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# **About the Report**



# (L) Scope

This report discloses information about the commitment to sustainable development and social responsibility carried out by Xinjiang Goldwind Science & Technology Co., Ltd. (hereinafter referred to as "Goldwind" or "the Company") from January 1, 2021 to December 31, 2021, with some parts covering previous or future years as appropriate.

The report covers Goldwind and its subsidiaries.



# Reporting Frequency

This report is an annual report. The sustainability report of the previous year was issued on March 26, 2021.



# Reporting Reference

The report was compiled based on the relevant requirements of the Hong Kong Stock Exchange's Environmental, Social and Governance Reporting Guide, and the Shenzhen Stock Exchange's No. 1 Self-regulatory Guideline for Listed Companies - Standardized Operation of Companies Listed on the Main Board. It also draws extensive reference from the GRI Sustainability Reporting Guidelines of Global Sustainability Standards Board (GSSB), the International Organization for Standardization ISO 26000: 2010 Guidelines on Social Responsibility, the United Nations Global Compact's Ten Principles, the Standardization Administration of the P.R.C's Guidance on Social Responsibility Reporting, and other related documents.



# Principles of report preparation

This report is preparation based on the principles of significance, quantification, balance and consistency to ensure relevance, completeness, clarity and comparability of the report. The Company has set up an all-round identification process on relevant issues, and determines the disclosure content and scope through communication with stakeholders and evaluation by management-level personnel, etc. The financial data in the report comes from the Company's annual report, while other data comes from the Company's official documents and other statistics. The calculation methods, references, parameters and sources of key performance indicators are listed in the corresponding positions in the report. Any change that affects substantive comparisons will be noted.



# Reporting Commitment

This Report was examined and approved by Goldwind's Board of Directors who guaranteed that the reported contents do not contain any false information or misleading statements.



# Report Availability

This Report is available in both Chinese and English. Should there be any inconsistency between the two versions, the Chinese version shall prevail. The report is published in both printed and electronic formats. To view this report, please visit Goldwind's website at www. goldwind.com.cn, or visit www.cninfo.com.cn, and Hong Kong Stock Exchange's website at www.hkexnews.hk.

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# **Letter from the Chairman**

The year 2021 is a truly remarkable year. The Glasgow Climate Pact was reached at the United Nations Climate Change Conference (COP26), starting a new journey of global response to climate change. China ushered in a new historical period for carbon reduction with policies, plans and action programs promulgated successively, so as to achieve its "dual carbon" goals-reaching carbon peak and achieving carbon neutrality, thereby promoting future economic and social development. With the global consensus on achieving the carbon neutrality goal, the development of renewable energy has attracted considerable attention, among which wind power plays an essential role. During this year, Goldwind took "development, efficiency, innovation and transformation" as its guiding principle,

and was dedicated to achieve great progress and breakthroughs in business in terms of keeping growth, improving efficiency, preventing risks and fighting against the pandemic. Our business performance grew steadily in 2021, with further increase in installed capacity of wind power, continued upgrade of wind turbine intelligence level, and milestones achieved in sustainable development.



Chairman of Goldwind Wu Gang



# Strengthen the business development of the wind power to facilitate the achievement of carbon neutrality worldwide

Since its establishment, Goldwind has always played an active role in addressing climate change. In the face of newly emerging historic opportunities, the Company is keenly aware of its great responsibility. In 2021, the Company proactively carried out innovations in science and technology and continued to increase its investment in R&D. testing and the fully optimized industrial chain, with an annual R&D investment of RMB 2,237 million, accounting for 4.42% of the total revenue. Leveraging on the wind power technology of Permanent Magnet Direct Drive with independent intellectual property rights, the Company further developed the medium-speed permanent magnet series of wind turbines, and integrated cutting-edge technologies such as big data, artificial intelligence, and cloud computing to comprehensively improve the performance and intelligence level of wind turbines. As of the end of 2021, the Company had more than 86 GW wind turbine units, with an annual energy production of about 193 billion kWh. This equates to a carbon dioxide emission reduction of 161 million tons CO<sub>2</sub>e per year compared with coal-fired electricity.

In the context of achieving carbon neutrality worldwide, based on its experience in wind power generation and energy usage, the Company has integrated renewable energy with digital technology in depth, and has developed "zero carbon" solutions for the new power system, as well as upgraded and recreated all aspects in terms of source, grid, storage, load, thereby developing a product and service model for the use and consumption of new energy that mainly includes wind power. In 2021, with the good example of Beijing Yizhuang Carbon Neutral Park, the Company provided smart energy solutions for a number of large conferences, scientific research centers, industrial parks and ports, so as to increase the ratio of green power usage and create a new path of "zero carbon" development.

# Implementing green development and highlighting the wind power feature of low carbon emission and environmental protection

Renewable energies such as wind and solar energy feature substantially lower carbon emissions compared with traditional energies, while wind power features even markedly lower carbon emissions compared with other renewable energies, making it the main force in achieving the carbon neutrality worldwide. In 2021, on the basis of the life-cycle environmental impact assessment for the GW155-4.5MW and GW136-4.2MW wind turbines, the Company further optimized its production process by analyzing all aspects of energy usage and carbon emissions, thereby further reducing the level of carbon emissions for each Kwh of the power generation. Based on an assessment of its own greenhouse gas emissions and the compilation of a carbon emissions list, the Company set its goal of achieving carbon neutrality at the operational level (Scope 1 & Scope 2) by 2022, and was committed to achieving 100% green power for Goldwind products produced by major suppliers in 2025.

The Company has integrated the concept of environmental protection into all aspects of its production and operation, and gradually set up a sustainable and green industrial model. In 2021, the Company worked on the building of green factories to improve the level of green manufacturing management, with all eight factories eligible for application obtaining the certification of green factory. The Company explored the project of reducing the packaging of large components of wind turbines, fully replaced fully enclosed packaging with partial packaging, and gradually established a packaging recycling system to improve the recycling rate of packaging. During the construction and operation phases of wind farms, the Company developed and promoted the green wind farm standards to fill the gaps in the green standards of the wind power industry. Furthermore, the identification, monitoring and protection of biodiversity have been incorporated throughout the construction, operation and maintenance of wind farms

#### Creating optimal values for all stakeholders

Based on years of implementing sustainable development management and practices, the Company is committed to maximizing the comprehensive economic, social and environmental values for its stakeholders by conducting responsible management and taking into account the impact of its business operations on stakeholders such as shareholders, customers, employees and suppliers.

In 2021, the Company adhered to robust operations, continuously enhanced its comprehensive strength, and rewarded investors with good operating results and stable dividends. It strengthened the business development of the wind power, continued to optimize the quality of wind turbine products, and improved its wind power services, thus providing better customer experience. A sound culture, an equal, healthy and safe working environment, and a sound development platform were fostered to facilitate the development of employees. The "fully optimized industrial chain" and "green supply chain" programs were continuously carried out to facilitate the improvement of suppliers' technology and management, promote the optimization of their environmental performance, and assist them in gradually raising the ratio of green power usage and reducing carbon emissions by leveraging our strengths in wind power business and experience of energy utilization. In addition, we supported the development of communities around wind farms and actively promoted the development of local education, infrastructure, and health and sports based on our business advantages and resources.

The year 2021 marked the first year of China's carbon neutrality pledge, as well as witnessed great progress in the Company's sustainable development efforts. Within this year, the Company joined the United Nations Global Compact (UNGC) and established the Global Alliance for Sustainable Energy with influential new energy enterprises around the world, demonstrating the Company's support for the Global Compact's ten principles on human rights,

labor, environment and anti-corruption, as well as its commitment to sustainable development. Looking ahead, the Company will continue to assume its responsibilities and missions of the industry, and better integrate the concept of sustainable development into its daily operation and management, so as to contribute to the early achievement of China's "30-60" dual-carbon goal and the UN Sustainable Development Goals.

# **About Us**

# **Company Profile**

Xinjiang Goldwind Science & Technology Co., Ltd. was founded in Urumqi, Xinjiang, China in 1998, and was restructured into a limited company in 2001. The Company was listed in Shenzhen Stock Exchange (SZSE: 002202)in December 2007, and was listed in Hong Kong Stock Exchange (HKEx: 02208) in October 2010.

We are mainly engaged in the development and manufacture of wind power equipment, wind power related services, wind farm investment and development, water services, and other businesses. In addition to highquality wind turbines, we also provide wind power related services and wind farm development solutions. With our extensive experience in manufacturing wind turbines and building wind farms, we can meet the needs of all customers well throughout the whole wind power value chain. While better serving our clients in wind power field, we are now expanding our businesses to other renewable energy and environmental protection businesses. We

are committed to becoming a global leader to provide clean energy, energy conservation, and environmental protection solutions.

Our wind turbine products are equipped with the Permanent Magnet Direct Drive ("PMDD") technology. And in order to adapt to a trustworthy global strategic parter in clean energy the rapid market growth and meet a wide range of client needs, we have been improving and refining our product portfolio. Now we have a series of 1.5 MW, 2S, 3S/4S, 6S/8S and medium-speed permanent magnet wind turbines that are adaptable to various operating environments, such as high and low temperature, high altitude, low wind speed, and coastal area. As of the end of 2021, the Company was ranked No.2 in global market, with newly installed capacity of 12.04 GW, of which 11.38 GW was newly installed in China .We achieved a domestic market share of 20% and was ranked No.1 in Chinese market for 11 consecutive years¹.

RMB 119 billion

Total Asset

RMB 51 billion

Revenue

>86<sub>GW</sub>

Global Installed Capacity of Wind Power

10,781

Total number of employees worldwide

**NO.1** 

Domestic ranking of WTG manufacturers

**NO.2** 

Global ranking of WTG manufacturers



- $1.\, Data \, from \, 2021 \, newly \, installed \, capacity \, of \, Global \, Wind \, Turbine \, released \, by \, Bloomberg \, New \, Energy \, Finance \, (BNEF)$
- $2. \ Unless indicated \ otherwise, any financial \ data \ in \ the \ report \ is \ expressed \ in \ RMB.$

# **Our Businesses**

Goldwind is committed to providing economical, reliable and sustainable green power to thousands of households. Over the past 20 years, based on its advanced wind power technology and products, as well as the advantages of wind farm development, construction, as well as operation and maintenance experience, the company's wind turbines have been sold to more than 30 countries in 6 continents, thus continuously providing green power for local residents. Bearing in mind the original mission of contributing to human society, the company engages itself in water treatment. Upholding consistently steady corporate governance and innovation-driven development, Goldwind produces water treatment technologies and solutions that have been widely recognized by the market.







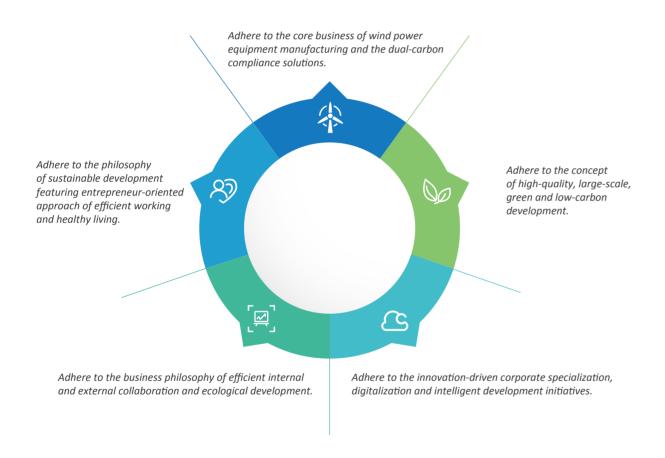




Self-owned man -ufacturing base plant

# **Our Strategy**

As a global leader to provide clean energy, energy conservation, and environmental protection solutions, Goldwind takes its role in helping to combat the effects of climate change seriously through its mission, Innovating for a Brighter Tomorrow. During China's 14th Five-Year Plan period, the Company will continue to adhere to the concept of high-quality development, with the core of building scientific and technological innovation capabilities. Based on investment in large-scale infrastructure, the Company aims to integrate the power supply side with load side, so as to achieve rapid and steady growth in the three business scenarios of onshore wind power, offshore wind power and comprehensive energy services. Meanwhile, by integrating global resources and opportunities, the Company seeks to establish itself as an international company. Focusing on the topic of "empowering the country's '30/60' carbon emission reduction", Goldwind will continue to promote technological innovation in wind power and peripheral products and solutions, thereby leading the balanced development of the industry chain.



The Company will facilitate strategic breakthroughs by focusing on product solutions and customer services, enhance its core competitiveness by reducing costs and increasing efficiency through comprehensive lean management, and promote its industrial upgrading and establishment of an efficient and collaborative organizational ecology with the help of data.

With the performance excellence management system as the benchmark and lean management as the main focus, we need to strengthen the business for continuous growth. The performance excellence management evaluation system is applied systematically for continuous improvement, and the lean management methods are

comprehensively implemented to strengthen basic management.

A high-quality development evaluation and incentive system is formulated to promote organizational synergy. An evaluation system for high-quality development goals and initiatives of different businesses is formulated and integrated to the evaluation and assessment of business development. The business collaboration mechanism is improved, a digital intelligence platform for business collaboration is established, and the evaluation, reward and punishment mechanism for business collaboration is implemented to greatly promote organizational collaboration.

# **Corporate Culture**

Deeply influenced by global energy transformation and China's reform and opening up@the corporate culture of the company reflects the features of the times. The Company adheres to the principle of "reverence for nature, facilitation of customer progress, leading innovation, legal compliance, health for long-term development" and develops its management system, code of conduct and brand image on the basis of these core values shared by all Goldwind personnel.



All Goldwind personnel love nature with awe and respect the laws of nature. Focusing on a bigger picture, we promote the sustainable development of the Company and the industrial chains through scientific approaches and from a long-term perspective.

Innovation is the core driving force behind the development of Goldwind who believes in science and respects professionalism. Combining indigenous innovation with collaborative global innovation, Goldwind pursues innovation-driven growth and continuously innovates its theories, policies, technologies, culture and other aspects in an all-round way.

Health is an important basis for the sustainable development of Goldwind. Only healthy organizations and employees can work efficiently and stay happy in the long term.

All Goldwind organizations should be both open and self-reflective, sharing the same goal and boosting each other to make accomplishments. All Goldwind employees should be both physically and psychologically healthy and able to respond to challenges with a positive attitude.

# **Major Awards and Honors**

	Awards and Honors	Awarded by
	Fortune China 500 Company	fortunechina.com and CICC Wealth Management
	Global Top 500 New Energy Enterprises	China Energy News, China Institute of Energy Economics Research
	China Energy (Group) Top 500	China Institute of Energy Economics Research
	New Fortune Best Listed Company	New Fortune and PKU Guanghua-Rotman Center for Information and Capital  Market Research
	Top 100 Enterprises in China's Machinery Industry	China Machinery Industry Federation (CMIF)
	Top 500 Chinese Brands	Brand Union (Beijing) Consulting Co., Ltd.
$\Box$	Top 50 Contributors to Low-Carbon Development among Chinese Energy Enterprises	Securities Times
$\Box$	Top 100 Leading Enterprises in China's Strategic Emerging Industries	China Enterprise Confederation, China Enterprise Directors Association
	Most Influential Enterprise in Renewable Energy Generation System Industry in the 5th LVA Award	Steering Committee of the Renewable Energy Generation System Industry  Awards in China

# **Sustainable Development Management**

Goldwind actively leverages its wind power business strengths to provide society with comprehensive wind power solutions. Through the production of clean and reliable green power, the Company has responded to global resource scarcity and mitigating climate change. We are convinced that wind power can promote the green and healthy development of the economy and society while making people's lives better.

In accordance with international standards, guidelines or initiatives such as the Ten Principles of the United Nations Global Compact, the United Nations Sustainable Development Goals (SDGs) and the International Organization for Standardization *ISO 26000: 2010 Guidelines on Social Responsibility*, the Company optimizes its operation and management with high standards for social responsibility, further protects the rights and interests of its stakeholders including employees, customers, investors, suppliers and the community, provides and creates conditions for their development. Meanwhile, the Company takes strides to identify environmental and social risks, to reduce any adverse impact of its own operations on the environment and society, thus maximizing integrated economic, environmental and social values.

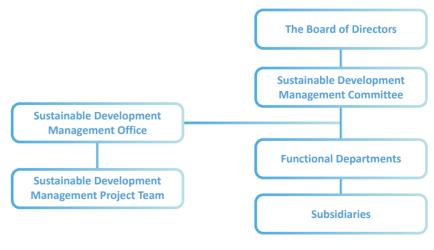
# **Sustainable Development Organization System**

The Board of Directors, as the highest decision-making body for sustainable development issues of the Company, is responsible for supervising and managing the overall sustainability development work of the Company. Under the supervision and guidance of the Board of Directors, the Company has established a Sustainable Development Management Committee that is composed of senior executives of the Company, to manage various issues related to sustainability development and report regularly to the Board of Directors. The Sustainable Development Management Committee is mainly responsible for reviewing the Company's sustainable strategic planning and other programmatic documents, integrating relevant requirement of sustainable development into the Company's strategy, operation management and business process. The committee is also committed to realizing cross-functional and interdisciplinary organizational collaboration, gives full play to the Company's experience and resource advantages in the wind power industry, and optimizes the management of the Company's environment, human resources, and social capital, so as to obtain overall improvement of the sustainable development management

All the functional departments, subsidiaries of the Company are the principal entities to implement sustainable development tasks. They shall fully fulfill their social responsibilities in accordance with the

overall deployment and requirements of the Sustainable Development Management Committee. The Sustainable Development Management Office is composed of department directors and professionals concerning sustainable development work. They are mainly responsible for drafting and preparing sustainable development documents, conveying relevant work requirements, and providing specialized support for the implementation of various tasks. For the purpose of carrying out forward-looking sustainable development projects, the Sustainable Development Management Office sets up corresponding working teams based on the content of sustainable development projects, so as to facilitate the implementation of sustainable development projects.

