wind Power Plant, officially launching the breeding test of gold pomfret. On January 19, 2022, after nearly 5 months of breeding test, the Company's test cage harvested fish for the first time with great success. The golden pomfrets were similar to wild ones with bright white color, sparkled eyes and tight meat.

Mingyang actively explores the integrative development between wind power and fishery on the sea, launches R&D and design of cage equipment applicable to the integration of wind power and fishery, and adventurously conducts the practice of new mode to combine the wind power with fishery. In this way, it accumulates related practical experience as well as valuable experimental data, marking the phased success achieved in the early probe of integrated mode between wind power and fishery.

During the 14th Five-year Plan, it is the general trend to shift from a single offshore wind power mode to the comprehensive utilization of "offshore wind power + aquafarm". Such an innovation mode will realize transboundary and integrative development between wind power industry and modern and efficient marine agriculture, substantially improve the efficiency of intensively-saving sea source, initiate a new situation of "green product produced underwater; clean energy output on the water". Simultaneously, it can effectively expand aquaculture area to the deeper and farther sea, extend the development space of marine fishery, promote the transformation and upgrading of aquaculture equipment and related industry, so as to achieve the win-win upgrading of modern aquafarm and clean energy industries.



Integration of load and storage of source network



The Company and Contemporary Amperex Technology Co., Limited (CATL) signed a strategic cooperation agreement that both sides will establish a comprehensive strategic partnership in the field of "two integrations".



The Company signed a strategic cooperation agreement with Jiuquan Municipal People's Government on zero-carbon green electricity industrial park and integration project of power supply, power grid, energy load and storage.



The main construction of Mingyang Tongliao modern energy integration demonstration project of "Storage, Development and Research of Fire, Wind and Light Energy" was started, and the first smart project management platform of new energy in China was officially launched.



The Delingha 500 MW integration project of power supply, power grid, energy load and storage by Qinghai Mingyang New Energy Co., Ltd. was started with a groundbreaking ceremony in photovoltaic industrial park located near the west export of Delingha.



Quality Management

By targeting customer satisfaction, adopting the process method, focusing on the customer-oriented process, and making the management and support process clear, we have established a complete set of effective "Mingyang Smart Energy Quality Management Model". In 2021, under the circumstance of a sharp increase in supplier deliveries, we achieved our quality control goals through the optimization of manufacturing supervision and deployment, electronic workflow, special management and control of core components, anticipation of major lot-size problems and implementation of preventive measures, and red line management.

Manufacturing supervision and deployment optimization & electronic workflow

- Made collaborated efforts to have the manufacturing supervision system keep the same as the supplier shift system, achieving the effective confirmation of the production process.
- Enabled standardized and information-based manufacturing supervision and inspection records, and completed data analysis and the rapid retrospective echo check of records.
- Greatly improved work efficiency relying on the document and data processing functions.
- Full-process manufacturing supervision, full-process audit and full-scale inspection of core components.

Core indicators of product quality in 2021

Indicator	Unit	2021	2020	2019
Percentage of those subject to recall among all products sold or shipped for safety and health reasons	%	0	0	0
Number of complaints received about products and services	Compliant	366	402	435
Product complaint rate	%	3.54%	5.06%	8.26%

A highly reliable Mingyang Smart Energy Quality Management Model created

The highly reliable Mingyang Smart Energy Quality Management Model is backed on quality culture and quality system, with design quality, supplier quality and manufacturing quality as the pillars, supplemented by PDCA improvement in the whole process.

The main process and method are built in accordance with the IATF16949:2016 standard, and quality management involving all employees is implemented for products in the whole process from new product development to market operations and maintenance;

According to the characteristics of multiple varieties, small batch and demanding reliability in the industry, we introduced the all-component and full-scale control concept of aerospace into our physical quality control while ensuring the quality of early planning and new product development for core components. Also, we have implemented effective manufacturing supervision and controlled shipment to ensure high quality and high reliability of core components tending to "zero defect".

Quality management system and quality policy based on "doing it right the first time"

To ensure the rationale of "doing it right the first time" across each stage, Mingyang Smart Energy has established an all-process quality management document system. Where there are stages with information exchange, there are clear procedure documents; where there are required operations, there are detailed operating guidelines; and where there are control nodes of quality and services, there are clear work records.

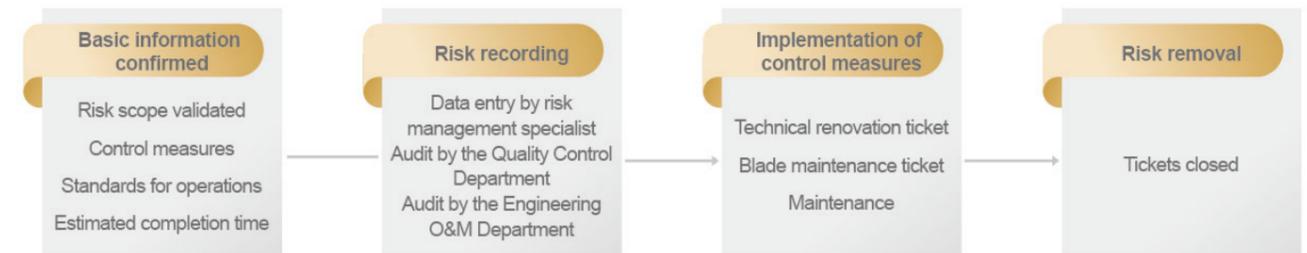
In line with ISO standards and the Company's vision and mission, we have established the quality policy: based on the rationale of "doing it right the first time", we provide highly reliable products and services that move customers, and continue to create value for the energy industry and human society.

The Company has established a whole-process quality management system covering design and development, manufacturing, sales and after-sales service in accordance with the ISO9001: 2015 standard, and was certified by TÜV Rheinland.

Digital risk management platform

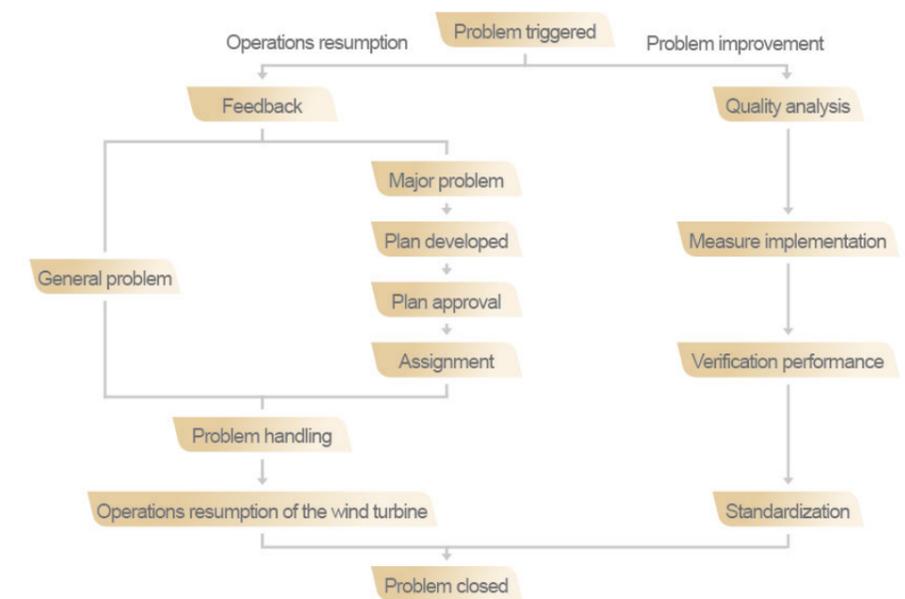
We use a digital risk management platform to enable the multi-dimensional and precise risk management and control to protect the safety of the wind turbine in operation.

By establishing a digital risk management platform for wind turbines in stock, we can identify the abnormal conditions of the 5,000+ wind turbines in service in a timely manner through the monitoring system and the early warning of wind turbine operations. Hidden risks can be eliminated through measures such as investigation, maintenance and technical renovation. At the same time, the digital risk management platform is used to implement the unified management of risk management and control measures to ensure the high-quality operations of in-service wind turbines in real time.



A double closed-loop problem management mechanism

In line with the principle of early detection and early treatment, we adopt a "double closed loop" approach, both online and offline, to ensure the safety of the wind turbine in operation. By applying the "two-pronged approach" of big data monitoring and early warning plus active investigation and establishing an "online" problem processing system and an "offline" physical problem processing process, Mingyang Smart Energy has developed a double closed-loop management concept of "quick response" and "quality improvement" for the customer's field quality problems and improvements to ensure the quick resolution of the problems and the reliable operations of the wind turbine.



Special management and control and red line management of core components

In 2021, the maritime supply of major component manufacturers increased significantly. To ensure the reliable quality of products produced by suppliers in the state of capacity expansion, and effectively reduce the risk of supplier product quality in the state of capacity expansion, the Quality Control Department prepared for production expansion on the fronts of human, machine, material, method and environment in combination with the actual situation inside each supplier's factory and the state of quality control, and simultaneously developed corresponding key control plans.

At the same time, in order to strengthen the quality awareness of generator and gearbox suppliers and ensure the "zero-defect" production of semi-direct drive generators, in 2021, we organized the quality red line identification work around the potential failure risk of the wind turbine out of stock or long-term shutdown, communicated and confirmed the quality red line management with various generator and gearbox manufacturers, and continuously confirmed the status.