In 2021, the Board of Directors of the company listened to the summary of the previous year's sustainable development, reviewed and approved the 2021 sustainable development plan, determined the focus, and monitored the achievement of relevant goals. The Company held four meetings of the Sustainable Development Management Committees to review the strategic planning for sustainable evelopment, the 2020 Sustainable Report, the annual work plan and the progress of key projects, and to oversee the completion of key tasks during the year.

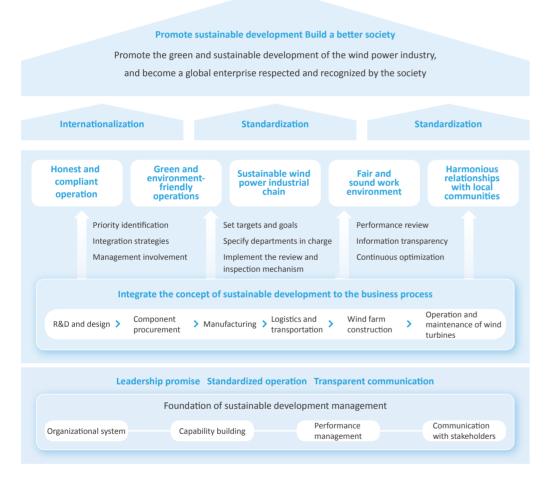


Structure of Goldwind sustainable development organization system

# **Sustainable Development Strategic Planning**

The strategic planning for sustainable development has been formulated with the vision of "Promoting the green and sustainable development of the wind power industry, and becoming an international enterprise respected and recognized by the society". The company is committed to the goal of "integrating the concept of social responsibility and sustainable development into the management and operation of the Company to optimize its management and operation, and internalizing it into the culture and behaviors of Goldwind employees, so as to form a sustainable

development work model with characteristics of Goldwind, and to provide strong support for its comprehensive sustainable development and the achievement of strategic goals". On the basis of the actual business operation, the Company has identified important sustainable development topics and formulated sustainable development goals and action plans in five fields of honest and compliant operation, green environment-friendly operations, sustainable wind power industry chain, fair and sound work environment, and harmonious community relations.



# **Goldwind Sustainable Development Path**

Honest and compliant operation ——Adhere to the concept of "honest and compliant operation", and continuously improve the corporate governance and compliance management system to further enhance the level of governance. Carry out in-depth anti-corruption work, continuously optimize the anti-corruption supervision, inspection and restriction mechanisms, and create a culture of integrity, self-discipline and compliant operation, so as to ensure the healthy development of the Company.

Green and environment-friendly operations——In line with the corporate mission, further strengthen the green and environment-friendly feature of a wind power company, strengthening our environment-friendly operation, reducing costs and increasing efficiency while securing the sustainable development of the Company. Continue to leverage the advantages of wind power in reducing greenhouse gas emissions in an effort to become a pioneering enterprise in combating climate change.

Sustainable wind power industry chain—From the perspective of the life cycle of wind turbines, lead upstream and downstream enterprises to fulfill their social responsibilities, prevent supply risks caused by environmental and labor violations of suppliers. Meanwhile, focus on the social responsibility in the transportation, installation, operation and maintenance of wind turbines, and lead the transformation and upgrading of sustainable development in the industry, thus truly realizing green wind power.

Fair and inclusive working environment——With reference to relevant international conventions such as the International Labor Standards, further standardize the recruitment and employment of employees and ensure equal and non-discriminatory treatment of all employees. Besides, create a fair and sound working environment for employees, pay attention to their sound growth, and enhance their cohesion and loyalty, so as to lay the foundation for sustainable development of the Company.

Harmonious community relations —— Respect and protect the legitimate rights and interests of competitors, customers, communities and other related parties for mutual benefit and common development, so as to jointly build a fair and harmonious development environment.



# **Capability Building for Sustainable Development**

Through publishing articles concerning sustainable development on the Company's official website, official WeChat account and internal "Goldwind People" newsletter, as well as recording online training courses and organizing on-site training activities, the Company seeks to raise awareness of sustainable development among all employees, promote its sustainable development concept and latest progress from all aspects, and popularize and illustrate sustainable development knowledge, so as to help employees better understand corporate sustainable development and lay the foundation for

integrating relevant concepts and requirements into the Company's business management. In 2021, sustainable development trainings were provided to internal senior management, covering the United Nations Sustainable Development Goals (SDGs), Ten Principles of the Global Compact, national standards for social responsibility management systems, responses to climate change and carbon neutrality, among others. Trainings on the basic knowledge of social responsibility were offered to new employees, covering a total of about 1,500 employees.



Ma Jinru, Vice President and Secretary of the Board, chaired the training session on sustainable development

# **Communication with stakeholders**

Stakeholders' understanding, recognition and support of the Company's efforts in social responsibility and sustainable development serve as the basis for the Company's continuous and effective promotion of the relevant work. The Company communicates with its stakeholders on its sustainable development efforts. The Company releases Sustainability Report, updates information on the sustainability development section of its website, participates in conferences and forums on sustainable development, engages in external interviews and market research, and communicates with stakeholders, so as to promote the

information about the Company's fulfillment of social responsibility and commitment to sustainable development, and to obtain feedback from stakeholders on their expectations and suggestions, thereby continuously optimizing sustainable development efforts. In 2021, the Company actively organized and participated in activities related to "carbon neutrality", communicated with key stakeholders on such hot topics as dual-carbon goals and climate change and reached cooperation with key stakeholders, and called for enhanced innovation and collaboration among all parties to work together towards the early achievement of the carbon neutrality.



The Company released the white paper *Goldwind Towards Carbon Neutrality: Actions and Visions 2021* at the China Wind Power 2021 (CWP2021).

Communication with stakeholders is an important part of Goldwind's sustainable development management. Based on the actual business operations, industry development characteristics and the internal and external environments in which it operates, the Company has identified stakeholders, including shareholders and creditors, customers, employees, suppliers and other partners, communities,

government, financial institutions, R&D institutions, and media. The Company accurately identifies the stakeholders and communicates with them through meetings, regular visits, and satisfaction surveys to understand their expectations and demands, as well as takes measures to respond and meet reasonable demands based on its own production and business operation.

Stakeholders	Major Concerns or Expectations	Responses
Shareholders and creditors	<ul> <li>Sustainable profitability</li> <li>Regulation of corporate governance</li> <li>Disclosure of business information</li> <li>Reward shareholders</li> <li>Enhance the profitability</li> </ul>	Enhance business management capacity     Strengthen management of debt risk     Optimize internal compliance management system     Timely disclosure of information     Organize shareholders' meeting     Reasonable profit return
Clients	Honest contract performance and integrity     High-quality products     Excellent services     Responses to client requests	Strictly implement requirements set forth in contracts Strengthen product quality management Offer differentiated, high-quality products Offer excellent services Improve the procedure to handle client complaints Protect client privacy
Employees	<ul> <li>Protection of legal rights and interests</li> <li>Salary and welfare guarantee</li> <li>Health and safety protection</li> <li>Development platform building</li> </ul>	Fair and Standard Employment     Appropriate salary and social insurance payments in a timely manner     Improve talent development channels     Offer competitive salaries     Offer diversified welfare     Offer healthy and safe work environment
Suppliers and other partners	Transparent procurement Honest contract performance and integrity Win-win cooperation	<ul> <li>Open and fair procurement</li> <li>Timely payment for goods</li> <li>Support the sound development of suppliers</li> <li>Improve supplier quality and technology</li> </ul>
Community	<ul> <li>Protection of local environment</li> <li>Support of community development</li> <li>Charity and welfare</li> </ul>	Take the actions of energy conservation and emission reduction Protect ecological environment Support public affairs of the community Organize charity activities within the community
Government	<ul><li>Follow laws and regulations</li><li>Drive local economic development</li><li>Pay taxes according to law</li></ul>	<ul> <li>Conform to laws and regulations</li> <li>Pay taxes according to law</li> <li>Offer job opportunities</li> <li>Drive development of related industries</li> </ul>
Financial institutions, R&D institutions, media, etc.	Common development     Information disclosure	<ul> <li>Carry out strategic cooperation</li> <li>Strengthen industry, university and research cooperation</li> <li>Organize activities such as visit and meeting</li> </ul>

#### Identification Process of Key Topics of the Report

Based on the business scope, expectations of internal and external stakeholders, and global sustainable development, with reference to domestic and international CSR standards, guidelines, initiatives and regulations related to the development of the wind power industry, the Company identified a total of 40 issues concerning the integrated economic, social and environmental values, which can influence the evaluation of the Company by stakeholders. After being reviewed by the Company's Management and evaluated by stakeholders, the key topics to be disclosed in the Sustainable Report have been confirmed and are detailed throughout the report.

In December 2021, the Company issued to stakeholders questionnaires on key topics of the sustainability report, aiming to collect issues of concern and relevant suggestions from investors, customers, employees, and suppliers on the sustainable development of the Company. A total 142 verified questionnaires were collected from 100 percent of surveyed stakeholders.



Company's Impact on Economy, Society and Environment

Matrix for the Key Topics of the Report

## Organizations for Sustainable Development and Related Initiatives that the Company Joined

## United Nations Global Compact (UNGC)

The Company joined the United Nations Global Compact (UNGC) in April 2021, committing to support the ten principles of the Global Compact on human rights, labor, environment and anti-corruption. We are committed to making the Global Compact and its principles become part of our strategy, culture and daily operations, and actively participating in collaborative projects that facilitate the achievement of the United Nations Sustainable Development Goals.

# Global Alliance for Sustainable Energy

Together with 17 influential utilities, global players in the wind power and solar PV industries, sector associations and innovation partners, the Company jointly established the Global Alliance for Sustainable Energy to launch more strategic and ambitious sustainability development initiatives, thus taking the lead in sustainable development of the global renewable energy industry with a focus on collaboration and innovation.

#### Chinese ESG Leaders Association

The Chinese ESG Leaders Association, initiated by Sina Finance in 2019 and co-sponsored by Chinese enterprises with excellent performance in environmental, social and corporate governance (ESG),

is a business organization joined by leading enterprises. Members of the Association are committed to jointly promoting and practicing values including sustainable development, responsible investment and ESG,

improving the overall ESG management efficiency of enterprises, lead the best ESG practices in the industry,

and create the competitive advantages of Chinese enterprises in the field of ESG.

#### "Mission Innovation" and "Green Powered Future" Initiatives

By joining the "Mission Innovation" and "Green Powered Future" initiatives in 2021, the Company has been committed to continuously facilitating the research and engineering promotion of wind power generation technologies, thus contributing to the achievement of 100% renewable energy in different geographical and climatic regions of the world.

The "Mission Innovation" is a global multilateral cooperation mechanism in the field of clean energy launched by the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) on its 21st session in 2015, with 24 countries currently joining the initiative. Co-sponsored by 11 Mission Innovation members, the "Green Powered Future" initiative aims to boost science and technology investment in clean energy, and to build a green, safe and smart power system in the future.

# **Sustainable Development Ratings and Awards**

Ranked second in "China's Top 500 ESG Companies" released at the Sina Finance Golden Kirin Forum	Listed in the "Top 100 ESG A-share Companies" at the "Chinese Enterprise ESG Development Seminar & 2021 Annual Meeting of Chinese Securities Companies"
Ranked 25th in "Yili 100" of sustainable development value of national A-share companies in 2021	Awarded the "Green Award for Sustainable Development" at the "Sustainable Development Summit and Evergreen Awards Ceremony" hosted by Caijing Magazine in 2021
Listed in the "ESG Vanguard of the Year" by TMTPost	At the 14th International Conference on CSR Reporting in China, the Company's Sustainability Report was listed on the "GoldenBee 2021 Outstanding CSR Reports" and won the Growing Enterprise Award.

The Company tracks domestic and international mainstream sustainability development rating, analyzes the rating system, and communicates the Company's performance in environmental, social and governance aspects, thus promoting the improvement of internal sustainable development management. The Company has been included in the MSCI ESG Leaders Index, Hang Seng Corporate Sustainability Index, Hang Seng (China A) Corporate Sustainability Benchmark Index, and FTSE4Good Index Series for consecutive years.

#### MSCI ESG Ratings

Goldwind has been a constituent of the MSCI ESG Leaders Index since 2018, when MSCI conducted ESG research and rating on A-share companies, maintaining an AA rating for two consecutive years.



### FTSE Russell ESG Ratings

Since its first inclusion in FTSE4Good Index Series in 2019, the Company has maintained an ESG rating score of 2.90, and ranked among the top of all listed companies rated (with an average score of 1.39).



## Sustainability Rating of Hong Kong Quality Assurance Agency (HKQAA)

The Company has achieved A+ rating in the 2021 HKQAA Sustainability Rating, and has been included in Hang Seng (China A) Corporate Sustainability Index, Hang Seng Hong Kong-listed and Mainland-listed Corporate Sustainability Index and Hang Seng (China A) Corporate Sustainability Benchmark Index.



# Sustainability Value Rating of China Alliance of Social Value Investment (CASVI)

The China Alliance of Social Value Investment (CASVI) is China's first international platform that focuses on promoting sustainable development investment. The Company has achieved A+ rating in CASVI Sustainability Value Rating in 2021.



## Carbon Disclosure Project (CDP)

As a global non-profit organization, Carbon Disclosure Project (CDP) is dedicated to promoting corporate and governmental efforts to reduce greenhouse gas emissions and protect water and forest resources. The Company first participated in the CDP in 2021, achieving C rating and B- supplier cooperation rating.



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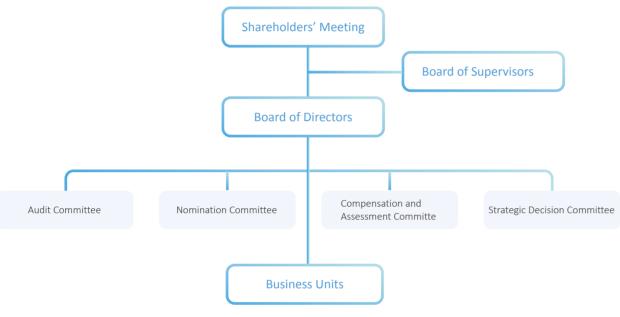
# **Corporate Governance**

Consolidate development foundation with sound and regulated operation

As a listed company on both Hong Kong and Shenzhen Stock Exchange, over the years, Goldwind always upholds integrity, honesty and compliance in its businesses and operations, continuously upgrading its corporate governance and internal management level, and creating values for shareholders and the society sustainably.



Goldwind strictly abides by laws and regulations and standardized documents such as the Corporate Law, Securities Law, Governance Standards of Listed Companies, Corporate Governance Codes, Stock Listing Rules of the Shenzhen Stock Exchange, and Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong, and establishes a modern corporate system and operating mechanism comprising the Shareholders' Meeting, the Board of Directors, the Board of Supervisors, and the management team. Under the Board of Directors, there is an Audit Committee, Nominating Committee, Compensation and Assessment Committee, and Strategic Decision Committee, and each specializes in its respective field to promote the efficient, scientific, and regulated operation of the Company



The Company's Governance System

The Shareholders' Meeting has ultimate authority. The Company convenes shareholders' meetings strictly in accordance with the regulations and requirements of the Rules for the Shareholders' Meetings of Listed Companies, Articles of Association, and the Rules of Procedure of Shareholders' Meetings, and treats all shareholders equally, actively safeguards all shareholders' legal rights, ensuring that they can fully exercise their rights as Company shareholders.

The Board of Directors consists of nine directors, including three executive directors, three non-executive directors, and three independent non-executive directors. There is one female director who accounts for 11% of the total number. The Board of Directors gives full play to the professional capabilities and experience of directors and adheres to the communication and decision-making mechanism with "integrating collective wisdom and making democratic decisions" as its core. Directors fully discuss all proposals and share their views, inform the Company's Management of the potential risks and opportunities in the Company's operations and investment activities, and put forward reasonable suggestions. The Board of Directors is responsible for convening the shareholders' meeting, implementing the resolutions of the shareholders' meeting, and reviewing the Company's purchase and sale of major assets, external investment, external guarantee and other matters within the scope authorized by the shareholders' meeting. When reviewing major issues, it seeks the opinions of each independent director regarding major issues such as capital operations, profit distribution,

affiliated transactions, and internal control self-assessment reports.

The Board of Supervisors, the Company's permanent supervisory body, examines the Company's financial status according to law, and supervises the Company's internal control, risk control, information disclosure, and review of major issues. It is responsible for supervising the Board of Directors and its members. The Board of Supervisors also oversees the Company's senior managers such as the President, Vice President, and Chief Financial Officer to prevent them from abusing their powers or infringing on the legitimate rights and interests of shareholders, the Company, and employees.

The Shareholders' Meetings, the Board of Directors, the Board of Supervisors and the Special Committee of the Board are responsible for reviewing major matters related to corporate development. In 2021, the Company held one shareholders' meeting and reviewed 15 proposals. The Company held ten board meetings and reviewed 55 proposals including annual reports and profit distribution plans. It also held five meetings of the Audit Committee, two meetings of the Nomination Committee, one meeting of Strategic Decision Committee, and one meeting of Compensation and Assessment

Please refer to the "Corporate Governance" section of the 2021 Annual Report (A-shares: 002202) or the "Corporate Governance Report" section (H-shares: 2208) of Xinjiang Goldwind Science & Technology Co., Ltd. for detailed information about the Company's governance.

# **Compliance Management**

The Company adheres to integrity, credibility and compliance. It fulfills the obligations of a listed company, continuously improves its compliance system with daily consultations, major issue assessments, compliance training and inspection, accepting feedback and suggestions to improve itself and enhance the management of compliance. In 2021, according to the requirements of laws, regulations and listing rules, the Company continuously improved the relevant systems of compliance management, revised the Information Disclosure Management System and Connected Transaction Management System. The Company establishes regular communication mechanisms with subsidiaries and functional departments to track the progress of major projects

and major compliance matters such as connected transactions, external guarantees, asset acquisition and disposal, and timely fulfill the obligations of reviewing and information disclosure. The Company increased the intensity and scope of compliance training, and provided training on the new Securities Law, compliance management, performance of duties and stock trading to directors, supervisors and senior management of the Company. The Company provides subsidiaries and functional departments with multiple training sessions and promotional activities throughout the year, thereby raising the overall quality of management. Over 400 trainees received the training throughout the year.

# **Internal Control and Risk Management**

The Company continues to improve internal control and risk management, and gradually develops a stable risk management structure and operation procedures to guarantee the Company's sustainable development.



#### Risk Management Planning

Review the completion based on the Company's 2018-2020 risk management planning, formulate the Company's 2021-2023 risk management planning, define the concept, ideas and execution steps of risk control, and guide the Company's overall risk management



#### Major Risk Management

Pay attention to the major risks, continuously follow up potential losses, and promote the resolution of issues with major risks



## Risk Control System

Sort out the Company's business processes based on the value chain, generate a process list, identify business risks and integrate countermeasures into process management, making sure that 100% of the business processes are covered



### Risk Management Training

Organize the "Risk Compliance Month" event, conduct training on the Internal *Control Management Guidelines*, and training on compliance regulatory requirements for listed companies; train front-line employees on risk knowledge, and improve all employees' awareness of risk compliance



### **Contract Compliance Review**

Establish a full-cycle management and control mechanism, identify risks beforehand, resolve and prevent risks halfway, conduct reviews and assessments afterwards, making sure that 100% of the contracts are examined



#### Special Risk Management

Resolve the pain points of various businesses, execute targeted risk management, optimize business processes and rule mechanisms through targeted improvement, and improve project risk management and control capabilities

# **Anti-Corruption**

Under the guidance of the Board of Director Audit Committee, the Company has established an independent Audit and Supervision Department to conduct anti-corruption work. It sets up anticorruption behavior and ethical standards, and optimizes related supervision, inspection and restriction mechanisms, to continuously improve its anti-corruption system, and to create an environment where everyone is unable and unwilling to be corrupt, thus preventing the occurrence of corruption. In 2021, no major legal proceedings related to company corruption were recorded.

The Company formulates policy documents such as Anti-bribery Regulations, Dining & Entertainment Expenses Regulations, Transparent Cooperation Agreement and Goldwind Professional Ethics and Code of Conduct to clarify the concept and types of bribery, antibribery management organizational structure and responsibilities, as well as forbidden corruption incidents, report and investigation of corruption cases, and remedial measures of corruption cases, etc. In 2021, the Company revised the Anti-bribery Management System to further clarify the types of bribery and the punishments for bribery. Through internal audit, the Company examines the effectiveness of its rules and regulations in preventing corruption. It asks employees to declare their relationships to prevent from conflicts of interest, signs

transparent cooperation agreement with suppliers, registers every gift received, and announces ways to report corruption incidents. thus ensuring the effective operation of anti-bribery management

Through publicity and training, the Company continues to promote the requirements of anti-corruption management, and carries forward the corporate culture of integrity and self-discipline. In 2021, the Company carries out lectures with the theme of "Anti-bribery Management Requirements" and "Case Analysis" for more than 2,000 trainees including the Company's directors, senior managers, employees in important positions such as procurement and engineering projects, newly promoted management-level personnel, etc. The Company asked employees about their understanding of the Company's anti-bribery management requirements through questionnaire, and all employees were engaged in the survey.

The Company encourages all employees and insiders to report violations of anti-corruption rules. It has published the telephone number and the e-mail address for complaint and report on its official website, office area and other places, and even sets up complaint boxes to enable stakeholders to report actual or suspected corruption incidents

Hotline for anti-corruption reporting: +86-(0)10-67511888-1127

E-mail: audit@goldwind.com.cn

Address: Audit and Supervision Department, Goldwind Science & Technology Co., Ltd. No.8 Boxing Yi Road, Economic & Technological Development ZONE, Beijing, China

Post Code: 100176

# **Rights and Interests of Investors**

The Company actively safeguards the legitimate rights and interests of investors, discloses corporate information in a timely, accurate and complete manner, and establishes multi-channel and all-round communication platforms to improve its communication with investors and improve the management. It is dedicated to rewarding investors with excellent business performance.

#### Information Disclosure

The Company always adheres to the principles of factual, accurate, complete, fair and timely disclosure as well as strict disclosure with consistent information in both exchanges. Under the premise of strictly abiding by the dual listing rules in Shenzhen and Hong Kong, the Company continues to regulate and refine its information disclosure procedures and constantly improves the quality of information disclosure so as to ensure that investors of both exchanges can have fair access to corporate information and fully understand corporate operation and business condition in a timely manner. The Company discloses information strictly in accordance with the requirements of the format guidelines of the interim

announcements and of regular reports. The writings are brief, clear and easy to understand, so that they can reflect the real situation of the Company more effectively, help investors understand the latest business performance of the Company, and increase the Company's transparency. In 2021, the Company issued 4 regular reports, 92 A-share interim announcements, and 160 H-share announcements, among which 61 were in both Chinese and English. All disclosed information that reflected the Company's performance. The Company has been awarded Class A rating for five consecutive years in the annual information disclosure assessment by Shenzhen Stock Exchange.

#### **Investor Communication**

The Company builds and improves its platform for communications with investors, takes many approaches to interact and communicate with investors, so as to provide high-quality services for investors and protect their legitimate rights and interests.



In 2021, the Company continued to conduct frequent, high-quality and diversified activities to communicate with investors, and organized four global performance announcement conference calls and two online performance briefings throughout the year, with more than 1,500 investors participating in the conferences. The Company conducted many performance roadshows and brokerage analyst strategy meetings, and communicated with over a thousand financial institution investors and analysts. The Company organized all kinds of reverse roadshows for investors, on-site and telephone surveys to meet the communication needs of all kinds of investors. Given the prosperity of the overall industry and the continuous

high-quality development of the Company, the number of investors received throughout the year continued to grow year on year, and about 2000 investors were received annually in the past three years.

In order to handle investor complaints in a timely, efficient and fair manner and to safeguard the legitimate rights and interests of investors, especially small and medium investors, the Company formulated and released the Investor Complaint Handling System. The Company listens to the advice proposed by investors and makes proper response to improve and optimize the Company's management and maintain its benign interaction with investors.



The Company conducted Reverse roadshow themed on "investors' visit of Goldwind"



## Profits for investors

The Company pays attention to the long-term and sustained profits and returns for investors. Through steady operation and scientific management, the Company continuously improves its profitability and rewards investors with good operating performance. For consecutive years, the Company has adopted favorable, stable cash dividend policies the allows investors to fully enjoy the benefit of the Company's development and its continuous earnings. In the past

three years, the accumulated profits distributed by the Company in cash have accounted for 115.6% of the annual distributable profits realized over this period. In 2021, the Company's total revenue was RMB 51 billion. The net profit attributable to shareholders of the Company was RMB 3,457 million. The average earnings per share was RMB 0.79.



# **Research & Development**

# Innovation Drives Development and Technology Enlightens Future

On the path towards high-quality development of wind power business, empowered by science and technology innovation, Goldwind endeavors to drive corporate development through technological development, proactively carries out R&D and innovation of wind power technology and products with pioneering mindset, and integrates big data, artificial intelligence and other technologies. This philosophy also supports the overall improvement of the performance of wind power products, develops diversified wind power application scenarios, and injects strong incentive to realize the goals of peak carbon emission peak by 2030 and carbon neutrality by 2060.



# **Management Based on Science and Technology Innovation**

The Company is committed to its innovation-driven development strategy, continuously optimizes and improves the technology innovation system, and steps up investment of funding and manpower. Besides, it strengthens the cultivation of highend technological talents, and endeavors to build a multi-level technological innovation platform, thus injecting impetus into technological innovation and tapping the potential for technological innovation.

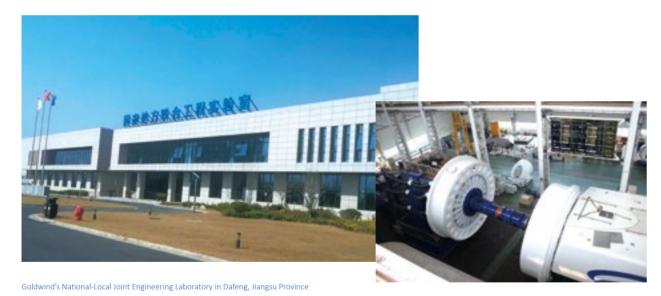
The Company attaches great importance to indigenous innovation capabilities. It has established eight R&D Centers around the world, including several in China, Germany, Denmark, and the United States. These centers are mainly responsible for technical support of

production and operation, new product development, and technical and test management. Each center provides leading technical support to help the Company develop globally competitive wind power products. Regarding research of strategic emerging business technologies, common technologies, fundamental technologies and industry-specific technologies, the Company establishes an R&D system, actively promotes original R&D, and continuously steps up joint innovation efforts with suppliers and customers by building joint platforms with domestic and international top scientific research institutions, thus inspiring collaborative innovation vitality of all parties, forming an all-round technology cooperation ecology and related mechanisms, and realizing innovation-driven development.

Enterprises should constantly push past boundaries and limits. These explorations are the driving force of our innovation.

——Cao Zhigang, President of Goldwind





Given the rapid development of the wind power industry and the accelerating trend of developing large MW-class wind turbines, the Company has built a national-local joint engineering laboratory to develop inspection technologies for large permanent magnet direct-drive wind turbines. Traditional approaches such as simple simulation and scale-down laboratory model for inspecting components, subsystems, wind turbines and grid connection have been replaced with the stress-sensitive fast stimulation technology, large platform type experimental system, comprehensive stress loading system and other heavy-duty experimental equipment that simulates real situations. Through integration of digitalization, big data, cloud

computing and other industry 4.0 technologies, the laboratory has become a comprehensive testing platform for the whole industrial chain of the wind power and a world-leading smart energy resource laboratory. The laboratory is responsible for the innovation, experiment and verification of the Company's new products, as well as the upgrading, optimization and technical support of products during manufacturing. It is essential to develop key technologies for the Company's wind turbines and components as well as facilitate the transformation and industrial application of new technological achievements.

The Company transforms the management procedures to promote technological innovations by introducing the framework of Integrated Product Development (IPD). Based on the modular and platform-based product development concept, the Company has gradually developed procedures and methods of technology and product development management with Goldwind characteristics, thus ensuring the Company's capabilities in providing customized wind power products and services.





National Enterprise Technology Center

provincial-level and ministerial-level science and technology platforms

postdoctoral workstations

national scientific research qualifications

provincial and municipal scientific research qualifications

national scientific research projects

50 70 The Company attaches great importance to the investment in scientific research, constantly strengthens the training of scientific and technological talents, and cultivates and develops the ability of independent innovation to maintain the long-term innovation ability of the Company. In 2021, the Company's R&D investment was RMB 2,237 million, accounting for 4.42% of the total revenue. There are 3,239 R&D technicians, accounting for 30.04% of the total employees.

While continuously improving the innovation incentive mechanism, the Company has carried out innovation incentive activities. It has set up technological innovation awards, organized innovation evaluations, and held technological innovation conferences and innovation competitions to get everyone involved in technological innovation. In 2021, the Company invested about RMB 15 million yuan into the technological innovation fund, recognizing individuals and teams who made outstanding contributions in innovation over the year. Besides, the Company launched Technological Innovation Month to showcase technological innovation achievements, and held technological innovation and application conferences and renewable energy technology innovation seminars to discuss the latest technological innovation practices and trends in the industry, thus promoting face-to-face exchanges among employees, broadening their vision in product technology development, and enabling them to come up with innovative ideas.

# **Product and Technological Innovation**

By leveraging on the Company's industry-leading technical advantages and strong R&D capabilities in the wind power industry, the Company focuses on technical routes of the permanent magnet technology for wind turbines. It strengthens fundamental research, enhances key technology research, and constantly makes technological breakthroughs to provide technical support for improving wind turbine performance and reducing COE. In 2021, Project "Key Technology and Large-scale Application of Grid-friendly Wind Turbines" involving the Company won the second prize of the State Science and Technology Award.

The Company's Major Technological Innovation Achievements in 2021

Modular sliding main bearing technology Low-noise blade technology Single blade lifting technology of multimegawatt offshore wind turbines Systematic solution Overall dynamics simulation software

The Company has developed modular sliding main bearings to replace rolling bearings. The bearing density of the shafting has been increased by more than 20%, which can facilitate the development and application of high-power and larger-capacity wind turbine models. In split-valve bearing design, components can be replaced to reduce the maintenance cost by about 60%.

The Company has developed the low-noise blade airfoil. Through the thinner blade design, the thickness of trailing edge has been strictly controlled. This blade produces less noise than conventional blades. The integration of the low-noise blade technology and the sawtooth noise reduction technology with independent intellectual property rights, the noise of wind turbines can be reduced by 4 to 6 decibels.

The Company's self-developed fully rotating offshore single blade yoke can rotate freely after the blades are clamped, and can be connected with the hub to greatly reduce the installation and debugging time of the barring gear during construction, and greatly improve the lifting efficiency, with the mean wind speed allowed for lifting increased from 8 m/s to 12 m/s, and the maximum blade weight allowed for lifting increased to 46 tons. This provides efficient, safe and convenient innovative solutions for lifting multi-megawatt offshore wind turbines in China

The solution has overcome the weakness of fluctuating power supply in traditional wind turbines powered by the novel electrical system that mainly includes new energy. After developing an all-in-one wind turbine that integrates multiple grid connection optimization functions such as energy storage, inertia, primary frequency control, rotor kinetic energy, and variable pitch backup, the energy production of wind turbines can be increased by 0.5% to 3%.

An advanced dynamics framework is adopted to develop the software for the dynamics simulation of wind turbines. The software can realize fine modeling of key structural subsystems such as transmission chains with different configurations. Unlike conventional simulation software, this software features high-precision simulation calculation. It can tap the potential for the design of more affordable new-generation wind turbines, thus improving the reliability of designs.

#### New generation of Permanent Magnet Direct Drive (PMDD) platform

Case

In October 2021, Goldwind launched a new generation of medium-speed permanent magnet platform products, including 15 onshore and offshore models. The Company has installed gearbox to the permanent magnet direct-drive wind turbines with independent intellectual property rights, enabling the replacement of low-speed generators with medium-speed generators. With the design that integrates gearbox and generators, no coupling is needed and the permanent magnetic generator no longer needs a sliding ring, thus guaranteeing the reliability of the product, and reducing both of the weight of wind turbines and the axial dimensions of wind turbines. As the earliest WTG manufacturer developing medium-speed permanent magnet technology in China, the Company has 15 years of experience in developing medium-speed permanent magnet technology and has applied the technology to tens of thousands of turbines. The new generation of medium-speed permanent magnet product continues to be equipped with the full-power converter that is easy for grid connection, thus meeting the requirements of grids in different regions of the world, and guaranteeing highly reliability, grid-friendliness and high adaptability in various scenarios. It has a broad wind speed spectrum from ultra-low wind speed of 5 m/s to mid-to-high wind speed of 9.5 m/s. It has also become more intelligent with enhanced capabilities in perception, diagnosis and coordination.

As a leading enterprise in wind power industry with technological innovation as the core driving force, Goldwind has introduced information technologies such as artificial intelligence, cloud computing and Internet of Things to boost innovation, promote the development of wind power technologies, and accelerate its transformation and upgrade in this era of smart technology.

Artificial intelligence



Big data



The Company applies artificial intelligence to develop early warning function for wind power equipment that cannot function well, and adopts visual and audio detection technology to monitor and identify blade icing, crack, generator abnormalities and other problems. The Company adopts natural-language processing technology (NLP) to develop a turbine fault database and smart fault diagnosis products to help maintenance personnel detect faults and launch operation and maintenance services more efficiently.

With more than 20 years of R&D, manufacturing and operation of wind turbines, the Company has accumulated sufficient data to build a wind power big-data platform for the domestic wind power industry. The platform can be connected to wind turbines on wind farms to provide information on wind speed, temperature, turbine noise, and vibration in real time, thus enabling customers to learn about real-time wind turbine operation parameters.

# **Protection of Intellectual Property Rights**

The Company actively carries out intellectual property rights protection and maps out a complete intellectual property business processing flow. The Company focuses on developing innovative theories and making breakthroughs in key technologies and strengthens the protection of core wind power technologies, in order to improve the Company's soft power and promote its competitiveness in innovation.

As the domestic enterprise to be engaged in the R&D and manufacture of wind turbines in the early stage, the Company is the first domestic manufacturer of wind turbines with independent R&D and design capability and fully independent intellectual property rights. The Company's Permanent Magnet Direct Drive

technology boasts fully independent intellectual property rights. The Company focuses on Permanent Magnet Direct Drive technology, and strengthens the distribution of intellectual property rights in key technologies based on its advantages in wind power industry chain. The Company has obtained a number of core technologies with independent intellectual property rights. As of December 31, 2021, the Company has made 4,896 patent applications in China, of which 2,819 are invention patent applications, accounting for 57.58% of total applications. The Company has obtained 3,429 patent licenses in China, of which 1,446 are invention patent licenses, accounting for 42.17% of total licenses. The Company has made 713 patent applications and obtained 317 patent licenses overseas.