Preventive measures for major lot-size problems

With the advent of the peak delivery period of suppliers in the context of the "installation rush" of offshore wind power in 2021, the Company's production bases speeded up the production pace, accompanied by the accelerated production takt of suppliers. To ensure rapid response and resolution of problems at the supplier's site and the Company's various production bases as well as the prevention of major lot-size problems in each stage, the quality control team for major components developed a rapid response mechanism and thus avoided major lot-size problems. Against the backdrop of the "installation rush", the supplier's field problems were able to be quickly resolved through the rapid response mechanism, effectively satisfying the schedule requirements. For the problems occurring on the site of the supplier and our bases as well as quality problems, the decision-making cycle for handling them was reduced on average to a short period of time for coordinated solutions. The handling cycle was improved by about 80%.

Meantime, known and potential problems were managed from multiple dimensions of field audit, effective confirmation on the site of problem rectification, internal bi-weekly communication meetings and others, so we were able to systematically address major problems. We also shared known major quality anomalies in parallel, with sharing countermeasures extended, in parallel, to all suppliers of the same components to avoid the repeated occurrence of similar problems in different manufacturers. Additionally, we visit the supplier's site for the auditing purpose, held regular meetings, and publicized and implemented the awareness of corresponding risk prevention and the identification of potential risk points at the supplier's site.



Supplier quality control mechanism

Comprehensive control of component quality + work on systematic improvement

We implement the "MYQS" quality control requirements: the IATF16949 systematic quality management standard for component quality, and the "all-component, full-size" aerospace standards for core components. The implementation of the two quality management systems allows to ensure the conformity of product quality.

Example: comprehensive control of the quality gearbox, a core component

The gearbox is the core mechanical component of the wind turbine. Its mainly works to transmit the power generated by the wind rotor under the action of the wind to the generator and make it have a corresponding speed. Mingyang Smart Energy adopts the world's first semi-direct drive technology, and draws on the aero-engine manufacturing model, combined with an advanced manufacturing model (perfect quality products + lifecycle O&M services + digital operations management).

Through the strict "seven-step method" for the control over gearbox quality, Mingyang Smart Energy gearbox products feature aviation-grade high reliability that meets Mingyang Smart Energy's maintenance-free quality requirements throughout the entire life cycle.

Scientific and reasonable supplier access audit mechanism

Advanced product design technology and sufficient product design verification

Thoughtful supplier quality management system assurance program

Strict raw material control and aviation-grade raw material quality requirements

Quality supervision of all products, the whole process and full size

Strict and comprehensive gearbox factory test requirements

Activities of continuous quality improvement and promotion

Smart Operations and Maintenance and Lifecycle Management

From wind resource assessment, site selection, wind farm construction management to O&M, we use digital and smart platforms to carry out centralized O&M, smart management and unattended wind farm construction. Mingyang Smart Energy is dedicated to providing customers with the lifecycle asset management and smart operations of wind farms. With the visibility into the data management of power station assets and lifecycle-oriented economic indicators, we deliver value-added services that meet overseas wind turbine aftermarkets, energy service transactions, industry-finance integration and other commercial needs, and thus serve financial institutions in terms of risk control and pricing, laying the foundation for further cooperation.

As of the end of 2021, the installed capacity of power plants we serve has exceeded 5.5 GW, and we have provided wind power O&M services for over 9,000 wind turbines in more than 400 wind farms.

5.5 GW **400** wind farms **9,000** wind turbines

Cases: Typical of offshore smart O&M and lifecycle management

Project overview

Located on the sea to the east of Xinliao Island, Xuwen County, Zhanjiang City, Guangdong Province, the Yudean Zhanjiang Wailuo Offshore Wind Power Project, or the Wailuo wind farm project, is the first offshore wind power project with the largest installed capacity in Guangdong Province. The annual average wind speed at the height of 100m in the wind farm is 7.7m/s. As a wind farm of low wind speed type, it features relatively large wind speed in winter and spring and relatively small in summer within the year. The installed capacity of the wind farm using 36 MySE5.5-155/105 offshore wind turbines is 198MW. In 2021, the Wailuo project has been selected one of the "2021 China Electric Power Quality Projects" for the excellent operation indicators and good field management practices of its wind turbines.

The annual average wind speed is **7.7m/s**

The wind turbines is **198MW**

The installed capacity of the wind farm using **36** MySE5.5-155/105 offshore

selected one of the "2021 China **Electric Power Quality Projects**"

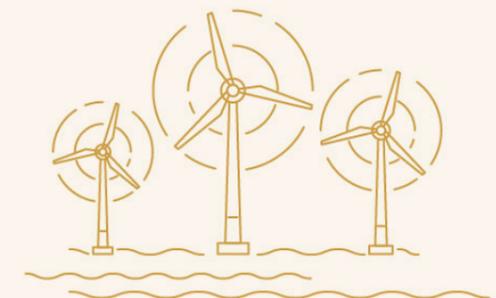
Smart operations and maintenance

Based on standardized, smart O&M management as well as IoT-enabled technology and big data, the Wailuo project introduced the EAM management system and SCADA data analysis system and established the CMS status early warning model for wind turbines, enabling operations and maintenance featuring the digital integration of human, machine, material and cost, as well as lifecycle process control over wind turbines. On the basis of an efficient O&M mechanism, a closed-loop service support system, which covers O&M center + production base + group headquarters + supply chain, has been set up to ensure the timely delivery of spare parts and tools to the site in support of the operations and maintenance of the wind farm.

In monitoring services, specially-assigned persons on duty 24/7 find and feed back operation abnormalities of the wind turbine in time. After receiving the anomaly information, the experts of the Engineering Technology Department analyze it, predict the failure, and communicate with the project manager on a solution for investigation. Right after finalizing a solution, the project manager organizes personnel with related spare parts and tools and develops a plan for the operations on the sea through the weather forecast platform, so that they can quickly troubleshoot the abnormalities of the wind turbine in a safe way.

Smart management and control mechanism

The team uses the sensor for the analysis of machine performance and key systems of eight major components, and the timely prediction of the sub-health state of the wind turbine, and then develops a custom O&M method for the project. For the optimal maintenance platform based on meteorological information, European mesoscale meteorological data is applied. Wind, wave, ocean current, air pressure and other information are collected to form the optimal maintenance path. The platform performs wind turbine maintenance under the best conditions, avoiding the danger of operations on the sea during strong winds and reducing power loss. It improves the availability of the wind turbine and ensures power generation to such an extent that the owner's annual objectives are met and customer satisfaction is increased.



Cases: Typical of onshore smart O&M and lifecycle management

Project overview

The China Water Resources Datang Liaoning Fuxin Julike Project, or the Julike wind farm project, is located in Hadahushao Township, Mengxian County, Fuxin, Liaoning Province. Adjacent to Inner Mongolia, the township features a hilly terrain with an altitude of 350-420m. It belongs to the low-lying hilly area in the northwest of the Liaohe Plain and is located on the wind belt of northeast China, north of north China and northwest China, making it one of the regions abound with wind energy resources in China. This region is windy all year round, especially in spring when the wind speed is the largest, and the terrain is characterized by a hilly area with a large height difference. The wind turbines for the project are mainly distributed on the upper part of the mountain ridge. The installed capacity of the wind farm using 25 MY2.0-121/80 wind turbines is 50MW.

The altitude of **350-420m**

The wind turbines is **50MW**

The installed capacity of the wind farm using **25** MY2.0-121/80 wind turbines

Smart operations and maintenance

The Julike project applies standardized, smart O&M management. Based on an enterprise-level private cloud platform and with big data technology at the core, it enables remote smart health O&M management of the wind turbine by virtue of weather forecasting, real-time monitoring and early warning of equipment status and others. The special diagnosis of wind turbine problems and the systematic and comprehensive analysis of the root causes of failures help avoid passive and simple maintenance in the process of operations and maintenance. The project provides customers with lifecycle-enabled butler services and improved power generation efficiency of the wind turbine. A 24-hour real-time monitoring service is offered to the wind turbine to detect abnormalities, whose information can be transmitted, in seconds, to the big data center where big data intelligently analyzes and judges the fault risk within 30 seconds after receiving the anomaly information. Early warning information can be generated within 5 seconds and sent to the big data expert team on duty and the project leader of the wind farm. Then, the expert team conducts research and judgment on such information and communicates with the project leader on a solution for troubleshooting, while, right after receiving that information, the project leader organizes personnel with related tools, who will rush to the early-warning wind turbine as soon as an investigation solution is finalized. Professional O&M engineers quickly check the problem according to the plan, reveal the cause and solve the problem in a targeted manner, so as to avoid the recurrence of the same problem.

Smart control mechanism

Based on the operating data of wind turbines, the team leverages intelligent software to analyze the main fault categories in the wind farm, study and judge the running status and trend risk of wind turbines, and screen high-frequency wind turbines for effective management. The screening and management allow to effectively and quickly drive down the number of failures, and the high-frequency wind turbines to be on track to a good, stable running state. The analysis of the main fault categories in the wind farm and the management of malfunctioning high-frequency wind turbines help decrease the overall number of wind turbines. Actions are also taken to improve the availability and power generation of the wind turbine, fulfill the owner's task of annual power output, and increase customer satisfaction; and at the same time to boost the stable performance and build a good reputation throughout the full life cycle.

There is a time lag in the weekly control of high-frequency wind turbines, availability and power output. Operators check and analyze the historical alarm records every day on site, and deal with the flashing-alarm faulty wind turbines in time to cut down the number of failures and boost power generation. For the repair of large components, the wind turbine has to be shut down for a long time to ensure that it is fault-free and the impact on availability is avoided.

There is a special approach to both inspection and control. There are now two specially-assigned inspectors for blades. When the conditions for starting operations are met, the inspection of two wind turbines is principally done on a daily basis. When there is a wind turbine requiring of external maintenance personnel, get in touch with them to visit the site for maintenance within 2 days.