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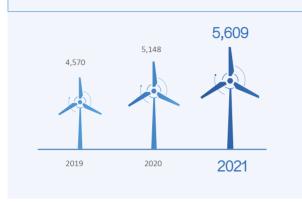
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In the process of technology introduction and cooperation, the Company grasps the development of similar technologies at home and abroad through patent search and analysis. It reviews and predicts the introduced projects, searches for patent information, learns about the scope of patent protection and technical content,

# Cumulative number of patent applications



as well as the legal information of the patentee, patent duration and protection region, and identify technology infringement risks in advance, so as to respect and avoid infringing others' intellectual property rights.

# **Driving Development of the Industry**

The Company gives full play to its leading position in the industry. Based on innovative ideas and capabilities of all parties, the Company continuously promotes the industrial development and technological progress by building platforms for technological cooperation and exchange in the industry, jointly developing major projects, presiding over and participating in the revision of domestic and foreign standards, and cultivating talents for the industry.

The Company actively participates in technical exchanges in the industry, shares technical experience in wind power, and discusses cutting-edge development trends, thus promoting the development of the wind power industry.

The Company takes the initiative to cooperate with its industrial counterparts, governments, industry associations, and other organizations to exchange ideas and excellent practices to promote the development of the wind power industry.



At the China Wind Power 2021 (CWP2021) in Beijing, during the "Wind Power Partner Action Zero-Carbon City, Beautiful and Rich Countryside" event, Goldwind and global wind power enterprises jointly launched the Wind Power Partner Action Plan. President Cao Zhigang of Goldwind called on more enterprises to join the force of new energy to promote economic and social development as well as global energy transformation by adopting zero-carbon clean-energy solutions.



In July 2021, the Company jointly established the Green Recycling and Application Consortium of Wind Turbine Blades with 19 organizations including wind power developers, wind turbine manufacturers, blade manufacturers, recycling enterprises and third-party institutions, in an attempt to seek and formulate recycling technologies applicable to China's wind turbine blades and fiberglass reinforced plastic (FRP) products. The Company establishes and improves the standard specification system for the recycling of decommissioned blades and wind farms, and matches standards in recycling of decommissioned blades and other issues to lay the foundation for the subsequent reuse and recycling of blades.

## Participating in the formulation of international, national and industry standards, and taking the lead in setting standards to promote the development of the industry

The Company actively transforms innovative technologies into established standards, promotes the improvement of the industry standards by participating in the formulation and revision of standards in the field of wind power technology, thus contributing to the standardization of the industry and leading the development of the industry. By the end of 2021, the Company has presided over and participated in the setting of 314 standards, including 284 China standards and 31 international standards.

# Cumulative number of China standard-setting participation



# Cumulative number of international standardsetting participation



#### Conducting wind power industry-related training for customers and suppliers, and cultivating talents for the development of the industry

The Company gives full play to its advantages of human resource and technical resource in the wind power industry, and develops curriculum and learning platforms for Goldwind employees, customers, suppliers, and other industry personnel. Besides, it provides professional and customized learning and development programs for personnel within the Company and across the industry. In 2021, the Company has completed more than 100 training sessions on industry certification and customer training to more than 3,500 people.

#### Joining industry associations to promote in-depth industry-wide exchange and to integrate the resource advantages of different parties

The Company strengthens its ties with various associations and organizations, actively carries out exchanges and obtains information, and integrates the resource advantages of different parties to facilitate the solution of common technological and industrial problems.

#### List of major associations the Company joined

Name of the association	Membership
World Wind Energy Association	Member
Global Wind Energy Council	Member
China Electricity Council	Deputy Director-General Member
Chinese Renewable Energy Industries Association	Deputy Director-General Member
Global Energy Interconnection Development and Cooperation Organization	Deputy Director-General Member
China Renewable Energy Society	Deputy Director Member
China Energy Internet Alliance	Standing Director Member



# **Products and Services**

# Quality is the Foundation for Building up the Value of Wind Power

Goldwind roots its business objectives in being a net-positive contributor to the global society and well-being of human life. The Company continuously consolidates and expands its strengths in the field of wind power, further providing comprehensive solutions for wind turbines, wind power service and operations, and wind farm development. In addition, Goldwind goes beyond the scope of wind power to include a strong emphasis on the development of other renewable energy technologies including smart microgrids, distributed energy resource (DER), and water treatment — thus striving to combat the effects of climate change through clean energy and environmental protection.





# **High-quality Wind Turbines**

The wind power industry is a cross-sectoral, multidisciplinary field featuring high technology and long cycle of product quality assurance. In order to guarantee the high quality and reliability of wind turbines in the life cycle, Goldwind put forward the quality management concept of "Long-distance Running in Wind Power" for the first time in the industry in 2014. After years of exploration and practice, the Company established a five-dimension quality management model based on corporate culture, technology innovation, outstanding leadership, optimized industrial chain, and customer experience. The five-dimensions assist the Company in safeguarding the improving

the quality of wind turbines in a holistic way. The APQP4Wind quality planning and management method has been gradually introduced to further strengthen the control of the whole wind power industry chain and further improve the quality management. In 2021, through maturity assessment tools, special counseling and benchmarking, the Company introduced APQP4Wind among key component suppliers to strengthen its collaboration with suppliers and continuously improve the quality of wind turbine products. No wind turbines were recalled due to safety and health issues in 2021.

By upholding the quality culture concept of "honesty and responsibility, prevention at the source, precision and selfdiscipline, pursuit of excellence, and contribution to the success of others", the Company creates a strong qualityoriented atmosphere, and enhances the quality awareness of all employees to improve quality.

The Company extends product quality management to the operation stage of wind turbines to ensure the reliable operation of wind turbines throughout the life cycle, thus endeavoring to make the quality transition from product management to customer experience enhancement.

The Company takes great pride in its industrial chain which is rooted in excellent quality. leading technology, optimal life-cycle cost, and strong market competitiveness. This provides quality management oversight throughout the entire industry chain process from bringing in raw materials to delivering wind turbines.



The Company places a strong emphasis on innovation of its wind power technology. Through in-depth research and improvement on quality, R&D and design can improve product quality and reliability for current and next generation Goldwind technologies.

The Company has established the Quality Management Committee who addresses known or potential major quality problems and review activities for improvement further strengthening the Company's quality management processes.

The Company has implemented comprehensive quality management throughout all stages, from R&D and design, component procurement, and manufacturing to delivery of wind turbines, so as to ensure the reliability of wind turbine components, subsystems and wind turbines.

R&D and design stage: Quality and technical review points have been launched in all aspects of wind turbine development, and technical experts of various disciplines and levels have strictly performed inspection, review and audits to control technical risks at all stages in R&D; performance such as manufacturability, serviceability and transportability have been fully considered in the design stage to identify and control potential quality risks.

Component procurement stage: Advanced quality management tools have been introduced into supply chain companies to boost the reliability and quality consistency of components from the source of component processing. The company checks the quality of components through first component inspection, on-site test run and small-batch inspection, and inspects the quality of batch products through quality monitoring, process check, system-based quality

review, unannounced inspection, and other approaches.

Manufacturing stage: The Company identifies critical processes and risks in wind turbine manufacturing, and make corresponding plans for process quality control. According to the requirements of regulations, the Company proceeds with inspection amid the manufacturing process of wind turbines, simulates real-scenario operations with adjustment-free test tooling and ensures that wind turbines function well.

Delivery of wind turbines: The Company reexamines and verifies whether the wind turbine documents, packaging and transportation are consistent with the standards upon the delivery of wind turbines according to the General Inspection Specifications for the Delivery of Wind Turbines.

With reference to the Gallun satisfaction survey and evaluation system, the Company optimizes the survey plan based on its business conditions, and explores the normalized satisfaction management mode. In the critical steps such as pre-acceptance and out-ofwarranty handover, the Company conducts satisfaction surveys in real time to collect customer feedback, and immediately analyzes the causes to determine the subjects for improvement and their improvement plans. In 2021, the Company conduct the customer satisfaction survey in terms of products, delivery and after-sales services by means of online questionnaires. The survey covered a

total of 950 people, with 894 valid samples accounting for 94.1% of the total. The overall customer satisfaction score was 94.7.

In 2021, the Company received 2 customer complaints, and the handling rate was 100%. After receiving customer complaints, the Company made quick responses and handling according to the systems such as the Customer Complaint Control Procedure and the Customer Complaint Handling Process, and collect feedback of these customers to evaluate the effectiveness of the complaint resolution, so as to continuously improve customer services.

#### Reliable Green Power

To realize the national "30-60" dual-carbon goals and achieve global carbon neutrality, green power has emerged as a vital force in reducing carbon emissions due to its feature of low-carbon emission. Compared with other renewable energy sources such as photovoltaic power and hydropower, wind power features least carbon emissions in life cycle. According to the rough estimate, carbon dioxide emission per unit of energy production of onshore wind power is less than 1% of that of coal-fired electricity. As a provider of holistic solutions for clean energy, energy conservation and environmental protection, Goldwind is committed to developing and manufacturing wind turbines, improving the energy production efficiency of wind turbines, and investing in wind farms to generate green power, while providing green power support services to enterprises in various industries based on its mature products and services system of green

power and rich experiences, thus helping more enterprises achieve the carbon neutrality in the near future

The Company develops and constructs wind farms across the globe, with lean and intensive management of production and operation. so as to continuously improve the production and operation management of wind farms. Based on the safe assets and reliable operation, the Company aims to improve the efficiency of asset performance through digitalization, technology-driven development, and model innovation.

### Dabancheng Wind Farm operated by Goldwind was awarded a five-star rating

Located at the foot of the Mount Bogda in Xinjiang, the Dabancheng Wind Farm is equipped with 67 sets of Goldwind 3.0 MW wind turbines, and has become the demonstration wind farm equipped with the first 3 MW permanent magnet direct drive large wind turbines in China. Relying on the Company's proven experience in asset management and its digital management platform, the Dabancheng Wind Farm has carried out high-quality on-site operation and maintenance, built a lean management system of "rapid response, efficient and accurate operation and maintenance", and employed the digital intelligent operation platform for real-time parameter analysis and strategy adjustment, thus making O&M smarter

and assets more transparent, and optimizing the staff structure based on the service radius to boost efficiency. This Wind Farm, as a pilot project of the Company's lean wind farm, has continuously reduced the fault rate of wind turbines through systematic management and implementation of life-cycle maintenance. Besides, it boasts remarkable performance in production management, efficiency and effectiveness, safety management, and environmental and resource utilization. In 2021, the Dabancheng Wind Farm was awarded a "Five-star Rating for On-site Management Maturity" by China Association for Quality, which is the highest honor for on-site management rating nationwide.

To facilitate the consumption of wind power among other green energy, the Company continues to expand its advantages in the field of wind power, with optimization and recreation in terms of source, grid, storage, load. It innovates new models of energy utilization and management, so as to make the future-oriented Energy Internet more intelligent, reliable, affordable and sustainable. In 2021, based on customers' demands for energy conservation and low-carbon development, the Company offered direct new energy supply solutions in areas rich in wind and solar resources. On the load near the user's side, Goldwind provided distributed energy

resource solutions to improve the utilization rate of end-use energy and the ratio of clean energy. The Alpha Platform, a digital trading system centered on big data + artificial intelligence algorithm, provides a packaged solution covering "power purchase consultation - power trading- distributed wind and solar savings investmentasset management of distributed energy resource", thus assisting enterprises to increase the ratio of green power usage and reduce carbon emissions through bilateral green power trading, green power certificate trading, and distributed energy resource construction, among other approaches.

# **Intelligent Operation and Maintenance Services**

With the objective of "creating life-cycle quality services", the Company has built a wind power intelligence operation system, with a smart service mode featuring smart online monitoring and efficient offline execution, so as to ensure stable operation of wind turbines, optimize the performance of wind farm assets, deliver better operational efficiency, thus generating higher revenues of energy

As the technologies such as the Internet of Things, big data, cloud computing, artificial intelligence and VR/AR become mature, the Company further integrates them with wind power technology,

and develops a series of app-based information platforms to collect, transmit and analyze the operation data of wind farm, so as to establish a smart operation and maintenance service support platform featuring equipment health management, production management and expert support. The Company continues to strengthen its talent team for wind nower services, and ontimize the network layout of spare parts resources, thus forming a service and supplies network connecting China and some overseas markets, as well as a standardized, high-quality and highly efficient operation and maintenance guarantee system.

Building wind farms free of faults, and explore the mode of "unattended operation or few people attended operation" for the wind farms

Based on its digital technology and O&M service capabilities, Goldwind has built a technology system to increase the MTBF of wind turbines, in order to guarantee the stability and reliability of the operation of wind turbines, and ensure the energy production of wind power projects, thus reducing the workload of O&M personnel and corporate O&M costs. This technology integrates project analysis, source management, prevention in advance and dynamic tracking, and enhances O&M efficiency

with digitalized, intelligent and standardized O&M processes, thus enhancing the comprehensive management of O&M, and obtaining technical certification from China General Certification Center, Goldwind has partnered with a number of customers to launch operation projects free of faults on a total of 282 wind turbines in 13 wind farms nationwide, thus achieving 239 wind turbines free of faults from July 1, 2021 to the end of December, with wind turbines free of faults accounting for 84.75%.



The Company actively promotes its intelligent operation system, and provides intelligent regional operation solutions centered on the intelligent operation system for customers. By establishing new energy centralized control centers and deploying centralized monitoring systems and wind power prediction systems, the Company realizes centralized monitoring of wind and solar power stations, reduces the number of personnel on duty at power stations, and improves prediction accuracy through centralized prediction and management of the station power. By building the management system of equipment, and enabling early warning and fault diagnosis through big data, the Company has transformed original mode of operation and maintenance after product release into prevention in advance. This system is connected with the original production management system of customers, and automatically delivers O&M work orders and handling solutions, thus making O&M much easier and more effective and efficient.

In 2021, the National Energy Administration issued the "Notice on

Matters Relating to the Development and Construction of Wind Power and Photovoltaic Power Projects in 2021 (Draft for Comments)", so as to encourage and support the improvement of resource utilization efficiency through retrofit, replacement and capacity expansion for aging wind power projects. In response to the call, the Company, through a comprehensive test and evaluation of the wind farm, conducts tailor-made performance optimization, energy production increase, service life extension and other comprehensive retrofit schemes to enhance the value of customers' assets. For the turbines that are going to be decommissioned or have decommissioned, the Company, in accordance with the policies of the local grid companies and the local government, provides tailor-made solutions for old device replacement for customers in aspects including cost evaluation, financial planning, wind farm planning and design, construction, operation and maintenance, so as to maximize the value of favorable resources and bring customers higher investment

## **Water Treatment**

While consolidating the main business of wind power, the Company actively expands other energy conservation and environmental protection businesses. The Company established Goldwind Environmental Science & Technology Co., Ltd., which is specialized in the investment, design, construction, operation and management of water business projects, as well as the development, sales and maintenance of related equipment and supplies. Its businesses cover various fields such as water supply, sewage and sludge treatment, and ecological environment management. By the end of 2021, the Company owned more than 60 water project companies with a water treatment scale of over 4 million tons per day.

The Company keeps developing, introducing and applying new processes, technologies and equipment. Through extensive technical research and engineering practice, the Company has accumulated core technologies in advanced membrane treatment and ozone catalytic oxidation (OZCO), and has owned customizable ozone catalytic technology, moving bed biofilm reactor (MBBR) technology for industrial water treatment and precise phosphorus removal and dosing system. in 2021, with an aim to improve the automation and

intelligence level of water plants, the Company established a digital platform for water plants, increased investment in the R&D of the underlying intelligent control technology, and established a complete intelligent control system centered on precise aeration, precise dosing, and inclined pipe flushing, thus improving the operational efficiency of water plants. Moreover, automatic metering devices and automatic proportional sampling devices were installed at water inlets and outlets to monitor PH, COD and other water discharge parameters online, to get timely update of water quality and achieve integration of control and management through real-time dynamic monitoring and early warning of the whole process on the digital

The Company integrates water business projects with new energy technologies by relying on wind power equipment manufacturing and new energy utilization technologies. By integrating such emerging technologies as Energy Internet Plus, intelligent operation, big data analysis, visualization and flat mobile supervision, the Company can allow water plants to realize utilization of clean energy, reduce energy consumption per ton of water, and boost their green development.

Water treatment projects

Water treatment quantity per day



# **Environment**

Protecting Clean Water, Clear Skies, and Ecological Civilization

Addressing climate change is the consensus of all countries and enterprises worldwide, and it promotes the principle that enterprises shall fulfill their social responsibilities and promote global sustainable development. Goldwind actively responds to domestic and overseas climate change policies and national goal of carbon neutrality, brings out the role of new energy industry in the optimization of energy structure and the development of an ecological civilization, and strengthens its own environmental management system in the field of clean energy, energy conservation and environmental protection.









The risk of climate change has become a key issue that all countries need to attach great importance to and it will have a profound impact on global economic and social development. In 2021, the United Nations Climate Change Conference (COP26) was held in Glasgow, UK, which once again accelerated global endeavors in energy transformation and promoting green and low-carbon development, and consolidating the determination to jointly protect the homeland of mankind.

Specialized in the R&D and manufacturing of wind power equipment, Goldwind is well aware of its great responsibilities. The Company actively strengthens technological innovation, develops and manufactures wind turbines with high reliability and high energy production efficiency. Besides, it firmly supports China's goals of "achieving carbon neutrality" and "reaching carbon emission peak" by making use of its own wind power technology and experience to provide industrial parks, data centers, green supply chains, and small and medium-sized enterprises with customized zero-carbon solutions. By the end of 2021, the Company has installed over 86 GW of wind turbines worldwide to generate cumulative green power of

generation of 193 billion kilowatt-hour (kWh) Compared with coalfired electricity, wind power can reduce carbon dioxide emissions by 161 million tons<sup>1</sup>.

In 2021, Goldwind conducted an all-round examination of its greenhouse gas emissions in 2020 based on the internationally recognized standards and relevant national standards such as the GHG Protocol Corporate Accounting and Reporting Standard, and ISO14064-1: 2018 Guidelines for Quantification and Reporting of Greenhouse Gas Emissions or Removal at Organizational Levels, generated a list of carbon emissions. In addition, the Company formulated internal standards and evaluation systems. Working towards the temperature goal of "holding the increase in the global average temperature to limit the temperature increase to 1.5°C above pre-industrial levels established by Paris Agreement, the Company designed a carbon neutralization road map and an implementation plan, defined the goal of carbon neutrality at the operational level in 2022 and was committed to achieving 100% green power for Goldwind products produced by major suppliers in 2025.

Helped two industrial parks (Jiangsu Dafeng CRRC Wind Power Industrial Park and Fujian Three Gorges offshore Wind Power Industrial Park) achieve "carbon neutrality"

Helped 2021 World 5G Convention held in Beijing in 2021 realize "carbon neutrality"

Provided an integrated zero-carbon port energy solution which guaranteed "100% powered by electricity, 100% powered by green

energy, 100% self-sufficiency" for the automated ports of Tianjin Port Second Container Co. Ltd.

Helped the Greener Store Lab at Shanghai's TaiKoo Li shopping mall become the world's first environmental protection themed Starbucks

tore

Helped Hainan Nongken Mushan Coffee realize zero carbon emissions in its whole business chain

Global climate change poses both opportunities and challenges for Goldwind. Climate change is speeding up energy transformation of all countries towards low-carbon development and increase the use of new energy sources such as wind power and photovoltaic power, thus promoting the growth of the wind power businesses. However, extreme disasters caused by climate change have slowed down the production and transportation of large components of wind turbines and have reduced the operation efficiency of wind farms. The Company takes the initiative to identify the risks and opportunities brought by climate change in laws and regulations, science and technology, market, reputation, etc., and takes countermeasures to improve its ability to cope with and adapt to climate change.

Main risks and opportunities of climate change faced by the Company and countermeasures

Global climate change has made extreme weather and climate events become more intense, frequent and last longer

- The Company enhances the adaptability of the wind turbines under different extreme weather conditions such as typhoon, thunderstorm, extreme high-temperature or lowtemperature environments
- Based on the long-term statistics released by local meteorological departments, the Company introduces mathematical statistics and probability theory to create computer simulation of the changes of the atmosphere in the immediate future, forecast meteorological disasters in the place where the projects operate, assess the risk of the disasters, and formulate a risk management system correspondingly
- Legal and regulatory policy risks related to climate change and the transition to low-carbon development
- The Company proactively carries out energy conservation and emission reduction actions internally, promote the construction of green factories, gradually increases the ratio of green power usage, thus reducing carbon emissions in enterprise operations, and gradually realizing low-carbon emission in upstream and downstream of the wind power industry chain
- The Company examines its total carbon emissions and discloses carbon emission information in strict accordance with the requirements of regulatory institutions and regulatory requirements

• Facing the growing market demand, the Company continues to strengthen its R&D and

manufacturing of wind power equipment, improves the energy production rate and

Countern

China has issued policies to support the development of new energy industries and to encourage the development of wind power, photovoltaic power, etc

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reliability of wind turbines, and steps up smart services. It carries out joint innovation and integrated innovation with partners in the wind power business chain, and facilitates the development of Internet-based wind power platforms

China has launched the nationwide unified carbon trading market to control and reduce greenhouse gas emissions through market mechanisms

 The Company strengthens the management of carbon assets of its wind farms and actively participates in carbon trading nationwide

The market demand for lowemission products and services urges the improvement and innovation of low-carbon and energy conservation technologies

 Focusing on new energy sources such as wind power and photovoltaic power, Goldwind strengthens the R&D and application of low-carbon technologies, and develops more application scenarios, so as to provide low-carbon technologies and overall solutions based on green energy for industrial parks and other fields

<sup>1</sup> Related parameters from China Electric Power Industry Annual Development Report 2021 released by China Electricity Council

# **Utilization of Energy and Resource**

Goldwind strictly complies with laws, regulations and standards related to the use of energy and resources, continuously improves its environmental management system according to ISO14001, and identifies and evaluates environmental factors on a regular basis. It establishes a statistical platform for environmental information to monitor and collect data on energy and resource usage. As a steward of clean energy and conservation, Goldwind, where it can, aims to reduce its impact on the environment. The main source and resource Goldwind uses when conducting R&D, manufacturing wind turbines, providing wind power services or developing wind farms, is electricity for office work and production, gasoline for the business

vehicles that are not electric, diesel fuel for engineering vehicles, and liquefied petroleum gas for employee catering. The Company's water treatment business mainly relies on electricity, while gasoline and diesel are used for vehicles, and natural gas and liquefied petroleum gas are used for employees' meals. Water is mainly used for employees' offices and canteens and in the process of wind farm development and construction, and only a small amount of water is used for construction, dust control and plant watering. In the process of water treatment, water is mainly used in pharmaceutical preparation and other technological processes

Amount and Density of Primary Energy and Resource Usage of the Company

Types of energy and resource	2021	2020	2019
Power consumption (coal-fired electricity) (100 million kWh)	2.73	1.80	1.57
Power consumption (wind/solar) (100 million kWh)	3.14	3.08	2.97
Gasoline (kL)	2,554.30	2,154.83	3,948.66
Diesel (kL)	1,651.56	2,555.19	2,746.93
Liquefied petroleum gas (ton)	107.77	21.92	33.75
Natural gas (10 km³)	84.67	48.61	49.73
Overall energy consumption per RMB 10k revenue¹ (ton of standard coal/ RMB 10k)	0.0153	0.0118	0.0168
Water consumption (10k tons)	76.85	47.82	45.71
Water consumption per capita (ton/capita)	57.23	53.33	51.01
Density of water consumption for production(ton/ thousand tons of water treatment capacity)	0.72	0.66	0.63
Packaging material: wood (ton)	1,283.54	3,199.57	3,004.27
Density of wood packaging usage (ton/pc)	0.45	0.67	0.71

1. In 2021, the Company acquired 19 waterworks, and upgraded or expanded the 6 waterworks already owned by the Company, resulting in rising power consumption, as well as increased use of liquefied petroleum gas, natural gas and water. The consumption of liquefied petroleum gas and natural gas also went up in 2021 due to the Company's growing wind power operation and maintenance business and the use of liquefied petroleum gas and natural gas as cooking fuel by employees of wind farms.

The Company strengthened energy consumption management by categorizing the consumption of electricity, gasoline and diesel. It collected and analyzes the information of the use of various resources and energy, examined the processes and parts that consumed energy, checked the operation and maintenance of equipment, so as to explore the potential of resources conservation and improve the efficiency of resource usage. In 2021, the Company optimized the manufacturing process by adopting processes, technologies and equipment that features more advanced technology and consumes less energy and resource. It adopted energy-efficient lighting, reduced the idle running time of equipment, made reasonable plans on vehicle use, thus stepping up management of energy usage. The Beijing branch of the R&D Center updated the lighting facilities in the laboratories and corridors, thus reducing the power consumption by 100 kWh every day and the power consumption for lighting by about 36,500 kWh throughout the year.

The Company actively promoted the usage of renewable energy such as wind power, builds facilities such as photovoltaic microgrid and air conditioning system of water energy storage in factories, so as to gradually increase the ration of green power usage. In 2021, the Company began to apply the "Green Factory" certification. All the 6 factories eligible for application were certified as "Green Factory", of which 2 were certified as the national-level Green Factory and 4 were certified as the provincial-level Green Factory and 5 factories obtained the ISO50001 energy management system certificate.

In 2021, the Company proposed the goal of reducing energy consumption intensity, promised to improve the efficiency of energy and resource usage year by year during the 14th Five-Year Plan period, and endeavored to achieve 20% increase in energy usage efficiency in 2025 compared with 2020. The Company developed targets of different levels, signed letters of commitment to these targets with each business unit of the Company, and assigned tasks



The meeting rooms have been made of the root of decommissioned blades. Photovoltaic panels and energy storage devices have been installed on roofs to provide power for lighting in the rooms.

to each unit, thus promoting the achievement of the targets.

The Company pays attention to the recycling of decommissioned wind turbines and follows the 3R principle, namely reuse, recycling and reduction, to explore ways to recycle wind turbines and their components. The Company has rich expertise and experience in the R&D and manufacturing of wind turbines, with core capabilities in the value evaluation of wind turbines, the performance evaluation and appraisal of wind turbines, and the maintenance and remanufacture of wind turbine components. The Company has designed and developed more than 30 types of systematic inspection and maintenance platforms, with more than 30 patents in maintenance technology and can provide maintenance and remanufacture services of more than 400 types of wind power components. The Company has a development center and a service center for remanufacture technology, and has established a systematic process including old components recycling, logistics transportation, cleaning and dismantling, technology development, process standards setting, testing and large-scale application. The Company offers components recycling throughout the year to maximize resource utilization.

Facing the common problem of recycling decommissioned blades, the Company actively studies sustainable alternative materials and explores the development and use of degradable blade materials. The Company remanufactures the blades that function well with good appearance and uses them as spare parts for replacement in newer wind turbines, or matches other types of blades through retrofit and evaluation of wind turbine load and blade interface size. Based on the characteristics of blade composition materials and physical properties, obsolete blades can be used for producing recyclable packaging to replace the currently used wooden disposable packaging, so as to facilitate packaging recycling and reduce wood

Goldwind Yizhuang Smart Park has been equipped with a sewage treatment system that is capable of treating 400 tons of sewage per day. Recycled water is mainly used for plant watering and toilet flushing in the park. Water-saving faucets have been installed in various buildings. Rainwater, wasted drinking water and other sources of waste water inside the park are recycled first.

In 2021, the Company optimized the packaging of large components of wind turbines, and developed hard and soft partial packaging to replace the previously fully enclosed packaging,. The Company launched the workflow for packaging recycling of large components of wind turbines to improve recycling efficiency and recycling ratio of packaging materials.

<sup>2.</sup>Refer to GB/T2589-2020: General Principles for Calculation of the Comprehensive Energy Consumption for the conversion of various energy forms to standard coal equivalents.

<sup>3.</sup>Due to the growing popularity of large MW-class wind turbines, the Company sold more of such models and used less wood packaging materials for wind turbines.

# **Emissions and Waste Management**

Goldwind strictly abides by the Law on Law on the Prevention and Control of Environmental Pollution by Solid Wastes and other laws and regulations. The Company properly handles all types of waste and uses its environmental statistics system to monitor the amount of waste generated and recycled by different facilities in strict compliance with the principles of sorting and recycling and centralized storage and processing. For general solid waste, the Company takes the approach of centralized management and recycling or it entrusts a third party for recycling and disposal. For hazardous waste, it formulates the Management System for

Hazardous Chemicals to standardize the storage, custody and treatment of hazardous waste, reducing their adverse impact on the

During wind turbine manufacturing, the Company generates relatively little waste, mainly comprising organic resin waste, organic solvent waste, waste mineral oil and other wastes; solid waste includes solid packaging materials and general waste, and waste generated during the construction of wind farms. The company's business operations hardly produce air pollutants such as nitrogen oxides and sulfur

#### **Emissions of Primary Waste**

Category	2021	2020	2019
Hazardous waste (ton)	73.24	103.74	103.21
Construction waste from wind farms (ton)	1,231.17	826.68	363.59

1.Hazardous wastes mainly include HW06 waste organic solvents and waste containing organic solvents, HW08 waste mineral oil and waste containing mineral oil, and HW13 organic resin waste and other HW49 waste generated during the production of turbines. The decline in hazardous waste is mainly because of the optimization of production process, upgrading of products and the production of large MW-class wind turbines.

# Greenhouse Gas Emissions

Scope of carbo	on	Overall e	missions (ton of CO <sub>2</sub> e)	
emissions		2021	2020	2019
Scope 1	Gasoline, diesel, liquefied petroleum gas, natural gas	17,481.36	32,728.24	16,809.55
Scope 2	Power	203,087.68	152,302.43	112,074.12
	Total	220,569.04	185,030.67	128,883.67

2.In 2021, the Company calculated its greenhouse gas emissions according to the ISO14064-1: 2018 Guidelines for Quantification and Reporting of Greenhouse Gas Emissions or Removal at Organizational Levels. Category I emissions include fossil fuel combustion, emission discharge, sewage treatment discharge, etc. Category II emissions include emissions from purchased electricity and purchased heating power. Also, the statistics in 2020 have been adjusted based on the same scope of accounting for greenhouse gas emissions.

### Density of Waste Generation and Greenhouse Gas Emissions

		Emission density	
Indicator	2021	2020	2019
Hazardous waste generated per MW WTG manufactured (ton/MW)	0.0071	0.0082	0.0102
CO <sub>2</sub> emissions per RMB 10k revenue (ton CO <sub>2</sub> e /RMB 10k)	0.0436	0.0329	0.0337

In 2021, the State Council revised and issued the Regulations on Management of Pollutant Discharge Permits, which stipulated the specific responsibilities and obligations of organizations that discharge pollutants during the application process of pollutant discharge permits and the process of pollutant discharge. According to the Fixed Pollution Source Emission Permits Classified Management Directory (2019 edition), the Company's subordinate institutions included in the list of key pollutant discharge organizations applied for pollutant discharge permits, established an environmental

management record system to conduct self-monitoring, and timely submitted the execution report of the pollutant discharge permit and disclosed pollutant discharge information. The Ministry of Ecology and Environment issued the National Hazardous Waste List (2021 edition), further clarifying the scope of hazardous chemical waste and rules of hazardous chemical waste control. The Company examines the wastes generated during its own business activities based on related rules and regulations, makes self-inspection in a timely manner, and updates the hazardous waste management plan.

# Turning waste into treasure—turning waste ethylene glycol into damping fluid

Case

47

The power converter system of some wind turbines of the Company adopts circulation of 50% ethylene glycol (hereinafter referred to as "coolant") for cooling. The replaced coolant is regarded as the general industrial waste and needs to be recycled by a qualified third-party organization. As the main chemicals in the coolant are similar to those in the damping fluid used in the damper, in 2021, the Company designed multiple treatment processes with membrane and resin to transform the coolant into the medium material in the tower damper. This medium material has the same functions as

regular damping fluid after technical treatment, and can help the damper prevent resonance in turbines. It also meets the freeze-proofing requirement. This process prolongs the service life of coolant and promotes the recycling of resources. Since the project was officially launched in June, 2021, about 50 tons of coolant has been recycled throughout the year, which not only saves the third-party processing costs, but also reduces the usage of damping fluid. This is beneficial to both economic growth and environment protection.

## **Ambient Noise Control**

Different levels of noises will be generated during the processes of wind turbine production, transportation, installation and operation. The Company strictly abides by the Law on the Prevention and Control of Ambient Noise Pollution, the Emission Standard for Industrial Enterprises Noise at Boundary, and the Emission Standard of Environment Noise for Boundary of Construction Site. and other laws and regulations to mitigate noise pollution. It combines sound absorption and insulation techniques such as installing sonic panels in workshops, enclosing the plant to constrain noise pollution within the building during operation. As for transportation and installation, the Company chooses to operate in less populated areas and avoid nighttime construction whenever possible.

The Company adopts advanced wind turbine control strategies and optimization schemes of wind farm noise reduction to control noise from the machines itself. The nacelle cover features strong sound insulation and absorption, reducing generator noise. In addition, permanent magnet direct-drive technology is applied in the wind turbines, which eliminates most gear drive noises. The Company also reduces noise generated from the operation of wind turbines by installing trailing-edge serrations on the blades. Prior to installation of any wind farm, assessments are done by the Goldwind suitability teams to research and develop wind farm noise emission models to accurately calculate the noise level based on site factors and noise limit, thereby producing countermeasures and other solutions in order to reduce overall noise emission

# **Ecological and Environmental Protection**

According to relevant laws, regulations, standards and technical requirements regarding environmental protection, the Company identifies ecological and environmental factors, continuously improves relevant ecological protection measures and solutions, and protects the ecological environment of the place where the projects operate. With years of experience in operation and maintenance services of wind farm development and construction, the Company took the lead in drafting the Green Indicators for Evaluation of Wind Farms for organizations. The Company advocated the principle of "conservation, environmental protection, low carbon and health" based on laws, regulations, and normative standards to realize a

low-carbon and environment-friendly operation for the life-cycle of Goldwind wind turbines. In addition, the Company took into account energy conservation and recycling of natural resources, and filling the gap of the green standard in the wind power industry.

The Company actively promotes the construction of green wind farm within the Company. After Niutouling Wind Farm was rated as the first 5-star green wind farm in China, in 2021, the Company completed the evaluation of three projects in Lingbi of Suzhou, Yima of Tanghe and Dungiu of Puyang according to the requirements for the rating of green wind farm.

Quannan Tianpaishan Wind Farm won the highest honor of "production and construction project category" in national soil and water conservation

Case

Beijing Tianrun New Energy Investment Co., Ltd. (hereinafter referred to as Tianrun New Energy), a wholly-owned subsidiary of Goldwind, won the award of "National Water and Soil Conservation Demonstration Project" in 2021. It is the highest award in the production and construction project category in the field of soil and water conservation in China

Quannan Tianpaishan Wind Farm is located in Quannan county of Ganzhou City in Jiangxi Province, with total installed capacity of 100 MW. During the project design phase, the project team continuously optimized the slope protection design scheme, improved the drainage measures. Based on the test results of different grass plant varieties, the team decided to adopt a slope protection measure that integrated the "interception at the top and discharge at the bottom" approach with the "spraying

through net" approach. During the construction process of the project, the team adhered to the principle of "maximum protection, minimum damage, and strongest recovery". While implementing soil and water conservation measures, the team gave priority to products with environmental protection signs and those selected into the "Beneficial Energy-Saving Products Project". For example, low-carbon materials are preferred in products such as glass, cement and transformers to minimize energy consumption. Based on the characteristics of the local climate and environment, the team improved the natural landscape and flora species diversity, so that wind turbines could coexist harmoniously with the surrounding environment. Lush green mountains and wind turbines have become a great match and together formed a beautiful landscape.