For the coordination of blade maintenance, it is necessary to reasonably schedule the maintenance time, in combination with the maintenance plan and field wind speed forecasting, and control the maintenance period in 10 days or less.

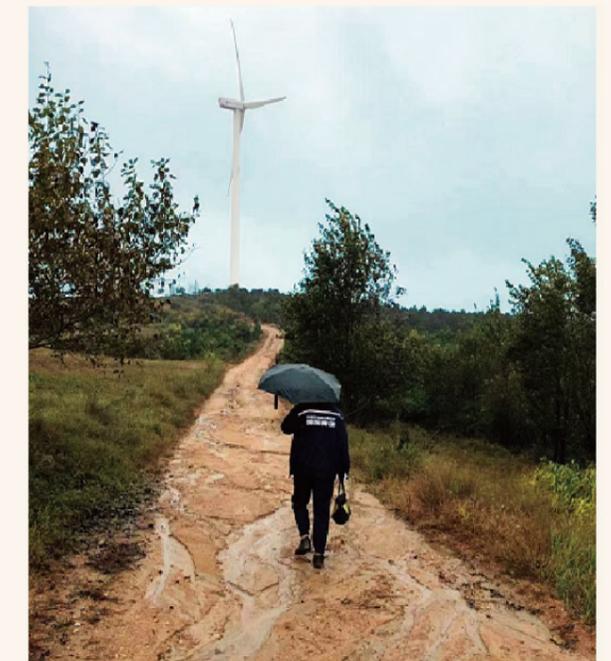
The dynamic analysis and control of big data is used for rapid response to and the handling of wind turbine failures and to strengthen high-quality operations and maintenance. This has contributed to the reduced overall number of wind turbine failures, the decreased number of high-frequency wind turbines, the improved operation stability of the wind turbine, and the increased availability currently at more than 99%.

Big data analysis and software are used to predict the consumption of spare parts. The wind farm analyzes it on a quarterly basis and reasonably reserves consumable spare parts in advance to ensure sufficient spare parts storage during the Company's procurement period.

Militarized daily management and control is adopted. The wind farm has established a special office to standardize the unified work of staff, and it has also standardized the management of field work systems. Field staff are provided with uniform tool kits, implements and safety helmets, which aims to enhance personal image. An individual locker is provided for each person who should ensure that labor protection appliance, tools and implements are placed in a unified manner.

Fulfillment of key performance indicators

In 2021, the availability of all wind turbines for the project was 99.63%, and the equivalent utilization hours was 4,129. The annual power output was 206,485,784 kWh, beyond the customer's annual plan. Compared with other wind farms in Guangdong Province, each of the wind farm's indicators ranked first, which has been highly acclaimed by the customer.



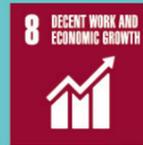
SDGs 4: QUALITY EDUCATION
Ensure inclusive and fair quality education and promote lifelong learning opportunities for all.



SDGs 5: GENDER EQUALITY
Realize gender equality and protect rights of women and girls.



SDGs 8: DECENT WORK AND ECONOMIC GROWTH
Promote long-term, tolerant and sustained economic growth, realize adequate and productive employment and ensure decent work.



SDGs 11: SUSTAINABLE CITIES AND COMMUNITIES
Building inclusive, safe, risk resilient and sustainable cities and human settlements.



Initiative · Employee Responsibility

- Employee Composition
- Employee Satisfaction and Engagement
- Employee Salary
- Equity Incentive
- Employee Development
- Employee Care

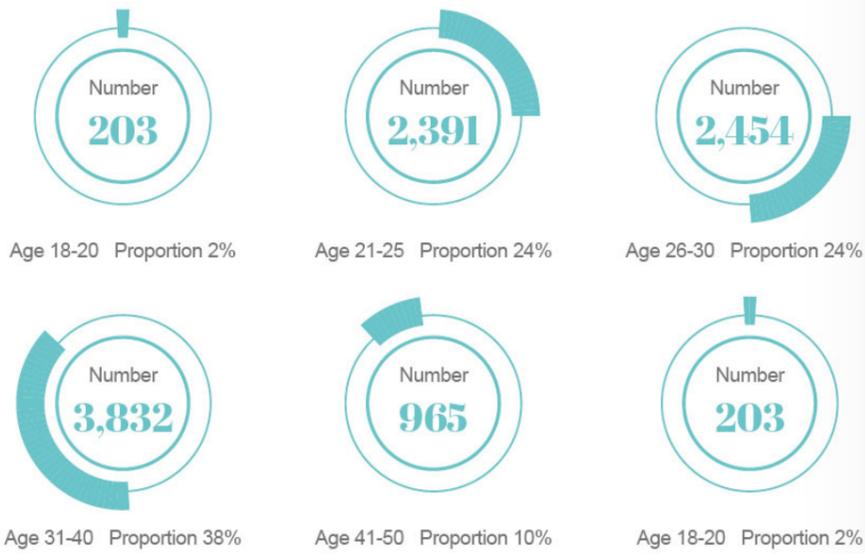
Mingyang Smart Energy ("the Company") strictly abides by the "Labor Law" , "Labor Contract Law" and other laws and regulations, and effectively protects the legitimate rights and interests of employees. By formulating the "Recruitment Management System" , it standardizes the employee recruitment process and ensures that employees are employed in accordance with laws and regulations. Moreover, it signs labor contracts with employees in accordance with the principle of "equality, voluntariness, and consensus" .



Employee Composition

By the end of 2021, the Company has a total of 10,089 employees, including 1,357 female employees, 939 ethnic minorities and 7 overseas employees, which reflects the Company's diversified talent team.

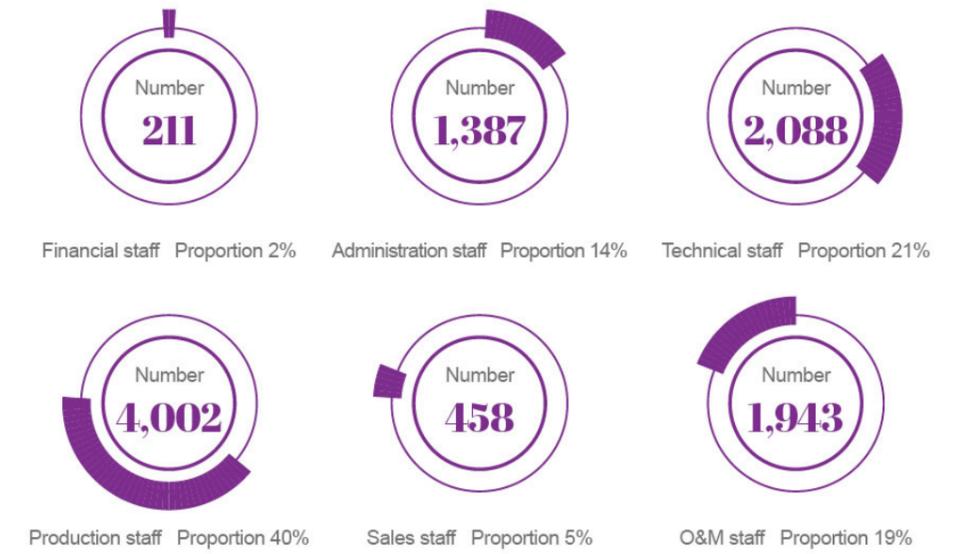
Age structure



Academic structure



Professional structure



Employee trends from 2019 to 2021

	2021	2020	2019
Number of employees	10,089	10,163	7,869
Employees with master's degree and above	561	506	414
Proportion of technicians	21%	17%	17%
Proportion of employees under 40	88%	89%	88%
Proportion of female employees	8%	13%	14%

Employee Satisfaction and Engagement

According to the 2021 employee satisfaction and engagement survey report, the proportions of employee satisfaction and engagement are close to 95.53% and 85.4%, respectively.



Employee Satisfaction and Engagement Survey Dimensions

Job responsibilities (responsibility, personal feelings)

Management (leadership style, cultivation, recognition, trust, institutional process)

Environment (work and life, corporate culture, co-worker collaboration, resources)

Salary (benefits, performance, salary)

Career development (development opportunities, training)

The higher scores are in "Management-Leadership Style", "Management Recognition", "Management-Trust", and dimensions

Employee Salary

The Company establishes and continuously improves the salary management system, and fully mobilizes the enthusiasm and creativity of employees through incentive salary system. All along, the Company recruits employees with an open and inclusive attitude and builds a high-quality talent team; it adheres to equal pay for men and women for equal work and reject any discrimination or differential treatment; it pays employees' salary, social insurance and housing fund in a timely manner, so as to protect the legitimate rights and interests of employees.



Transparent, fair and equitable salary principles

Post-based salary: Reflect the difference of post value

Performance-based salary: Reflect performance differences, strengthen performance orientation, and pay changes with performance

Ability-based salary: Reflect ability differences and encourage employees to improve their abilities

Equity Incentive

To further establish and improve the long-term incentive mechanism, attract and retain outstanding talents, the Company fully mobilizes its directors, senior managers, middle-level managers, core technology (business) backbones and other employees that the Company believes should be encouraged and have a direct impact on its business performance and future development, so as to align the interests of the Company, shareholders, and individuals of core team for its long-term development. Under the premise of fully protecting the interests of shareholders, the Company formulates restricted stock incentive plans in accordance with the principle of equal benefits and contributions, as well as the "Company Law", "Securities Law", CSRC's "Measures for the Administration of Equity Incentives for Listed Companies" (CSRC Order No. 148) and other relevant laws, administrative regulations, normative documents and these "Articles of Association".

On September 17, 2021, the Company has completed the registration of the restricted stock granted in the reserved part of 2019 restricted stock incentive plan, and the number of restricted stocks registered is 5.498 million. For details, please refer to the "Notice on the Grant Results of Reserved Part of 2019 Restricted Stock Incentive Plan" (Notice No.: 2021-126). Based on the sustainability principle of long-term incentive mechanism, the Company will launch appropriate incentive plans at the right time according to its development plan.

Employee Development

In accordance with the talent incentive concept of "value orientation, fairness and impartiality, and responsibility", the Company has established and improved a talent promotion system and employee development system that motivates employees to exert their talents and desire for progress and development, and encouraged R&D and front-line employees to start businesses, innovate, and develop together.

Mingyang Academy

As the "training base" of talent strategy, Mingyang Academy relies on the Group's strategic development in terms of orientation and training direction. Based on the Company's strategic development plan and the need for talent training from organizational capacity challenges, Mingyang Academy plans department positioning and a series of talent training and development projects to gradually establish a training system centered on "relying on strategy + talent development + performance improvement".

Mingyang Academy focuses on the application of development methods such as classroom training, action learning, tutor guidance and job experience in the process of talent training at different levels. Moreover, it emphasizes on "learning by doing, doing by learning", unifying thoughts, language and behavior in the process of learning and practice, practicing in learning, learning in practice, boosting the achievement of the Group's talent supply chain and business performance, and becoming a strong backing for the group's strategy implementation.

In 2021, the Company invested more than RMB 5.37 million in employee training. During the reporting period, a total of 268 trainers held 2,381 training sessions, and the online and offline teaching hours were 443,253. The overall satisfaction of trainees with the training was 93%. The Company continues to increase investment in training, systematically upgrades courses, lecturers, resources, forms, etc., and provides employees with systematic and comprehensive learning opportunities through the combination of internal and external resources, as well as online and offline training.

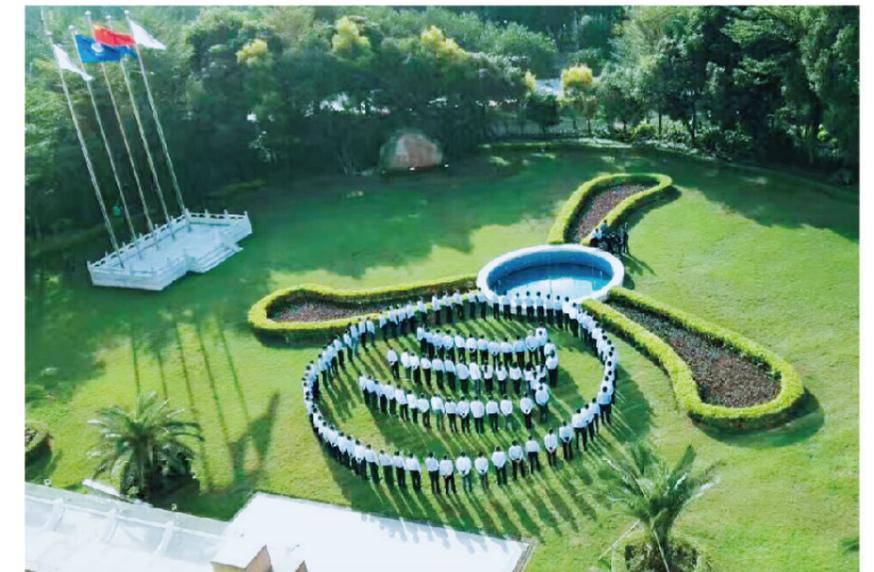
More than RMB **5.37** million in employee training

And the online and offline teaching hours were **443,253**

Total of **268** trainers

The overall satisfaction of trainees with the training was **93%**

Held **2,381** training sessions



Talent cultivation

Panorama of Talent Cultivation



Construction Goal of Reserve Talent Echelon



Agile Organization to Build Core Talents Needed By the Organization

I. Leadership development system

Based on the Group' s strategic planning and business transformation and development needs, Mingyang Academy has launched "on-the-job training for cadres" + "three major talent echelons project" , so as to establish a talent phalanx of Mingyang and continue to cultivate a group of future leaders with a sense of mission and the ability to lead Mingyang to greater success.

On-the-job training for cadres

Based on the leadership model of Mingyang, this training is to carry out hierarchical and classified leadership training for on-the-job managers of all business departments of the Group. It aims to systematically cultivate a group of management cadres who "understand strategy, business and management" , and explore a systematic and transmissible advanced method for accelerating the cultivation of Mingyang management cadres. Based on the management pain points of each business department, a combination of " external experts + internal executives' teaching" is adopted to regularly conduct open courses on themes, gradually promote the training of cadres at all levels, and establish a scientific cadre management training system to allow the growth of organizational capabilities to match the growth of the Company' s business.

Three major talent echelons project

To build a talent benchmark and an internal talent supply chain in the wind power industry, and provide a solid talent guarantee for the realization of the Group' s strategic goals and sustainable development, under the leadership of the Group' s senior leaders, Mingyang Academy focuses on the future talent pool, selects key talents for training, and successively promotes the construction of three major talent echelons of "leading force, initiative force and new force" through performance management, talent inventory, talent assessment, as well as customized training programs, aiming to systematically improve the strategic thinking ability, organizational shaping ability and cultural values leading ability of management talents. Meanwhile, it selects talent echelons synchronously every year, strengthens the dynamic management of talent pool of each echelon, and systematically trains a group of key talents who can seize opportunities and fight hard.

II. New employee training system

To make the new employees quickly familiar with Mingyang, into Mingyang, and better understanding of Mingyang' s business, culture and values, Mingyang Academy has carried out targeted and systematic training for new employees recruited by on-campus recruitment and by social recruitment.

Initiative - new generation training camp

To help fresh graduates by on-campus recruitment to quickly integrate and identify with Mingyang culture, get familiar with the Company' s business knowledge and basic job requirements as soon as possible, and quickly complete the role change of "worker" , Mingyang Academy plans and designs induction training plan for each new generation.

Around the three core competencies of "professional ability + comprehensive quality + Mingyang culture" , this project will plan a series of training activities, and design a systematic growth path, with purposeful and deliberate training, so that the newcomers internalize the knowledge, tools and methods they' ve learned, thereby improving their cognition and thinking and accumulating knowledge and experience.

Newcomer project

To make new employees feel a warm and energetic Mingyang, Mingyang Academy takes "deep integration and strong interaction" " as design elements, centers on the three dimensions of "industry cognition, cultural resonance, and team integration" , and customizes learning strategies for new employees by social recruitment.

III. Professional competence training system

It refers to the training of professional skills for competent posts required by the business sector. It not only cultivates the professional depth skills of various posts, but also builds the special abilities of compound talents, thus strengthening the backbone of professional talents and ensuring the achievement of strategic business goals.

Employee Care

Mingyang has established a sound medical security system to guarantee the occupational health of employees, and regularly carries out occupational, comprehensive and special physical examination for employees. In order to express the Group's care for female employees, Chairman Zhang Chuanwei issued a letter of sympathy to all female employees. The Group issued condolences to each female employee, and held a series of interesting activities on Women's Day. Each industrial company and each base held their own related holiday celebrations.

Employee activities

On June 1, 2021, on the occasion of the 28th birthday of Mingyang Group, the Group organized an exploration activity of "Exploring the mysteries of knowledge, finding your treasure and mine".



In September 2021, the Group participated in the "9th National Fitness Games of Zhongshan Torch Development Zone".



In October 2021, in order to enrich employees' cultural life, enhance their physical fitness, and build a positive, united and energetic workforce, the Mingyang Party Committee organized and held the "Initiative Cup" basketball, football, badminton and table tennis competitions.



In November 2021, to provide a platform for young singles to communicate, Mingyang held the fellowship activity "MY LOVE: JUST IN TIME TO MEET YOU".



In December 2021, Mingyang held the 14th sports meeting. Guided by the Group's Trade Union, the Youth League Committee of the Group, in conjunction with the Security Service Center, launched the "Eating Dumplings on Winter Solstice Festival" activity.



Employee benefits

<p>Five insurances and one housing fund:</p> <p>Social insurances (endowment insurance, medical insurance, unemployment insurance, employment injury insurance, maternity insurance) and provident fund.</p>	<p>Commercial insurance:</p> <p>Employer liability insurance + accident insurance;</p>
<p>Incentive policies:</p> <p>Annual salary adjustment, salary adjustment for post promotion, annual performance bonus, equity incentive etc.;</p>	<p>Paid holidays:</p> <p>Statutory holidays, paid annual leave, marriage leave, maternity leave, paternity leave, sick leave, etc.;</p>
<p>life services:</p> <p>Accommodation and meal allowances and varied cultural life for employees;</p>	<p>Other benefits:</p> <p>Airtime subsidies, vehicle subsidies, housing subsidies, off-site subsidies, wedding red envelope, maternity red envelope, birthday benefits, holiday benefits hospitalization condolence, etc.</p>

Annual physical examination

Classification by type of work	Coverage of routine physical examinations (%)	Additional items of physical examinations for special jobs
R&D staff	100%	
Production staff	100%	FRP dust, noise, dust, benzene series
Sales staff	100%	
Management staff	100%	



Initiative · Green Operations

- EHS Management
- Green Production
- Green Ecology

As a driving force in the global clean energy sector, Mingyang Smart Energy implements green management, at multiple levels, by building and improving environmental protection management systems, identification of environmental hazard factors, environmental impact assessments and environmental protection training. We call on all our employees to fit the concept of energy conservation and environmental protection into their work and life, reducing the overall operational energy consumption of the Company, maximizing energy saving and abating pollution.