Quannan Tianpaishan Wind Farm in Ganzhou City of Jiangxi Province



The Company specifies the requirements for biodiversity protection in the development, construction, construction and maintenance of wind farms, so as to reduce the direct or indirect impacts of wind farms on biodiversity. During the implementation of the project, thorough investigations and analyses have been carried out to protect the local habitat and the fauna and flora in the habitat as well as the surrounding areas rich in biological resources. In the case of biodiversity risks, the Company has made adjustments and implemented compensation plans.

## Phase of wind farm siting and development

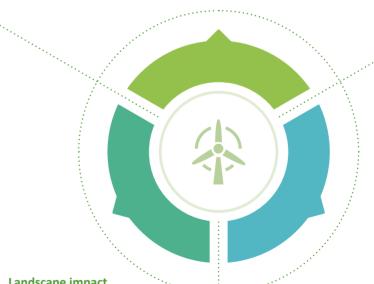
The Company assesses whether the project is adjacent to an area with high-value biodiversity, conducts a biodiversity survey within the scope of the project, and obtains the baseline biodiversity information of the project site including fauna and flora and their habitats, thus taking the survey results as an important basis for micro-siting and wind turbine selection of wind farms.

# Phase of wind farm operation and maintenance

Based on the risks in sites, species and seasons identified in basic investigations and impact assessments, the Company monitors the impact of wind farms on biodiversity, and focuses on the biological species identified in the pre-construction assessment process and the effectiveness of mitigation and compensation measures.

## **Bird protection**

The Company uses video analysis, thermal imaging, sound detection, radar detection, and other technologies to detect bird activities. The Company also adopts ultrasonic technology, high-power digital voice technology, lights, laser bird repelling technology and noise from shock waves to detect and drive birds away from wind farms.



#### Landscape impact

When selecting the location and planning the layout of wind turbines, the Company fully considers the features of the surrounding landscape and consults with the local community. The Company takes consideration of the planning and layout of local industries when building wind farms to reduce impact on the landscape.

The turbines can be produced with customized coating. The Company produces colored wind turbines to promote the harmonious coexistence between industry, humanity and the environment.

# Flickering light

According to the local solar elevation angle and the length and height of blades, the Company calculates the influence range of shadow and deploys devices to test the light and shadow effects to reduce the influence of flickering light through turbine rotational speed control and sector management.



# **Employees**

# Optimal Working environment and All-Round Talent Cultivation

Following a people-first principle, the Company always regards employees as an important source of sustainable development, and continuously innovates the employee management mechanism and talent training system, so as to provide employees with career promotion channels and development platforms as well as a safe, healthy and caring work environment, and facilitate the sustainable development of both employees and the Company.





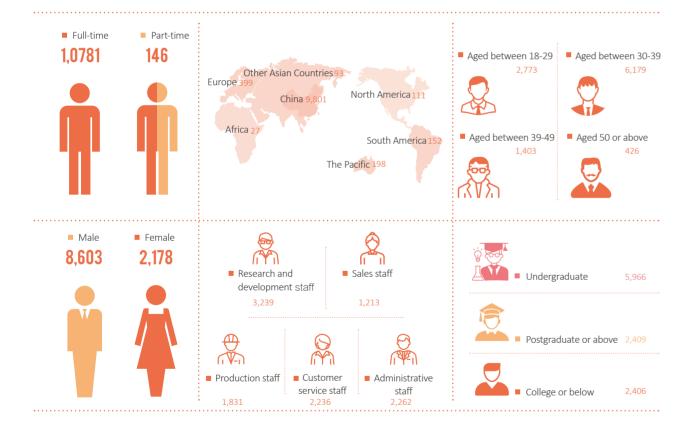
# **Fair and Standard Employment**

The Company strictly abides by China's Labor Law, Labor Contract Law, and other policies and regulations, as well as the laws and regulations of the countries and regions where it operates overseas, and relevant international conventions approved by the Chinese government. It adheres to the equal, non-discriminatory employment principle, treating employees of different races, skin colors, ethnicities, genders, ages, religious beliefs and cultural backgrounds fairly and properly, and strictly prohibiting and discouraging any form of child or forced labor. It is not allowed to force employees to work or restrict their freedom by means of violence, threat or illegal restriction of personal freedom, Corporal punishment, intimidation, harassment, abuse and any discrimination against employees are prohibited. In 2021, there was no child labor, forced labor, bonded labor or human trafficking.

In 2021, the Company revised the Goldwind Rules for Employee Attendance by increasing the maternity leave of female employees by 15

days, and adding "parental leave". The Company revised the Measures for Fair Management of Employees, which explicitly prohibits discrimination in gender, sexual orientation, ethnicity, skin color, family background, etc. It also set up a monitoring mechanism, clarify employee complaint channels, and improve punishment and compensation mechanisms for violations. It revised the Management Regulations against Child Labor, clarified the responsibilities of relevant departments at all levels of the Company, improved procedures and measures to avoid the recruitment and employment of children, as well as remedial measures to be taken in the event of child employment.

In 2021, the Company formulated the Measures for Prohibition of Forced Labor, which clearly lists the prohibited types of forced labor as well as specific ways of supervision and communication. The Company displayed ways of making complaints to protect employees' personal rights and



In accordance with the relevant laws and regulations of China and the countries/regions where it operates, and adhering to the concept of equal compensation for male and female employees, the Company obtains industry compensation information each year through the competitors analysis, public government data analysis, third-party compensation reports, and internal research, thus establishing

a salary system that balances external competitiveness and internal fairness to attract and retain talents. The Company strictly implements national and local social security systems, pays the wages of employees in a timely manner, and pays the "five social insurances and one housing fund" in full, protecting the legitimate rights and interests of employees.

# **Training and Development**

The Company has established comprehensive and multi-level talent training system to meet employees' needs for enhancing their expertise and basic vocational skills, and encourages them to choose the appropriate career development path according to their own conditions, so as to fulfill their ambitions while promoting corporate development.

## **Employee Training**

The Company follows the principle of "position-related, inputoutput, division-based management, and collaborative sharing", and establishes a three-tier training management system comprising Learning & Development Center, Human Resources Departments, and various departments. It takes fully into account the strategic planning and personalized growth needs of employees, and creates diverse learning opportunities and platforms for employees based on different training goals and requirements. It makes full use of internal and external knowledge resources to develop, formulate and introduce training courses suitable for the company's current

and future needs to create a learning-oriented environment and accelerate the personal development of employees.

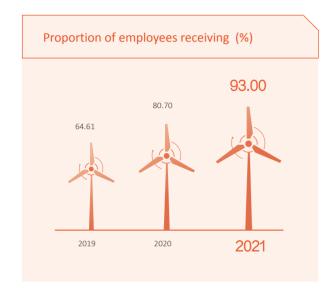
In 2021, the Company made full use of both online and offline learning platforms to expand the coverage of training, as well as broaden the range of training and enrich the learning content; focusing on leadership and management capability development. transferable skill development and talent cultivation at key posts, the Company carried out training activities such as coach training, Goldwind Lectures and precise empowerment for key talents. During the year, the average training hours per capita reached 35.70 hours.

#### Main Learning & Development Programs in 2021

Program Name	Training Goal	Number of Trainees
Basic Training	This program aims to introduce the up-to-date basic knowledge of the Company to employees and inform them of the basic code of conduct. It offers training in the general knowledge for Goldwind employees	This program was held multiple times. A total of 3,600 people passed the exam
Goldwind Lectures	This program pays attention to business pain points, provides specialized training, focuses on the general skills required of all employees, and popularizes professional knowledge	A total of 2,335 employees participated in 16 open classes
Accurate empowerment of key personnel	Aiming at solving problems and improving performance, the program improves employees' ability in change management, marketing, project management, etc	More than 1,000 employees participated in 20 training sessions
Wind Power Hundred Talents Project	Taking "acquiring knowledge, improving quality, broadening vision and applying what you have learned" as the goal, the program designs action-based learning assignments to teach employees how to deal with the problems and challenges in work and find the best solutions	A total of 59 employees participated in 2 training sessions

The Company trains internal lecturers, takes curriculum development and experience sharing as the core content of training, and cultivates lecturers with course development ability. The Company has formulated and released the Measures for Lecturer Management to empower internal lecturers at different levels, focusing on the selection, cultivation, assignment, retainment. The Company motivates lecturers through activities such as course content

collection to promote sharing of knowledge and learning within the Company. In 2021, the Company optimized the curriculum development methods and tools according to teaching theories, designed the curriculum development process, and continuously promoted the accumulation and transformation of wind power knowledge and experience, thus developing 1,116 courses on wind





Overview of Employee Training

# **Employee Development**

The Company has established both vertical and horizontal career development paths for its employees. Employees can enjoy more career opportunities, tap their potential, and achieve personal development based on their personal interests and expertise. The Company analyzes the subjective and objective factors of employees' career development. Through proper design, planning, implementation, evaluation and feedback, the Company makes sure that every employee's goal of career development is consistent with the strategic development goal of the Company.

Based on the career development channels and a relatively complete job qualification system, the vertical career development path helps clearly define the job qualification standards of different channels and levels, and guide employees to continuously make progress towards higher-level positions. Employees get promotion within their fields

in either the management channel or the specialty channel through job qualification assessment. By the end of 2021, the Company has established two channels for job promotion: management and specialty. The specialty channel is divided into 7 major categories and 40 sub-categories, and 6 vertical levels, thus forming a categoryhierarchy position map, and offering a variety of career development paths for employees.

Employees can also enrich and expand their professional experience through secondment, job rotation and transfer to achieve horizontal career development. The Company encourages employees to make plans on their personal development, helps them make plans on their career development, and facilitates the achievement of their career development goals by providing opportunities such as the training, iob rotation and transfer.

# **Production Safety**

The Company continues to optimize its occupational health and safety management system; based on safety technology innovation, safety culture shaping, production safety standardization, and high risk governance of occupational health and safety, the Company promotes the close integration of safety system building and business development so as to build an intrinsically safe enterprise. In 2021 two occupation-related casualties were recorded. Immediately after the accidents, the Company initiated emergency response, organized the rescue, and set up internal ad-hoc teams according to Goldwind

Rules on Accident Reporting, Investigation and Handling to Ensure Safe Environment to conduct investigations by means of on-site investigation, information searching, and inquiry, so as to analyze the cause of the accidents, and to implement rectification measures. In order to avoid the recurrence of similar accidents, the Company organizes denartments at all levels to conduct self-inspection and self-correction, thus drawing lessons to prevent similar accidents from happening again.

# **Production Safety Standardization**

The Company strictly implements the requirements of the *Production* Safety Law of the People's Republic of China and actively works on the standardization of safety production. In 2021, the Company revised the Implementation Measures for Safety Production Standardization to implement internal safety production standards. The Company issued the Twenty-six Standards for On-Site Safety for construction

projects of wind farms. By using images and texts, the relevant standards and requirements of the project sites have been set for employees to follow in terms of eight scenarios including roads, stepup substations, wind turbine foundations, temporary electricity use, reinforcing bar processing plants, temporary construction, labor protection and general scenarios.

#### Conduct safety education and training

Due to the coronavirus pandemic, the Company has conducted safety training through both online and offline learning to guarantee employees' safety production and improve employees' safety awareness and skills. In 2021, the Company developed the job safety capability curriculum and the learning map, and developed 67 courses of five categories for employees of five job categories such as management personnel, safety engineers and special operations

personnel. The Company adopted VR technology to conduct immersive safety education and simulate accident scenes, and used employees' personal experience to impart safety-related knowledge. The Company created an immersive learning experience and allowed employees to receive safety education in an all-round way to improve the training effect. The total number of safety training hours throughout the year reached 354,931 hours.

# **Facilitate Innovation of Safety Management**

In 2021, the Company developed and applied innovation projects of safety technology, enriched safety management methods and measures, and improved safety production management. The Company develops a compliance evaluation system to confirm the compliance with laws and regulations, and informs employees of the latest national laws and regulations and management standards related to the wind power industry in real time. The Company identifies and marks the applicable terms, and clarifies the specific actions and requirements that conform with the terms and conditions to ensure the timeliness and accuracy of the identification and evaluation of laws and regulations. A total of 969 national and local HSE related laws and regulations have been identified by the Company throughout the year. The Company adopted information technologies to formulate construction site risk maps that clearly

show the key risks, levels of risks and control measures of each project under construction, so as to effectively address safety management difficulties such as multiple construction projects under construction, multiple working areas, complex working environment, and difficulties in supervising the operation.

In order to ensure the physical and mental health and safety of overseas employees during business trips, the Company has developed Travel Tracker, a travel risk management system. When the ticket information of employees is released, the system automatically sends early warning emails before and during business trips. When identifying major risks, the system can lock the position of employees and communicate with them in a timely manner, give notifications on risk information, and provide smart automated solutions for risk management.

#### Shape a Safety Culture

The Company continues to conduct safety culture campaigns. Through publicity, training sessions, rewards and punishments, and image and logo design related to safety, the Company summarizes characteristics of the Company's safety culture, and promotes safety culture among employees, thus ensuring that employees act according to the safety rules. In 2021, the Company issued the Guidelines for Promoting Safety Culture to seek advice on the Company's concept, vision and values on safety, held seminars on safety culture, and promoted the implementation of safety culture. The Company actively conducted surveys and evaluations

on employees' awareness of safety culture, set up incentives such as safety culture award and award of advanced safety individuals or organizations, and inspired the enthusiasm of employees to participate in safety culture activities. During the Safety Month, activities such as film viewing, speech contest, cartoon drawing, essay writing, short-video taking, knowledge contest and fire drill were held, The Company actively created an environment of heightened HSE awareness, launched the "Safe Sailing" WeChat official account, and 42 articles themed on HSE were published, with 22,878 viewings.

## Safety of Interested Party

The Company regards the safety of stakeholders as an integral part of production safety, organizes regular training sessions, and conducts inspections and assessments to promote integrated safety management. In 2021, the Company revised the Rules of Safety Management of Interested Party, and developed the safety ledger and evaluation plans for interested party. The Company conducted annual inspections on outsourced operation 3,732 times, covering 13,537

outsourced employees. It carried out training for interested party by organizing 88 safety management employees of 30 interested parties to participate in the training camp of safety management capability improvement. A total of 27 issues and 108 editions of safety training cards that covered operation safety, accident case warning, safety emergency management were offered to more than 4,500 people over the year

## Offshore Wind Power Safety

The Company always considers production safety as a top priority while developing offshore wind power, and makes efforts to improve the safety management and emergency support for offshore wind power. The Company requires that all offshore workers must receive GWO basic safety training and skill certifications, and rescue equipment shall be placed on transportation ships, in order to quickly and effectively rescue people in case of personal injuries during offshore operations. In 2021, the Company formulated and issued

the Requirements on Technical Application and Model Selection of Offshore Wind Turbine Service Operation Vessel, and implemented access control of offshore service operation vessel according to their technical specifications and wave resistance coefficients to ensure the operation safety of vessel at sea. The Company took safe offshore operation demonstration videos to clarify the risks involved in offshore operation, and guided employees to correctly use fall prevention devices such as double hook and self-retracting lifeline.

## Occupational Health and Safety

The Company attaches great importance to the health of every employee, thus formulating the Guidelines for Employee Health and Occupational Disease Prevention, and setting up detailed occupational health records and employee health monitoring files. Besides, the Company evaluates the risk factors of occupational diseases and examines hazards on a regular basis. When signing labor contracts with employees, the Company informs them of the risk factors of the positions in advance, and strengthens occupational health and safety education and training during the induction training of new employees.

The Company takes protective measures against occupational disease hazards, provides employees with professional and special labor protective gears, puts warning labels and instructions in conspicuous places for equipment and chemical materials that may induce occupational diseases, and regularly checks and repairs protective facilities and equipment. For employees working in special environments such as high-altitude regions and offshore environment, the Company customizes the physical examination which focuses on cardiovascular and cerebrovascular diseases and rheumatism diseases. The participation rate of employees in physical examination is 100%. The Company pays great attention to the mental health of employees, and carries out programs such as mental health consultation, mental health examination and online mental health classes.

# **Employee Care**

The Company has an open and transparent internal communication mechanism, shapes a harmonious communication atmosphere and good work environment, and continuously optimizes the work environment, thus enhancing employees' cohesion and sense of belonging.

### Communication and Exchange with Employees

The Company advocates an open and transparent work environment for employees, so that employees can learn about the Company's business scope and current development as much as possible. The Company listens to the opinions of employees to improve corporate management, as well as to understand and meet the reasonable needs of employees. The Company improves democracy through the mechanism of the employees' representative conference, listens to

employees' opinions, and protects employees' right to knowing and participation. Through planning and implementation of employee surveys, employee meetings, front-line employee care activities at multiple levels, the Company has opened up two-way communication channels and operational mechanisms to constantly improve its transparency.

#### Participants, Forms and Content of Communication with Employees

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Dimensions	Participants	Forms	Content
	Middle-level and high-level management personnel	Opinion exchange meetings and management conferences	Practices and strategies of business management
Different levels	Senior executives and employees	Employee communication meetings, WeChat messages, suggestion box, meetings with senior executives, front-line exchange activities, and questionnaire	Corporate culture Issues related to the development of the Company and employees
billerent levels	Among employees	OA forums, corporate journals, monthly employee birthday parties, and sports meetings	Latest development of the Company All kinds of information within the Company
	Foreign employees	Cultural exchanges	Corporate culture
Different departments	Among departments	Company management meetings, technical seminars, experience sharing meetings, and production communication meeting	Business progress of different departments and the Company Learning about cutting-edge knowledge and technologies
Different regions	Branches in different regions	OA forums, corporate journals, WeChat messages, video conferences joined by multiple branches, questionnaire, and Staff Zone posters	Latest development of the Company All kinds of information within the Company

#### Foster a sound culture

The Company believes that sports and art activities can help employees achieve work-life balance, build a strong physique, and enrich their life, so as to improve the quality of their life and make employees happier. The Company has long insisted on investing in sports and art activities, and encouraging employees to work out to improve their physical fitness and health.