Mingyang Smart Energy, a leader in the clean energy sector, closely follows the major strategies of the Party and the state, takes hold of the opportunities presented by the era of green and low-carbon development, and actively takes up the glorious mission and important task of the energy revolution. On June 1, 2021, just in time for the 28th anniversary of the establishment of Mingyang Smart Energy, Zhang Chuanwei, chairman of Mingyang Smart Energy, made a solemn commitment to the outside world: we will achieve carbon neutrality across Mingyang Smart Energy's operations by the end of 2023, create a renewable energy supply system with the largest proportion in response to China's "30, 60" goal, continue to focus on technological innovation to achieve carbon neutrality across the value chain, empower our partners to accelerate carbon neutrality, and help build a zero-carbon economic system.

SDGs 11: SUSTAINABLE CITIES AND COMMUNITIES
Build tolerant, safe, risk-resistant and sustainable cities and communities.



SDGs 12: RESPONSIBLE CONSUMPTION AND PRODUCTION
Ensure sustainable consumption and production mode.



SDGs 13: CLIMATE ACTION
Take emergency action to deal with climatic change and its influence.



SDGs 14: LIFE BELOW WATER
the protection to and sustainable use of oceans and marine resources can promote sustainable development.



SDGs 15: LIFE ON LAND
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainable forest management, and desertification management, stop and improve land degradation, and inhibit the loss of biodiversity.



EHS Management

Health and safety indicators



Indicator	Unit	2021	2020	2019
Number of incidents punished for violating occupational health and safety laws and regulations	Incident	0	0	0
Number of incidents punished for violating environmental protection laws and regulations	Incident	0	0	0
Number of incidents punished due to excessive pollutant discharge or illegal discharge	Incident	0	0	0
Number of working days lost due to work-related injuries	Day	6,543	6,670	91
Note: days of absence due to work-related injuries				
Number of employees in occupational disease risk positions	Employee	714	1,274	922
Number of employees who have participated in occupational disease checkups	Employee	715	264	460
Number of employees with occupational diseases	Employee	0	0	0
Occupational disease occurrence	Time	0	0	0

Safety management systems

Name of work safety systems	
Work Safety Cost Extraction and Use Management System	Safety Education and Training System
Safety Operating Procedure for Emergency Supplies	Work Safety Reward and Punishment System
Work Accident Management System	System of Regular Work Safety Meetings
Fire emergency response plan	Work Safety Accountability System
Emergency care plan for burns	Emergency Plan Management System
Food poisoning emergency response plan	Work Safety Responsibility System
Occupational Health Management System	Safety Management System for Floating Wind Turbine Production Bases
Safety Management System for EPC Projects	Standards for the Supply and Use of Labor Protection Appliances for Floating Production
Work Safety Objective Management System	Documents of the use, maintenance and management of floating fire fighting equipment
Safety Sign Management System	Documents of the supply, use and management of floating emergency medicine
Safety Management System for Construction Machinery	Safety Operating Procedure for Floating Equipment
Administrative Measures for Work Safety of MCP Division	Responsibility Documents of Floating
Safety Risk Classification Management System	All-Staff Work Safety Responsibility System
Measures for the Administration of Safety Rewards and Punishments	All-Staff Work Safety Rules and Regulations

Safety training indicators

Indicator	2020	2021
Safety training (total hours)	79,870.00	194,667
Special operators (hours)	10,949.00	54,406
Safety management personnel (hours)	2,337.00	3,205
Front-line operators (hours)	20,874.00	111,100
New employees (hours)	61,130.00	114,389
Persons chiefly in charge (hours)	628.00	1,634

Safety training indicators

In 2021, a total of RMB **7.4769** million was spent on labor protection appliances, maintenance and third-party testing.



Green Production

Environmental protection management system

The Company has developed a set of systems covering hazardous waste management, environmental protection management, hazardous chemical safety management as well as hazardous waste disposal management methods.



Environmental early warning and emergency mechanism

We have specially developed emergency plans in order to implement the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Water Pollution, the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution Air, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes, and the Interim Measures for the Management of Environmental Emergency Response Plans and other relevant laws and regulations, regulate the response work after the incident, improve the incident response capability, avoid or mitigate the impact of the incident, and strengthen the connection between the enterprise and the government in response efforts.

Working principles

- Priority to saving people and protection environment.** Once the environment is polluted, it is difficult and costly to restore; Early response to reduce harm from deterioration. Regardless of the level, measures should be taken quickly to deal with it on the scene of an environmental emergency the moment it occurs, so as to control the situation and ameliorate the consequences.
- Quick response in a scientific manner.** A quick response should be made to any environmental emergencies based on their characteristics. Keeping alert all the time by combining routine exercises and actual emergency response. By combining emergency work with job responsibilities, we emphasize that emergency tasks should be refined and implemented down to specific jobs, actively gear up for environmental emergencies in terms of mental preparation, material reserves, technical equipment supply and other efforts, strengthen emergency training, carry out emergency response drills, and develop multiple skills while expert in our field.
- People orientation and proactive prevention.** We uphold the people-oriented approach of actively preventing environmental emergencies, nipping accident symptoms in the bud.

Environmental training and education

Apart from the development of environmental protection training plans, we also conduct environmental knowledge training, hazardous waste management training, environmental protection-fire protection training and others, and participated in the publicity and implementation meeting about the Law on the Prevention and Control of Environmental Pollution by Solid Wastes hosted by the Department of Industry and Information Technology of Guangdong Province.

Environmental performance

To keep the balance of nature, reduce the pollution of wastes to the surrounding ecological environment, and comply with national laws and regulations and environmental protection requirements, Mingyang Smart Energy provides an effective management and control of various wastes discharged and exhausted.

Waste sorting and collection: Each of our departments has set up a waste collection station internally with clear signs based on waste sorting; and provides three-color collection buckets according to the type and quantity of the waste. Our administrative department is responsible for determining where the wastes altogether will finally go within the Company and clearly making signs.



All company staff should drop wastes into the specified collection containers based on waste sorting. Each department has specified their corresponding collection buckets and storage locations according to the type and nature of the waste, and is responsible for collecting and handling the waste to the designated location. In the process of waste handling, it is necessary to prevent scattering and waste water from flowing into floor drains. If there are scattered drips and the like, they should be cleaned up in time. Hazardous waste yards are also identified with three major labels. Each department cleans up and handles the sorted waste to the designated location as required, and places them in the classified buckets, which is managed by the Production Department.

Disposal of waste: Each possible waste-generation department (Production Department, warehouse, etc.) should set up a waste storage area, identified by three major labels, for each post in the department, put the waste in the right place, and cleans up and handles it to the waste yard on a regular manner. The person in charge of the yard puts the sorted wastes handed over by various departments into the three types of delivery areas in the yard as required to ensure accurate delivery.

Waste discharge in 2021:

The total amount of hazardous wastes generated: **519.67** tons
 The total amount of non-hazardous wastes produced: **17,942.43** tons

Pollution prevention and control: Mingyang Smart Energy has established the rules for the prevention of water, air and noise pollution in accordance with relevant laws and regulations, adopting clean production processes featuring high utilization efficiency of raw materials and low pollutant emissions, and strengthening management to reduce the amount of water and air pollutants generated, hence protection the environment of the Company and the community in which it is located.

Responsibilities of each department: The Safety and Environmental Protection Department is responsible for the management of water, atmosphere and noise within the jurisdiction; the relevant responsible departments busy themselves maintaining the relevant equipment they use. In addition, the Company entrusts local environmental protection authorities or those with monitoring qualifications to conduct monitoring, with the relevant records collected and kept by our Safety and Environmental Protection Department.

Pollutant emission in 2021

Emissions of volatile organic compounds (VOCs): **16,684.68** kg

Emissions of chemical oxygen demand (COD) (in waste water): **4.4** tons

Emissions of ammonia nitrogen (NH3-N) (in waste water): **0.47** kg

Emissions of domestic wastewater: **488,685.23** cubic meters



Green Ecology

Qinghai Delingha Source-Grid-Load-Storage Integration and Wind Power Project

The project for wind power generation is located in Delingha City. In accordance with the control requirements of Haixi Prefecture' s "three lines and one list" – ecological protection red line, bottom line of environmental quality, upper line of resource utilization and ecological environment access list, the project is focused on the development of regional advantageous resources. As long as the ecological protection and restoration measures are strictly implemented during the project construction process, no changes in the regional ecological environment will be caused.

Ecological protection measures:

 <p>Wastewater treatment measures</p>	<p>The waste water for washing construction machinery, after treated in an 8m³ sedimentation tank, is used for site sprinkling to suppress dust, which will not be discharged outside.</p> <p>Environmentally friendly mobile toilets are set up in The construction workers' living quarters, and the water for daily washing is used for road sprinkling in the construction area to lower dust.</p>
 <p>Waste gas control measures</p>	<p>The yard and roads are sprinkled with water to suppress dust, and the transport vehicles that are prone to dust accumulation are covered with tarpaulins; the vehicles responsible for transporting gravel and sand are covered, and water is sprinkled on the factory floor and raw material warehouse every day to suppress dust.</p>
 <p>Anti-noise measures</p>	<p>Select low-noise construction equipment and carry out regular maintenance on them.</p>
 <p>Solid waste prevention and control</p>	<p>Earthwork balance adopted means no earth-rocks wasted; the domestic garbage is collected and transported to the domestic garbage landfill in Delingha for sanitary landfill.</p>
 <p>Ecological restoration measures</p>	<p>Control the scope of land occupation and reduce the disturbance to the surface. Some of the waste earth-rocks generated during excavation in the construction process are used for backfilling of earthwork in a timely manner, and a balanced on-site deployment is made so as for no earth-rocks wasted;</p> <p>Running routes are delineated for the construction machinery, and no necessary makeshift or pioneer roads are allowed to be carved out at will as the later access road</p>



Initiative · Inclusive Public Good

- Poverty Alleviation by Industries to Power Rural Revitalization
- Poverty Alleviation by Donation
- Mingyang Smart Energy Charity Fund



SDGs 1: NO POVERTY
End poverty in all its forms everywhere.