"The ultimate goal one should achieve in one's lifetime is to become a person who makes meaningful contributions to the society. People working in the wind power industry should not only be wise but also healthy."

——Wu Gang, Chairman of the Board of Goldwind

## **Diverse Sports Venues**

The Company has a football field, a basketball court, a badminton court, a swimming pool, a rock climbing area, a table tennis court, a gym and other sports venues that cover a total of 11.629 square meters to meet the needs of various sports interests of employees.

### **Development of Sports Courses**

The Company hires health management consultants for employees to develop online and offline sports courses, including aerobic exercises such as Baduanjin qigong and tai chi, as well as on-site and in-office fitness classes and in-office exercises. The Company also provides health guidance for employees, offers various types of healththemed lectures and consulting services, and organizes exercises competitions. In 2021, the Company provided more than 93,000 people with 676 health coaching sessions.



#### **Regular Sports Events**

The Company holds competitions on sports such as football, badminton, basketball, triathlon, as well as fun sports meeting, etc., encourages employees to take part in art and sports activities held outside the Company. The Company has won the championship of Beijing FESCO Badminton League for eight consecutive years.

#### **Sports Clubs with Professional Coaches**

The Company has more than ten art and sports clubs on sports and art, such as badminton, basketball, football, table tennis, yoga, swimming, dancing, shuttlecock kicking, etc., and has employed retired national athletes and professional coaches to help employees exercise in a scientific way. Sports events such as "21-day Run for Health", "Zero-Carbon Fat Loss Camp" and "1000 People for 100 Days" were held throughout the year, with 5,000 participants.



#### Implementation of Employee Health Management

In addition to arranging physical examination for employees every year, the Company organizes employees to test the physique regularly, adopts standardized instruments approved by General Administration of Sport of China to collect, track and analyze employees' health data, offers exercises recommendations and diet recipes, and formulates tailor-made health management plans for employees. The Company sets up an employee health management committee, an employee health management system, and a health database for all employees to improve employees' health.



## Improvement of Physical and Mental Health through Music

The Company provides employees with diverse music learning and exchange platforms and talent shows such as Chuanglan Choir, piano lessons, and "Prime Time" music festival to help employees relax themselves, develop their interests and inspire themselves through music, and improve their physical and mental health.



#### Caring for employees' lives

The Company attaches great importance to employee care and has established an all-round welfare system to provide employees with diverse welfare benefits. The Company helps employees in need of money by the means of company contribution, salary payment in advance and employees' donation; the Company sets up reserved seats for pregnant employees in canteens and breastfeeding rooms, and allows maternity leave, prenatal check leave, nursing leave and breastfeeding leave, so as to protect the legitimate rights and interests of pregnant employees.



- The Company canteens provide employees with nutritious lunch with diverse options, and holds "Light Food Salons" and food festivals
- The Company provides differentiated meals such as halal meals, western meals, and special meals for ethnic minorities, foreigners and pregnant women

# Accommodation



- The Company makes reasonable arrangement of employee dormitories based on current policies, and offers public rental housing resources
- The Company provides temporary housing for new employees, and provides accommodation for employees working or with business trips in Beijing. The employees' accommodation is managed as hotel-style apartments, with free Wi-Fi, toiletries, maintenance and repair, vending machines and other services

# **Business trips and Commute**

- Based on services available in the market and self-service systems, the Company makes use of Didi Enterprise Solutions, Ctrip Corporate Travel and other services to meet employees' commute needs
- The Company deploys "Smart Commuter Vehicles" to meet employees' needs for shuttle buses

## **Residential Facilities**



- The Company adds amenities around employees' accommodation, and introduces barber's shops, dry cleaning shops, supermarkets, cafes, etc. to enrich services within the park and make employees' life easier
- Promote "street vendor economy" to attract high-quality merchants to provide supporting services for the park



# **Supply Chain**

A Win-Win Cooperation For the Industry Empowered by Green Energy

Building a healthy, stable and sustainable supply chain with great responsibility constitutes the foundation for solid corporate development. Since its establishment, Goldwind has formed a tradition of working closely with suppliers. The Company has always adhered to good business ethics, and has carried out its business in a fair way. While protecting the legitimate rights and interests of suppliers, Goldwind supports the development of suppliers, and also takes the lead in fulfilling their own social responsibilities, thus building a sustainable industry chain for the wind power industry.



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## **Procurement**

The Company adheres to the concept of transparency and compliance, and the philosophy of fair, proper, and open procurement. According to relevant institutional regulations such as the Guidelines for Goldwind Group Procurement Management, procurement department, request, technical, auditing and legal departments strictly perform their duties to ensure the compliance during procurement, improve management efficiency, and reduce procurement risks.

The Company has independently developed a collaborative sharing platform for cooperation with suppliers to realize the online closedloop management of the entire process, including the procurement of materials, services and assets, with the whole process recorded and controlled online to guarantee the fairness and transparency of the procurement process. Suppliers can access the platform through registered accounts to maintain basic information, make

inquiries, confirm orders, and searches for payment details, so as to obtain timely, transparent and accurate procurement information. and supervise and promote the compliance management of the procurement process

The Company discloses the procurement bidding process and sets reasonable procurement prices. It makes payments according to what is agreed upon in contracts and safeguards the legitimate rights and interests of suppliers. To prevent corruption and bribery in the procurement process, the Company has released Transparent Procurement Pledge and other supply chain regulation documents on the home page of its e-commerce website. The Transparent Cooperation Agreement is a compulsory procurement contract to be signed, requiring the Company to maintain professional integrity with suppliers, so as to prevent commercial bribery, and to promote sound and well-structured partnerships with suppliers.

## Number of Suppliers by Region<sup>1</sup>

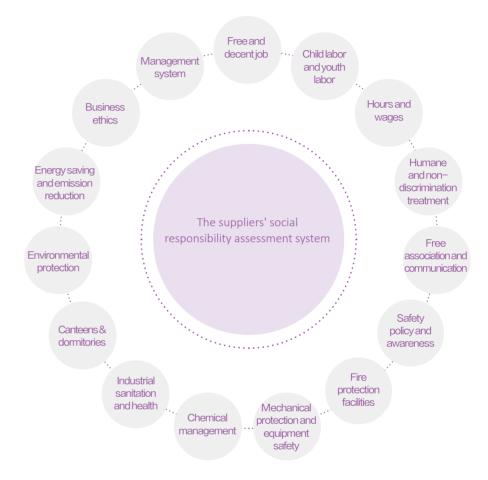
Region	2021	2020	2019
China	295	283	249
Other Asian Countries	6	6	7
Europe	44	52	70
North America	10	11	20

<sup>&</sup>lt;sup>1</sup>The qualified suppliers who provide components, production and services, tools and consumables, equipment, packaging and other raw materials or (and) services in accordance with the Administrative Measures for Development of Wind Turbine Component Suppliers, which have been evaluated and approved through over 100 strict indicators in business, quality, technology, and social responsibility, among other dimensions.

The Company attaches great importance to the compliance and sustainability in supply chain management. The Company integrates social responsibility to supplier management, requires suppliers to comply with applicable laws, regulations and codes of conduct, and guides suppliers to fulfill their social responsibilities, so as to reduce the environmental and social risks in the supply chain. Since the first release of the Code of Conduct on Supplier Social Responsibility (the "Code") in 2018, the Company evaluates and updates the Code every year to make it more in line with the actual situation of the supply chain, so as to meet the requirements related to sustainable development management recognized both at home and abroad,

and to urge suppliers to improve their management with higher standards. In 2021, the company further revised the Code to clarify the Company's requirements on compliance with laws, labor rights and human rights, health and safety, environment, business ethics and management systems. The suppliers' social responsibility assessment reports were revised, as well as zero tolerance and primary issue indicators, and conflict minerals-related content were added. On this basis, the Company incorporated the social responsibility requirements for suppliers into the supply framework contracts, and asked suppliers to sign Social Responsibility Pledges to commit to comply with the Code.

In 2021, the Company further improved the assessment system for suppliers' social responsibility, with differentiated assessment indicators designed for different fields and types of suppliers. For example, for the procurement of electric control components related to conflict minerals. customized indicators were designed according the Conflict Minerals Reporting Template (CMRT). Indicators such as "use of forced labor and child labor" and "discrimination against employees" were set as zero tolerance indicators. In 2021, the CSR assessment system consisted of 82 indicators in 15 areas.



Through self-inspection by suppliers and spot checks by the Company, the social responsibility performance of suppliers is evaluated quarterly and annually. The evaluation results are used to score the suppliers and determine their ranks. The scope and frequency of inspection are expanded year by year, with priority given to suppliers of core components such as blades, castings. bearings and generators, as well as key suppliers with large purchase amount. If any problem related to zero tolerance is identified during the inspection, the result will be directly determined as unqualified. leading to the suspension of the cooperation with the supplier and the supplier status adjustment procedure. If a primary problem is detected, the supplier is required to make rectification within 3 months, analyze the reasons and provide corrective and preventive measures until the problem is resolved. In 2021, the Company organized 80 suppliers to implement social responsibility evaluations, and completed on-site inspections of 24 suppliers. Among them, 5 suppliers were found to have primary problems and had been urged

to complete the rectification within a certain period.

The Company motivates suppliers to integrate the concept of social responsibility into their own management, implements the popularization of social responsibility awareness and capability building activities, and assists suppliers in establishing and improving their social responsibility management systems, so as to reduce the social responsibility risks in the Company's supply chain and upstream suppliers. In 2021, the Company briefed the requirements of social responsibility evaluation, as well as the main approaches, routes and goals of supplier social responsibility management, and explained the Code of Conduct on Supplier Social Responsibility, the social responsibility evaluation system and the regulatory mechanism at Suppliers' Conference and other relevant meetings and forums. Moreover, by making use of on-site inspections on suppliers' social responsibility, the Company introduced social responsibility-related knowledge to on-site suppliers.

# **Green Supply Chain**

To optimize and improve the overall environmental performance of the wind power industry chain, enhance the usage of green energy in the wind power industry, and build a sustainable industry chain, Goldwind has taken the lead in implementing "Green Supply Chain" projects since 2016. It provides smart energy system solutions to enable suppliers to unlock energy-saving and emission reduction potential, and promotes the green transformation of the supply chain, thus enhancing the market competitiveness and sustainable development of the whole wind power industry chain.

With years of experience in green supply chain project management, the Company has compiled system documents related to green supply chain construction and evaluation, clarified requirements for green design, procurement, production and delivery, and encouraged and motivated suppliers to adopt environmentally friendly measures. In 2021, the Company continued to conduct the evaluation on green suppliers, and completed the evaluation on 142 suppliers of such components as wind turbine blades, castings, towers, yaws, bearings, and generators. Through document review and on-site evaluation, the Company comprehensively evaluated the performance of suppliers in five aspects of green design, procurement, production, delivery and management, with a total of 40 suppliers being rated as Level 4 or Level 5 Green Suppliers throughout the year. The Company awarded plagues to companies rated as Level 4 and Level 5 Green Suppliers at the China Wind Power (CWP2021) in October 2021, in recognition of their excellent performance in green supply chain.

In the context of global pursuit of carbon neutrality, it has become inevitable that enterprises conserve energy, reduce emissions and adopt green power for long-term development. The Company brings into play its advantages in wind power industry, and based on years of experience in adopting green power, leads supply chain enterprises to adopt green power gradually, thus jointly exploring carbon neutral practice paths. On the basis of suppliers' energy demand and local clean energy endowment, the Company provides scientific planning and reasonable allocation, and integrates various types of distributed energy (wind, solar, storage, etc.), thus achieving the optimal allocation of diversified energy resources and facilitating

suppliers' comprehensive use of various types of green power. With our extensive experience in the production and use of power resources, the Company assists suppliers in power transaction, green certificate trading, carbon emissions trading, mobile operation and maintenance, and comprehensive energy saving, so as to reduce energy costs and improve energy efficiency.

In 2021, the Company optimized the Green Supplier Evaluation Standard to enhance the requirements for suppliers to use green power and encourage their use of green power, with a higher weighting of the "green power use" in the evaluation system. Suppliers with the extensive use of green power will be given priority during product procurement. The Company has formulated the Evaluation Standard for Suppliers' Use of Green Power, and adopted both on-site and off-site evaluation methods to evaluate suppliers' power use, green power use and amount. Among the suppliers evaluated this year, a total of 64 suppliers used green power, with a green power use ratio of 26.55%, and a green power use ratio of 54.80% for the production of Goldwind products.

In June 2021, the Company released the launch event of "Zero Carbon" Wind Power- Goldwind's Initiative for Green and Low-Carbon Development of the Wind Power Industry Chain & Green Supplier Evaluation Standard, calling on suppliers to work together with the Company to develop green wind power products, with a total of 257 suppliers signing the Carbon Reduction Initiative, so as to explore the zero-carbon road together with the Company.

As a leading player in the wind power equipment manufacturing, the Company has actively enforced the relevant requirements of green supply chain development and continuously improved its own green manufacturing level. The National Energy Administration of China released the Green Supply Chain Management Evaluation Standard for Wind Power Equipment Manufacturing Industry in April 2021. In response, Goldwind carried out evaluation work, and became the first certified five-star company in the wind power industry, thus facilitating the development of a green supply chain for the whole process and all the aspects involved in wind power.



Wu Gang, Chairman of Goldwind, called on suppliers to work with Goldwind to develop green wind power products for a zero-carbon future.

Evaluated by the Company

Rated as Level 4 or Level 5 Green Suppliers

# **Win-Win Cooperation**

The Company has always regarded its supply chain partners as the core members of the industrial ecosystem, and exchanged information on industry development through continuously effective communication. It jointly conducts R&D, and integrates and shares innovative technology resources to promote joint innovation across the industry chain. Moreover through complementary advantages and benefit sharing, the Company is committed to achieve win-win cooperation.

In January 2021, the Company held its 12th Supplier Conference through live streaming, with the theme of "Gathering Industry Innovation Power and Unleashing Global Potential of Green Development". The Conference reviewed the development of the wind power industry and the Company in 2020, and planned to establish in-denth and open partnerships based on the new development opportunities of the wind power industry, thus creating better quality wind power products and achieving great development

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Goldwind held the twelfth Supplier Conference

In 2021, the Company continued to provide technical and management support to suppliers. It carried out the second session of senior training camp for quality managers, in which key technical, quality and production management personnel from 25 suppliers were trained to improve their management technical and capabilities. In addition, a lean management event of "Learning about Artificial Intelligence, and New Management Measures through the Lean Benchmark" was organized, and 25 suppliers were invited to learn about lean management.

The Company has been actively building the communication platform with suppliers. In 2021, the Company hosted the "Blade Industry Chain Innovation Technology Salon" and invited raw material suppliers, blade manufacturing enterprises, and certification institutions to discuss topics such as development of epoxy resin alternative solutions, application of intelligent blade manufacturing

technology, high performance airfoil study, and offshore large blade design. The Company entered into a contract with 13 enterprises of blade industry chain to establish an innovation technology cooperation platform of blade industry chain, in an effort to build an industry chain cooperation platform and jointly promote innovative technology research in the blade industry.

The Company has continuously broadened the scope of supplier cooperation and innovated cooperation modes to forge strategic cooperation with leading supply chain enterprises in the industry. In 2021, the Company signed a strategic cooperation agreement with Wolong Electric Group Co., Ltd. Through the in-depth cooperation in wind power, two parties aim to create superior and more reliable products for the era of parity thus providing strong support for the high-quality development of the whole industrial chain of the wind power industry.



# **Community and Public Benefit**

Be the Global Corporate Citizen and Support Community Development Wholeheartedly

While developing business operations, Goldwind manages and protects local natural and social resources in a sustainable manner, and makes use of our business advantages and resources to improve the lives of residents in surrounding communities.







# **Community Development**

Goldwind actively participates in rural revitalization and community construction, adheres to the concept of growing together with local communities, and closely integrates corporate development with local development, thus jointly promoting the prosperity of surrounding communities and improvement in people's lives.

Throughout the development, construction and operation and maintenance of wind farms, the Company attaches great importance to communication with community residents, and has established a communication and participation mechanism with interested party such as the public and government agencies to listen to their opinions, thus boosting the development of local communities.

During the project construction, the Company takes the initiative to help improve the lives of residents in local communities around wind farms and its residents. Most of the wind farm projects are located in remote areas where critical infrastructure is often overlooked or in much need of repair. When the Company builds the access roads for wind turbines, it takes into account the needs of community residents in the planning stage and builds roads and bridges that support the wind project, but long-term serve the community. In the areas with drastic rain seasons, the Company takes the initiative to build flood discharge channels to guarantee the safety of downstream villages by mitigating the impact of flooding.

#### Overseas Wind Farm Boosts Local Community Development

Case

With an emphasis on establishing a good interaction with local community residents and other interested parties, the Moorabool Wind Farm strives to benefit the local community with its project achievement. In 2017, the Project Team established a Community Reference Group (CRG) that consisted of community residents, relevant committee members and interested parties to serve as an important platform for communicating project progress and discussing community concerns. A community engagement plan was developed and a community fund was set up. Community Reference

Group selected and evaluated projects that were beneficial to community development, and these projects were eligible for the use of the community fund as starting and operating fund. In 2021, the Moorabool Wind Farm community fund supported eight local community projects, including energy efficiency improvement projects for local parks, upgrading sports and recreational facilities, and the purchase of firefighting equipment. The project has cumulatively invested more than RMB 3 million in the local area through the community fund and sponsorship of community events.