SDGs 2: ZERO HUNGER
End hunger, achieve food security and improved nutrition and promote sustainable agriculture.



SDGs 3: GOOD HEALTH AND WELL-BEING
Ensure healthy lives and promote well-being for all at all ages.



SDGs 4: QUALITY EDUCATION
Ensure inclusive and fair quality education and promote lifelong learning opportunities for all.



SDGs 10: REDUCED INEQUALITIES
Reduce inequality within and among countries.

Poverty Alleviation by Industries to Power Rural Revitalization

Since its establishment, Mingyang Smart Energy has firmly followed the path of green development and ecological priority. At Mingyang Smart Energy, we leverage our own as a new energy manufacturer to carry out characteristic poverty alleviation work, actively in response to the country's call to "win the battle against extreme poverty and eradicate it and implement the strategy of rural revitalization" since the 19th CPC National Congress. Following the path of poverty alleviation by means of industry, employment and education, Mingyang Smart Energy helps people get out of poverty by virtue of new energy and supports rural revitalization.

Mingyang Smart Energy, which serves the new era and helps build new countryside with green and clean energy, is a builder, participant and promoter of the national rural revitalization strategy. We actively build modern systems of safe, clean, efficient and low-carbon energy in rural areas, and put efforts into the protection of clear waters and lush mountains, the integrated development of wind-solar-storage resources, rural revitalization and the coordinated and integrated development of the economy around "agriculture, rural areas and farmers".

The development of energy is beneficial to the country and the people. Mingyang Smart Energy is full of confidence in new energy benefiting all mankind and the realization of low carbon and zero carbon goals. In October 2021, Company Chairman Zhang Chuanwei attended the "Wind Power Partnership Action · Zero-Carbon City & Affluent and Beautiful Village" event, witnessing the opening ceremony joined by 118 city representatives and more than 600 wind power companies. He spoke on behalf of wind power companies at the event. According to him, "If the "10,000 wind turbines for 100 counties and 1,000 villages" initiative is successfully implemented, it would be a great one enriching the people given the presence of more than 100 city representatives. The new energy community should stand up for the rural revitalization strategy for the purpose of the common prosperity program – also representing an important strategy put forth by our general secretary and the CPC Central Committee.

At present, the Company has invested in the construction of industrial bases or new energy projects in underdeveloped regions such as Gansu, Jilin, Qinghai, Inner Mongolia, Xinjiang, Yunnan, Guangxi, Guizhou and Henan. Through industrial chain agglomeration effects, it has helped local industries improve the employment capacity and retain lucid waters and lush mountains in the process of local battles against poverty by the new energy sector, playing a positive role in fueling the development of the local and surrounding areas. At the same time, we have been committed to helping poor villages develop through employment, education, and targeted donations to charitable organizations for years in a row.



Poverty alleviation and intellectual support

The Company helps the poor with education through the Hope Project and targeted financial assistance to poor students. In January 2018, it signed a donation agreement with Zhumadian Charity Federation of Henan Province for the construction project of Bosch School in Queshan County, Zhumadian. The total donation amount of this project was RMB 6 million which would be appropriated in five years. In January, 2021, the Company allocated the fourth fund of this amount, that is, RMB 1.2 million. During the reporting period, an additional donation of RMB 2 million was made according to the development needs of Bosch School in Queshan County, Zhumadian. The donation project aims to provide schooling conditions for orphans, children from poor families and left-behind children in poverty-stricken areas, improve the schooling environment and bring educational resources to more students.

The labor union of RENergy Electric Tianjin Ltd. (hereinafter referred to as "Tianjin RENergy"), a subsidiary of the Company, subsidized a student of Sungezhuang No.1 Primary School in former Yuanji County until attending the university. According to the local living and learning costs and family conditions, it is estimated that the total subsidy to the student will be RMB 20,000 (RMB12,500 has been subsidized as of the end of the reporting period). The Company will support targeted student aid activities, improve the targeted educational poverty alleviation mechanism, help poor students study happily, and cultivate more useful talents for the society.

Poverty Alleviation by Donation

Since 2013, the Company has donated RMB 4,713,300 to Zhongshan Red Cross Society for nine consecutive years (including RMB 50,000 during the reporting period) to support public welfare activities in Guangdong Province and Zhongshan City, which demonstrates the Company's initiative and philanthropism spirit. In order to actively respond to the call of the Guangdong Provincial Party Committee and Provincial Government to implement the rural revitalization strategy and promote the action of "developing tens of thousands of villages by tens of thousands of enterprises", the Company donated RMB 180,000 to the Red Cross Society of Huaiji County, Zhaoqing City to help the infrastructure construction of rural human settlements. During the reporting period, the Company donated RMB 30,000 to support the reconstruction project of dangerous bridges in villages and towns in Chao'an District, Chaozhou City. In addition, in order to support public welfare undertakings, the Company donated RMB 1.98 million to Henan Charity General Federation and RMB 600,000 to Jinan Quantai Public Welfare Service Center for public service projects in assistance for serious illnesses.

The Company implements the national basic strategy of precise poverty alleviation, encourages all subsidiaries to help poor regions at designated locations, and actively supports poverty alleviation public welfare undertakings. During the reporting period, Tianjin Ruiyuan Electric Co., Ltd., a subsidiary of the Company, participated in the work mobilized by Tianjin Port Free Trade Zone to help consolidate and expand the effective connection between poverty alleviation achievements and rural revitalization in 2021, and donated RMB 10,000 to help rural revitalization through Tianjin Binhai New Area Charity Association. Tianjin RENergy, a subsidiary of the Company, donated RMB 10,000 to the Red Cross Society of Xiqing District, Tianjin City to support rural revitalization. Guangdong Mingyang New Energy Technology Co., Ltd., a subsidiary of the Company, donated RMB 50,000 to Yangjiang Red Cross Society to support the construction of fire rescue team. Henan Mingyang Smart Energy Co., Ltd., a subsidiary of the Company, donated RMB 2 million to Zhengzhou Red Cross Society to rescue floods in Zhengzhou City. Inner Mongolia Mingyang New Energy Development Co., Ltd., a subsidiary of the Company, donated RMB 10 million to Red Cross Society of Ejina Banner for the prevention and control of novel coronavirus pneumonia in Ejina Banner, Alashan League, Inner Mongolia and contributed Mingyang's strength to the local fighting against the epidemic.



Mingyang Smart Energy Charity Fund

Mingyang Smart Energy has set up a charity fund aiming to help employees and their immediate family members solve the difficulties in life caused by major diseases and major natural disasters. The Administrative Committee of the Mingyang Smart Energy Charity Fund is managed in line with the Regulations on the Management of the Charity Fund, with special funds for exclusive use. Since its establishment, the Fund has helped nearly 100 employees. In 2021, the Company received a donation of RMB 391,600 from the employee charity fund to help 30 employees with specific difficulties.

Donation of RMB **391,600** from the employee charity fund

Help **30** employees with specific difficulties

Future Prospects

At the intersection of having moved into China's top 500 private enterprises and being about to celebrate the 30th anniversary of its establishment, especially in the extraordinary year 2021, Mingyang Smart Energy was engaged in landmark events in the history of both the country and the industry. Persistent in "having our finger on the pulse of the industry, improving ourselves inherently and doing our part", we maintained strategic focus amid major changes, fulfilling ahead of time the plan of industry-wide innovation in "wind-solar hydrogen-based energy storage" in an all-round way, both offshore and onshore.

In 2021, Mingyang Smart Energy was committed to the path of "reconstructing Mingyang Smart Energy". In a period of major changes in the industry, we resorted to the culture and insight of the Mingyang people to understand the underlying dynamics of the development of the global and Chinese new energy sector, seek development opportunities, driven by innovation, and play a strategic role as a trendsetter in the new wave of the development of the new energy sector in China and even the world. We pushed on with the strategy of large wind turbines and the Blue Ocean Strategy and managed to achieve a number of world firsts, from the world's first offshore floating grid-connected power generation to the launch of the largest wind turbine with a single-unit capacity of 16MW, and from the successful application of a three-dimensional integrated solution in the marine economy to the grid connection, at full capacity, of an offshore wind power project with the largest single-unit capacity in the world to our top position in both the share and deliveries in the global offshore wind power market. It was also the year that Mingyang Smart Energy saw its market capitalization hit a RMB 70 billion mark; successfully issued the first green bond for industrial and commercial enterprises in Macau, a milestone in the exploration of green financial development in the GBA; successfully completed technological transformation in lubricating oil; and was seeking a major transformation and strikes made in the development of chips and other sectors, and that Mingyang Electric, part of Mingyang Smart Energy, successfully reported A-share IPO to the China Securities Regulatory Commission.

The upcoming 2022 marks the third anniversary of Mingyang Smart Energy's return to the A-share market, and it is a crucial year for the Company to step from high-speed growth to high-quality development. To make that a reality, we should focus on the fundamentals of the Company's operations, maintain strategic focus and stay patient, uphold "performance as the top priority", keep increasing the return on invested capital (ROIC) and market share and gross profit margin, gather ourselves together, refactor good governance, do our part, and focus all our senses on making the Company's innovative development go further with the artisan spirit!

For 2022, we will continue to pursue development which represents our fundamental priority, build the "four beams and eight pillars" of development, and implement a range of industry-finance integration strategies around the Company's major strategies in a way that capitalizes on huge capital to support their implementation and development. We will hang on to innovation, insist on dominance, customization and high-level offerings, and focus on breakthroughs in key technologies, key products and key business models such as intelligent control, integrated marine development and association with ecology. We will adhere to robust operations, build institutionalized, efficient and digital systems of system, realize customer-centric, market-oriented dynamics and driving force, and ensure the high efficiency of operations and the high-efficiency value transformation of various resources. We will adhere to cost reduction, advance the high-quality development of various application scenarios of new energy in the parity era through the ultimate technology-enabled cost reduction, continue to promote the entire process and full chain of operations to reduce costs in an all-round, company-wide way, and improve the management and control of target costs and gross profit margins. We will also be persistent in good governance and keep our three major baselines of law, finance and quality.



About This Report

Introduction

Based on the objective, standardized, transparent and comprehensive principles, the “2021 Mingyang Smart Energy Group ESG Report” discloses in detail Mingyang Smart Energy’ s practice and performance in corporate governance, environment, society and other social responsibility fields in 2021.

Time frame

From January 1, 2021 to December 31, 2021. To ensure the integrity of the Report, some contents are beyond the above scope.

Release cycle

This report is an annual report. Last year’s social responsibility report was released on April 15, 2022.

Report scope

The scope of this report covers the business of Mingyang Smart Energy Group Co., Ltd and its subsidiaries.

Compilation basis

- UN Global Compact Ten Principles
- UN Sustainable Development Goals (SDGs)
- ISO: ISO26000: Guidance on Social Responsibility (2010)
- GRI: Guidance on the Preparation of Sustainable Development Report (GRIG4)
- CASS: Guidance on the Preparation of China CSR Report (CASS-CSR3.0)

Data sources and reliability assurance

The sources of data used in this report include public data from government departments, related internal statistical reports of Mingyang Smart Energy, third-party questionnaires, administrative documents and reports, etc. Mingyang Smart Energy guarantees that there are no false records, misleading statements or major omissions in this report.

Appellation description

For ease of expression and reading, “Mingyang Smart Energy Group Co., Ltd.” in this report is also referred to as “Mingyang Smart Energy”, “Mingyang”, “Mingyang Group”, “Company” or “We”.

Report acquisition

You can browse or download this report at the official website of Mingyang Smart Energy Group Co., Ltd. (www.myse.com.cn). For any questions or suggestions, you can send an email to myse@mywind.com.cn, or call 0760-28138687.

Index to the “Sustainable Development Report Standards”

	No.	Content	Pages
Basis	101-1	Reporting basis, including the reporting principles needed to define the content and quality of the report	P89
Organizational Profile	102-1	Name of organization	P3
	102-2	Events, Brands, Products and Services a. Organization activity description b. Major brands, products and services, including descriptions of any prohibited products or services in certain markets	P5-6
	102-3	Location of organization’ s headquarters	P89
	102-4	The number of countries in which the organization operates its business, the names of countries in which it operates a substantial amount of business, and/or names of countries relevant to topics covered in this report	P6
	102-5	Nature and legal form of ownership	P3
	102-6	Markets served (including geographic locations where products and services are provided; industries served; types of clients and beneficiaries)	P6
	102-7	Organization size (including total number of employees; total number of sites; net sales or net income; total market value broken down by debt and equity; number of products or services provided)	P65-66
	102-8	Employee and other worker information a. Total number of employees by employment contract (fixed and temporary) and gender b. Total number of employees by employment contract (fixed and temporary) and region c. Total number of permanent employees by employment type (full-time and part-time) and gender d. Is a large part of the organization’ s activities undertaken by informal employees? If applicable, please describe the nature and proportion of work undertaken by informal employees. e. Significant changes in the number of employees disclosed in 102-8-a, 102-8-b and 102-8-c. (such as seasonal changes in tourism or agricultural employment) f. Explain the statistical methodology of the data, including any assumptions made	P65-66
		Describe the supply chain of the organization, including the main contents related to the organization’ s activities, major brands, products and services.	

	No.	Content	Pages
Organizational Profile	102-9	Describe the supply chain of the organization, including the main contents related to the organization' s activities, major brands, products and services.	P34
	102-10	Significant changes in the size, structure, ownership or supply chain of the organization during the reporting period (including changes in operating location or business; changes in equity structure and other capital formation, maintenance and business changes; changes in supplier location, supply chain structure, relationship with suppliers)	N/A
	102-11	Whether and how the organization applies the precautionary principle or policy	N/A
	102-12	An externally initiated economic, environmental, social charters, principles, or otherwise, which the organization participates in or supportsInitiative	P85
	102-13	Major industry associations or other associations, and national or international initiatives to which the organization is a member	P41-42
	Strategy	102-14	Statement by the organization' s top decision-maker (such as CEO, chairman or equivalent) on the relevance of sustainability to the organization and the organization' s sustainability strategy
102-15		Describe key impacts, risks and opportunities	P1-2
Ethics and Integrity	102-16	Describe the organization' s values, principles, standards and codes of conduct	P4
Governance	102-18	Governance structure a. Organization' s governance structure, including the highest governance body committee; b. Committee responsible for decision-making on economic, environmental and social issues	P21
	102-40	List of stakeholders the organization is involved in	P17
Stakeholder Engagement	102-41	% of total employees covered by collective bargaining agreements	N/A
	102-42	For selected stakeholders, explain the basis for identification and selection	P18
	102-43	Methods of stakeholder engagement, including frequency of engagement by different stakeholder types and groups, and indication of whether any engagements are conducted specifically for the preparation of the report	P18
	102-44	Key issues and concerns raised through stakeholder engagement, including how the organization responds and the stakeholder groups that raise each major issue and concern	P18
Report Overview	102-45	Entities covered in the consolidated financial statements a. List all entities included in the institution' s consolidated financial statements or equivalent documents b. Indicate whether any entities included in the consolidated financial statements or equivalent documents are not included in the Sustainable Development Report	P89
	102-46	Defining report content and topic boundaries a. Describe the process for defining report content and topic boundaries b. Describe how the organization applies the reporting principles that define the report content	P89
	102-47	List all substantive issues identified in the process of defining report content	P18

	No.	Content	Pages
Report Overview	102-48	Explain the impact of the restatement of information contained in previous report, and the reasons for such restatement	N/A
	102-49	Compared with the previous report, explain the major changes in substantive issues and issue boundaries	N/A
	102-50	The reporting period (e.g. financial year or calendar year) of the information provided	P89
	102-51	Date of last report (if applicable)	P89
	102-52	Reporting cycle (e.g. once a year, once every two years)	P89
	102-53	Contact(s) who can answer questions about the report or its content	P89
	102-54	The report of organization statement is compiled according to GRI standard to select the core or comprehensive scheme	P89
	102-55	Each of the standards adopted is detailed in the GRI content index, and all contents disclosed in the report are listed accordingly. Each disclosure should include the disclosure number, page number or URL. Where applicable and where permitted, request for abbreviated reasons when required disclosure cannot be made	P89
	102-56	External attestation a. Description of current practice and organizational policy for seeking external attestation on reports b. If the report is externally attested, the attestation report, statement and opinion need to be cited. If not listed in the attestation report attached to the Sustainable Development Report, the attested or unattested contents and basis should be stated, including the attestation standards used, the level of attestation achieved, and any limitations in the attestation process. Describe the relationship between the reporting agency and the attestation service provider. Indicate whether the highest governance body or senior management is involved in seeking attestation for the Sustainable Development Report.	N/A
	Economy	103-1	For each substantive issue, explain why the issue is substantive, its boundary and any specific restrictions on the boundary of such issue.
103-2		Management approach and its components a. Explain how the organization manages this issue b. State the purpose of management approach c. Describe the policies, commitments, goals and objectives, responsibilities, resources, grievance mechanisms and specific actions	P15
103-3		Explain how the organization evaluates management (including the mechanisms used to evaluate the effectiveness of management approach; evaluation results of management approach; any relevant adjustments made to the management approach)	P15
Economic performance	201-1	Economic value directly generated and distributed by the institution a. Direct economic value generated and distributed on an accrual basis, including the basic components of the organization' s global operations, and if the data is presented on a cash basis, the reasons for the decision are also reported.	P10

	No.	Content	Pages
Economic performance	201-1	b. Direct economic value generated and distributed separately at the national, regional or market levels, as well as on the criteria used to define materiality.	P10
Indirect economic impact	203-1	Infrastructure investment and supporting services	P85-86
		a. Degree of development of major infrastructure investments and supporting services	
		b. Current or expected positive and negative impacts on the community and local economy	
		c. Commercial, in-kind or unpaid investments and services	
	16-203-2	Significant indirect economic impacts and their importance	P85-86
Environment	103-1	For each substantive issue, explain why the issue is substantive, its boundary and any specific restrictions on the boundary of such issue.	P17-18
	103-2	Management approach and its components	P15
		a. Explain how the organization manages this issue	
		b. State the purpose of management approach	
		c. Describe the policies, commitments, goals and objectives, responsibilities, resources, grievance mechanisms and specific actions	
	103-3	Explain how the organization evaluates management (including the mechanisms used to evaluate the effectiveness of management approach; evaluation results of management approach; any relevant adjustments made to the management approach)	P15
Energy	302-1	Energy consumption within the organization (in joules or multiples)	P9
		a. Total fuel consumption from non-renewable sources within the organization, including the type of fuel used	
		b. Total fuel consumption from renewable sources within the organization, including the type of fuel used	
		c. Power consumption, heat consumption, cold consumption and steam consumption	
		d. Electricity sales, heat sales, cooling sales, gas sales	
		e. Total energy consumption within the organization	
		f. Standards, methods, assumptions and/or calculation tools used, and sources of conversion factors used	
	302-3	Energy intensity	P9
		a. The energy intensity ratio of the organization and the organization's specific indicators used to calculate this ratio	
		b. Types of energy included in the intensity ratio	
		c. Whether the ratio uses energy consumption within the organization, energy consumption outside the organization, or both	
	302-4	Reduced energy consumption (in joules or multiples)	P9、P80-81
		a. Energy savings directly driven by conservation and energy efficiency initiatives	
		b. Types of energy included in energy savings	
		c. Basis used to calculate savings, such as base year or baseline, and justification for selection	
		d. Standards, methods, assumptions and/or calculation tools used	

	No.	Content	Pages
Energy	302-5	Reduced energy demands for products and services (in joules or multiples)	P9、P80-81
		a. Energy reduction requirements for products and services sold during the reporting period	
		b. Basis used to calculate savings, such as base year or baseline, and justification for selection	
		c. Standards, methods, assumptions and/or calculation tools used	
Water resources	303-1	A breakdown of total water withdrawals by source and a description of the criteria, methods and assumptions used (including surface water; groundwater; stormwater collected and stored directly by an organization; wastewater from another organization; municipal water supply or others)	P9、P82
Emissions	305-1	Direct Greenhouse Gas Emissions (Scope 1)	P9
	305-2	Indirect Greenhouse Gas Emissions (Scope 2)	P9
	305-3	Greenhouse Gas Emission Intensity	P9
Sewage and waste	306-2	Total weight of waste classified by category and treatment method (including total weight of hazardous waste; total weight of non-hazardous waste; process of determining waste treatment method)	P9、P82
Environmental compliance	307-1	Significant monetary fines, total non-monetary sanctions, and cases brought through the dispute settlement mechanism for violations of environmental laws and regulations; if not occurred, the facts should be stated briefly.	N/A
Society	103-1	For each substantive issue, explain why the issue is substantive, its boundary and any specific restrictions on the boundary of such issue.	P17-18
	103-2	Management approach and its components	P15
		a. Explain how the organization manages this issue	
		b. State the purpose of management approach	
		c. Describe the policies, commitments, goals and objectives, responsibilities, resources, grievance mechanisms and specific actions	
	103-3	Explain how the organization evaluates management (including the mechanisms used to evaluate the effectiveness of management approach; evaluation results of management approach; any relevant adjustments made to management approach)	P15
Employment	401-1	Total and percentage of new and lost employees by age group, gender and region	P65-66
	401-3	According to gender, the total number of employees who are entitled to parental leave/take parental leave/return to work after the end of parental leave within the reporting period and are still in service after 12 months, as well as the return rate and retention rate of employees on leave	P73
Occupational health and safety	403-2	Rates of occupational injury categories, occupational injuries, occupational diseases, lost work days, absenteeism, etc.	P77
Training and education	404-1	Average training hours per employee per year by gender and employee category	P68
	404-2	Employee skill improvement program and transitional assistance program to promote continued employability and manage career termination due to retirement or separation	P69
	404-3	Percentage of employees receiving regular performance and career development reviews by gender and employee category	P68

	No.	Content	Pages
Diversity and equal opportunity	405-1	Percentage of governance body members and categories of employees by gender, age group and other indicators of diversity	P65-66
Anti-discrimination	406-1	Total number and status of discrimination incidents and actions taken during the reporting period	N/A
Child labor	408-1	Operations and suppliers that use child labor and young workers for dangerous work; operations and suppliers at risk of significant incidents of child labor, and measures taken by the organization during the reporting period to promote the effective abolition of child labor	N/A
Forced and compulsory labor	409-1	Operations and suppliers identified as having a significant risk of incidents of forced or compulsory labor, and measures to help eliminate all forms of forced or compulsory labor	N/A
Local community	413-2	Operations with actual or potential significant negative impacts on local communities, including location of operations and significant negative impacts	N/A
Supplier assessment	414-2	Significant actual and potential negative social impacts from the supply chain, and actions taken a. Number of suppliers who have conducted social impact assessments b. Number of suppliers identified as having actual and potential significant negative social impacts and significant negative impacts c. Percentage of suppliers who agreed to improve after assessment d. Percentage of suppliers who decided to terminate the relationship after assessment	P35
Customer privacy	418-1	Total number of substantiated complaints of breach of customer privacy and loss of customer data	N/A

Index to the “ISO26000: Guidance on Social Responsibility (2010)”

	Content	Pages
Core Topic: Organizational Governance		P20
Core Theme: Human Rights	Issue 1 Due Diligence	P17-18
	Issue 2 Human Rights Risk Profile	P21
	Issue 3 Avoidance of Complicity	P21
	Issue 4 Complaints Handling	P33
	Issue 5 Discrimination and Vulnerable Groups	P73
	Issue 6 Civil and Political Rights	P21
	Issue 7 Economic, Social and Cultural Rights	P71-73
	Issue 8 Fundamental Principles and Rights At Work	P4
Core Theme: Labor Practices	Issue 1 Employment and Employment Relations	P64-73
	Issue 2 Working Conditions and Social Protection	P73
	Issue 3 Social Dialogue	P71-72
	Issue 4 Health and Safety At Work	P73, P78
	Issue 5 Human Development and Training in Workplace	P68
Core Theme: Environment	Issue 1 Pollution Prevention	P80-81
	Issue 2 Sustainable Utilization of Resources	P80
	Issue 3 Mitigation and Adaptation to Climate Changes	P82
	Issue 4 Environmental Protection, Biodiversity and Natural Habitat Restoration	P82
Core Theme: Fair Operating Practices	Issue 1 Anti-Corruption	P24
	Issue 2 Responsible Political Participation	P27-30
	Issue 3 Fair Competition	P33
	Issue 4 Promotion of Social Responsibility In Value Chain	P34
	Issue 5 Care for Property Rights	P51
Core Theme: Consumer Issues	Issue 1 Fair Marketing, True and Fair Information and Fair Contract Behavior	P33
	Issue 2 Protection of Consumer Health and Safety	P33
	Issue 3 Sustainable Consumption	P33
	Issue 4 Consumer Service, Support, Complaint and Dispute Resolution	P33
	Issue 5 Consumer Information Protection and Privacy	P33
	Issue 6 Access to Basic Services	P33
	Issue 7 Education and Awareness	P33

Core Theme: Community Engagement and Development

Issue	Content	Pages
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Issue 3	Job Creation and Skills Development	P85-86
Issue 4	Technical Development and Acquisition	P85-86
Issue 5	Finance and Revenue Generation	P85-86
Issue 6	Health	P85-86
Issue 7	Social Investment	P85-86

Index to the “UN Sustainable Development Goals (SDGs)”

Goal	Content	Pages
Goal 1	End poverty in all its forms everywhere.	P85-86
Goal 2	Eliminate hunger, achieve food security, improve nutrition and promote sustainable agriculture.	P73, p85-86
Goal 3	Ensure a healthy lifestyle and promote the well-being of people of all ages.	P71-72
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	P68, p85-86
Goal 5	Achieve gender equality and empower all women and girls.	P74
Goal 6	Clean drinking water and water utilization for all.	P81-82
Goal 7	Ensure access to affordable, reliable and sustainable modern energy for all.	P37-40, p44-62
Goal 8	Promote sustained, inclusive and sustainable economic growth, achieve full and productive employment and ensure decent work for all.	P64
Goal 9	Build risk-resilient infrastructure, promote inclusive and sustainable industries, and drive innovation.	P37-40
Goal 10	Reduce inequalities within and between countries.	P37-42
Goal 11	Build inclusive, safe, risk-resilient and sustainable cities and human settlements.	P13-14, p37-42
Goal 12	Ensure sustainable consumption and production patterns.	P79, p44-62
Goal 13	Take urgent actions to combat climate change and its impacts.	P79, p44-62
Goal 14	Protect and promote sustainable use of oceans and marine resources for sustainable development.	P53, p44-62
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainable forest management, combat desertification, stop and reverse land degradation, and curb the loss of biodiversity.	P82
Goal 16	Promote peaceful and inclusive societies conducive to sustainable development, provide access to justice for all, and establish effective, accountable and inclusive institutions at all levels.	P21-22, p33-35
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development.	P6, p33-35

Feedback Form

Dear readers:

Hello! Thank you very much for reading the "2021 Mingyang Smart Energy Group ESG Report". We're very concerned about your comments on this report. Please give us your comments, suggestions and feedback on this report. In this way, we can continue to improve the report.

📍 **Mailing Address:** Mingyang Industrial Park, No. 22 Huoju Avenue, Zhongshan City, Guangdong Province

📮 **Postcode:** 528437

☎ **Tel:** 0760-28138642

📠 **Fax:** 0760-28138974

✉ **Email:** myse@mywind.com.cn

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- Government Staff The public Investor
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- Excellent Good Average Bad Very Bad

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- Very Reasonable Reasonable Average Unreasonable Very unreasonable

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