In Australia, Cattle Hill Wind Farm held Open Day activities for the community



# Education

Goldwind fully understands that education is essential for cultivation of innovative talents, and a vital foundation for achieving rapid and sustainable development in the wind power industry. Centering on the technical development of new energy such as wind power, the Company has deployed educational resources in a holistic way to actively promote the training and development of new energy talents and raise the level of awareness about the new energy industry in the whole society.

#### Continuously carrying out charitable rural teacher training program

The company organized the "Goldwind Across China" Camp for Rural Teachers together with Beijing Goldwind Public Welfare Foundation, and invited more than 10 experts in the education to carefully design the training modules covering teachers' professional development, core literacy and classroom teaching, and interdisciplinary competence. A 5-day online training course was conducted to improve rural teachers' skills and broaden their horizons, and 281 front-line teachers from 138 schools across China attended the training.

## Holding the "Goldwind Cup" Energy Challenge

The Company jointly organized the third "Goldwind Cup" Energy Challenge with the Department of Electrical Engineering and Applied Electronics of Tsinghua University, Chinese Wind Energy Association, and Chinese Wind Energy Equipment Association, thus focusing on cutting-edge wind power technology and

industry development issues, and fostering theoretical and practical abilities of students to cultivate top talents. This year, the Challenge attracted 158 teams from 9 Double First-Class





### Boosting the development of vocational education in new energy

In wind power equipment industrial parks of Xinganmeng and Jiuquan, we collaborated with local vocational colleges to set up professional disciplines in wind power, and transformed our local assembly plants into practice bases for recruiting students nationwide, thus facilitating the construction of dual-teacher classrooms and boosting the development of vocational education in the new energy industry.



# **Popularization of science**

While promoting the development of various businesses, Goldwind technology is also committed to spreading the basic knowledge of new energy to the masses, especially the youth group. Through years of continuous and in-depth practice, we have continuously

innovated science popularization measures, enriched new energy science popularization products, vigorously carried out brand science popularization activities, and practiced corporate social responsibility

## Developing a series of new energy science picture books and teaching aids

Following the publication of "Our Wind Energy" science picture book on new energy, "Papa Who Plants Wind Turbines" and "Exploring the Secrets of Wind Energy" were published in 2021, initially forming a systematic series of science picture books for different age groups. The Company designed a science model of wind turbines and developed supporting curriculum to popularize wind power

technology knowledge and provide students with a variety of handson science activities. In 2021, 1,086 students attended a total of 5 professional training sessions.







## Conducting "Smart Creation of Youth" non-profit research and study and "Goldwind on Campus" popular science lectures

The park's hardware and software facilities are open to young students, and various non-profit research and study activities have been developed and planned around the themes of "new energy, energy conservation and environmental protection", such as research and study tours and science practice. Students have been invited to the Goldwind Park for investigative learning. Together with school

teachers, the Company developed project-based learning activities such as "I am a low-carbon PB", and asked Goldwind engineers to share their knowledge of science and technology in classrooms as well as provide professional guidance to students on their creative inventions. About 2,500 students participated in these activities in

## Carrying out popularization activities on new energy science

The Company established a base for youth science education in Yangjiang of Guangdong Province, and carried out activities themed on "Exploring the Journey of Wind- Youth Science Education" in two schools in Yangjiang to promote the concept of "Renewable Energy Creates a Better Life", with a total of over 300 faculty members and

students attending activities. The picture book of "Papa Who Plants Wind Turbines" was adapted into a children's show, and new energy know-how was disseminated comprehensively through such online media platforms as WeChat official accounts and short videos.

# **Public Health**

Upholding the concept of "work efficiently and live happily", the Company encourages its employees to develop a healthy work and life style, and promotes this concept to the public by organizing green running activities, sharing its internal stadium resources, and sponsoring sports events, so as to facilitate the development of a healthy life style and enhance the health awareness of the public.

With the core idea of "Leading the Zero-Carbon Future", the Company utilized its wind power carbon assets to offset the actual

greenhouse gas emissions generated by the event, thus contributing to the achievement of "carbon neutrality" of the Beijing Marathon for the first time in 2021. As the sole charity partner of the Beijing Marathon Charity Running Season, the Company jointly launched the "Run for Love & Donate Tracks" charity campaign, calling on runners help donate plastic running tracks and related sports facilities to rural primary and middle schools by means of running mile donations, with the aim of fully supporting the development of rural physical education and improving the education environment.





# **Voluntary Services**

The Company believes that volunteer services are an indispensable source of motivation that enables employees to cultivate indigenous innovation capabilities and promote social innovation. The Company has established and continuously operated the Volunteer Service Association, and regularly organized volunteers to participate in public welfare activities. A paid public welfare leave of one day per year has been implemented to encourage employees to contribute their knowledge and skills to community development. By the end of 2021, there were 2,082 volunteers in the Company, accounting for approximately 19.31% of the total number of employees.

In 2021, Goldwind volunteers went to the nursing homes of the elderly in Luoying Town of Pinggu District in Beijing to participate in volunteer services by means of supply donation, the display of

"Goldwind Radio Gymnastics" and cultural performances.

In 2019, the Company initiated and funded the establishment of Beijing Goldwind Public Welfare Foundation. Since its establishment, the Foundation has carried out internal governance, public welfare projects, volunteer services, financial statements, and information disclosure in accordance with relevant laws and regulations such as the Charity Law and the Regulations on the Administration of Foundations. In 2021, the Foundation carried out public welfare activities, mainly for public welfare projects such as prevention and control of pandemic, flood prevention, financial support for families and students in need, improvement of rural school infrastructure, and volunteer services for the elderly.

# **Prospect**

Looking ahead, the world is ushering in an era of low-carbon development, with the global energy sources evolving towards high efficiency, cleanliness and diversification. All countries are speeding up their energy transformation towards low-carbon development or even decarbonization. More and more countries are employing wind power technology as a vital technical approach to achieve carbon neutrality. It has become the general consensus and voluntary action of the international community to greatly promote the technological innovation of wind power and the establishment of a modern energy system with renewable energy as the core.

In the face of such historic opportunities, Goldwind will actively play its advantages in the renewable energy industry, and take the lead in achieving "carbon neutrality" by promoting the usage of renewable energy in the company.

Goldwind will firmly implement technological innovation, strengthen the business development of the wind power, and make vigorous efforts to eliminate barriers for in-depth integration between wind power and other industries, so as to build a brand-new energy production and consumption model.

Reducing carbon emissions and practicing the "30-60" dual-carbon strategy not only reflect its positive response to the national strategies for sustainable development, but also constitute significant parts of Goldwind's social responsibility to boost economic and social development based on its wind power business. In the process of promoting national and global achievement of carbon neutrality, the Company will unswervingly implement its sustainable development strategy, and deeply integrate the concept of sustainable development with its business operations, so as to inspire more excellent practices that can benefit the common development of economy, society and environment. Goldwind will not be compared in a developing renewable energy, reducing carbon emissions, and addressing climate change, but also and environment along the become a vanguard in promoting sustainable development globally.

# **Economic Performance**

Indicator	Unit	2021	2020	2019
Total asset value	RMB 100 million	1,193.60	1,091.38	1,030.57
Revenue	RMB 100 million	505.71	562.65	382.45
Net Income Attributable to Shareholders	RMB 100 million	34.57	29.64	22.10
Tax Payments	RMB 100 million	26.99	20.37	11.17
Total cumulative installed capacity	GW	86.00	73.00	60.00

# Research & Development

Indicator	Unit	2021	2020	2019
Number of R&D personnel	Person	3,239	2,910	2,826
R&D personnel as proportion of total employees	%	30.04	32.49	31.54
R&D investment	RMB 100 million	22.37	22.71	15.57
R&D investment as a percentage of business revenue	%	4.42	4.04	4.07
Total domestic patent applications	Item	4,896	4,486	4,043
Total domestically invented patent applications	Item	2,819	2,519	2,207
Total domestic patent licenses	Item	3,429	3,100	2,580
Total domestically invented patent licenses	Item	1,446	1,257	958
Total overseas patent applications	Item	713	662	527
Total overseas patent licenses	Item	317	228	172
Domestic standard-settings participated	Item	284	230	220
International standard-settings participated	Item	31	16	15

# **Environmental Management**

Indicator	Unit	2021	2020	2019
Power consumption (thermal)	100 million kWh	2.73	1.80	1.57
Power consumption (wind/solar)	100 million kWh	3.14	3.08	2.97
Gasoline consumption	kL	2,554.30	2,154.38	3,948.66
Diesel consumption	kL	1,651.56	2,555.19	2,746.93
LPG consumption	Ton	107.77	21.92	33.75
Natural gas consumption	10k m³	84.67	48.61	49.73
Water consumption	10k ton	76.85	47.82	45.71
Water consumption per capita	ton/capita	57.23	53.33	51.01
Density of water consumption for production	ton/ thousand tons of water treatment capacity	0.72	0.66	0.63
Overall energy consumption per RMB 10k revenue	Ton of standard coal/ RMB 10k	0.0153	0.0118	0.0168
Packaging material of wood	Ton	1,283.54	3,199.57	3,004.27
Density of wood packaging usage	Ton/pc	0.45	0.67	0.71
Hazardous wastes	Ton	73.24	103.74	103.21
Non-hazardous waste-Construction waste	Ton	1,231.17	826.68	363.59
Greenhouse gas emissions	Ton CO₂e	220,569.04	185,030.67	128,883.67
Scope 1	Ton CO₂e	17,481.36	32,728.24	16,809.55
Scope 2	Ton CO₂e	203,087.68	152,302.43	112,074.12
Hazardous wastes generated per MW of WTG manufactured	Ton/MW	0.0071	0.0082	0.0102
CO <sub>2</sub> emissions per RMB 10,000 revenue	Ton CO <sub>2</sub> e/RMB 10k	0.0436	0.0329	0.0337

# **Staff Structure**

Indicator	Unit	2021	2020	2019
Total number of employees	Person	10,781	8,956	8,961
By employment				
Full-time	Person	10,781	8,956	8,961
Part-time	Person	146	146	187
By gender				
Female	Person	2,178	1,950	1,756
Male	Person	8,603	7,006	7,205
By age				
Aged 29	Person	2,773	2,203	2,601
Aged 30-39	Person	6,179	5,336	5,001
Aged 39-49	Person	1,403	1,043	1,070
Aged 50 or above	Person	426	374	289
By region				
China	Person	9,801	8,086	8,062
Other Asian countries	Person	93	56	34
Europe	Person	399	382	389
North America	Person	111	72	87
South America	Person	152	112	104
Oceania	Person	198	217	250
Africa	Person	27	31	35
By specialization				
Production staff	Person	1,831	1,362	1,372
Sales staff	Person	1,213	888	952
Technical staff	Person	3,239	2,910	2,826
Customer service staff	Person	2,236	1,714	1,918
Administrative staff	Person	2,262	2,082	1,893
By educational level				
Postgraduate or above	Person	2,409	2,078	1,741
Undergraduate	Person	5,966	4,696	4,315
College or below	Person	2,406	2,182	2,905

# **Equal Opportunities and Recruitment Compliance**

Indicator	Unit	2021	2020	2019
Labor contracts signing rate	%	100	100	100
Social insurance coverage percentage	%	100	100	100
Female management staff	Person (%)	90(21.13)	81(20.15)	81(19.80)
Employees with disabilities	Person (%)	71(0.66)	62(0.69)	78(0.87)
Ethnic minorities	Person (%)	512(4.75)	456(5.09)	429(4.79)
Foreign staff	Person (%)	980(9.09)	834(9.31)	899(10.03)
Annual paid vacation per capita	Day	9.86	9.84	9.24

# **Staff Turnover Rate**

Indicator	Unit	2021	2020	2019
Staff turnover rate	%	11.19	11.74	15.22
By gender				
Female	%	11.63	8.55	15.22
Male	%	11.64	12.58	15.38
By age				
Aged 29	%	13.11	15.67	15.41
Aged 30-39	%	11.10	12.24	15.01
Aged 39-49	%	8.20	11.30	14.04
Aged 50 or above	%	11.52	10.11	21.60
By region				
China	%	11.41	12.02	15.22
Other Asian countries	%	7.22	16.67	37.74
Europe	%	1.49	1.04	16.00
North America	%	3.16	2.70	20.21
South America	%	10.63	8.26	7.57
Oceania	%	22.98	20.52	17.18
Africa	%	34.89	8.82	28.57

# **Staff Training**

Indicator	Unit	2021	2020	2019
Training hours per capita	Hour	35.70	32.31	32.07
By staff level				
Senior management	Hour	21.90	16.91	15.47
Middle & lower management	Hour	26.00	25.78	33.56
Junior staff	Hour	36.30	32.74	32.32
By gender				
Female	Hour	23.00	18.57	34.05
Male	Hour	38.90	35.81	31.39
Ratio of staff having received training	%	93.00	80.70	64.61
By staff level				
Senior management	%	92.10	72.03	58.69
Middle & lower management	%	92.70	79.32	80.30
Junior staff	%	92.60	80.83	64.15
By gender				
Female	%	88.00	80.13	58.69
Male	%	93.70	80.85	66.05

# Occupational Health & Safety

Indicator	Unit	2021	2020	2019
Occupational disease	Person	0	0	0
Major safety incidents	Person	0	0	0
Casualties due to work accidents	Person	2	0	0
Working day loss due to occupational injuries	Day	578	106	147
Safety training sessions	Hour	354,931	354,916	232,987
By category				
Special operation staff	Hour	12,869	48,239	58,452
Safety management staff	Hour	17,085	8,864	8,980
Frontline operators	Hour	241,799	273,995	135,268
New employees	Hour	71,790	8,373	12,768
Persons in charge	Hour	11,389	15,445	10,400

# **Supply Chain Management**

Unit	2021	2020	2019
Company	355	352	346
Company	295	283	249
Company	6	6	7
Company	44	52	70
Company	10	11	20
	Company Company Company	Company 295 Company 6 Company 44	Company         355         352           Company         295         283           Company         6         6           Company         44         52

# **Community Charity**

Indicator	Unit	2021	2020	2019
Total charity donations	RMB 10k	978	607	1,659
The number of volunteers	Person	2,082	1,573	302
Volunteers served hours	Hour	2,284	8,600	1,674

# **Independent Assurance Statement**

To the Board of Directors of Xinjiang Goldwind Science & Technology Co., Ltd.,

SWCS Corporate Services Group (Hong Kong) Limited ("SWCS", "we") has been engaged by Xinjiang Goldwind Science & Technology Co., Ltd. ("Goldwind") to conduct an independent limited assurance ("Assurance Engagement") on the information and data disclosed in the 2021 Sustainability Report (the "Report") of Goldwind. SWCS conducted the Assurance Engagement on the Report of Goldwind in accordance with the AA1000 AccountAbility Assurance Standard v3 ("AA1000AS v3"). Moreover, SWCS has also been engaged to conduct the Assurance Engagement on the reliability and accuracy of selected performance indicators disclosed in the Report.

#### I. I.Independence and Competence

SWCS was not involved in collecting and calculating data involved in the Report, or in the development of the Report. SWCS's activities are independent of Goldwind. There is no relationship between Goldwind and SWCS beyond the contractual agreement for providing this Assurance Engagement. SWCS has been recognized by AccountAbility. The assurance team of SWCS has extensive experience in the industry and has received professional training of standards related to sustainable development, including the Global Reporting Initiative Standards (GRI Standards), the AA1000AS v3, the Environmental, Social and Governance Reporting Guide ("ESG Guide") issued by the Stock Exchange of Hong Kong Ltd. ("the Stock Exchange"), etc. The assurance team has sufficient understanding and capabilities of implementation of the AA1000AS v3, and the Assurance Engagement related to sustainable development issues is carried out in line with SWCS's internal assurance protocol.

#### II. Goldwind's Responsibilities

Goldwind is responsible for the preparation and presentation of the Report in accordance with the ESG Guide published by the Stock Exchange. Goldwind is also responsible for implementing relevant internal control procedures to ensure that the contents of the Report are free from material misstatement, whether due to fraud or error.

#### III. Assurance Provider's Responsibilities

SWCS is responsible for issuing an independent assurance statement to the Board of Directors of Goldwind in accordance with the AA1000AAS v3. This independent assurance statement applies solely to express a conclusion on the assurance work in the specified scope of Goldwind's Report, and does not serve any other intents or purposes. All results of assurance are internally reviewed by professionals to ensure that methodologies used in the process are sufficiently stringent and transparent.

#### **IV.** Assurance Scope

The scope of the Assurance Engagement does not include Goldwind's suppliers, contractors, and information or data provided by other third parties. A Type 2 Moderate Level of Assurance of the AA1000AS v3 was adopted by SWCS to evaluate the nature and extent of Goldwind's adherence to the four principles (Inclusivity, Materiality, Responsiveness and Impact) in accordance with the AA1000AS v3. The following specific performance indicators disclosed in the Report were agreed between Goldwind and SWCS to be selected for assurance:

Scope	Indicators	Type of Information
Social	Practices used to identify environmental and social risks along the supply chain, and related implementation and monitoring	Qualitative
	The percentage of junior staff trained	Qualitative
Environmental	Power consumption	Quantitative

SWCS's assurance work was with respect to the information from 1 January 2021 to 31 December 2021. We do not express any conclusions on any information that falls outside this period or any other data disclosed in the Report not included within the assurance scope. The scope of the Assurance Engagement is based on and confined to the information provided by Goldwind. Any queries regarding the content or related matters within this assurance statement should be addressed to Goldwind only.

## V. Methodology

SWCS conducted Assurance Engagement only within Goldwind's office in Beijing, and the assurance works conducted include:

- Conducting interviews with management and relevant departments that are responsible for collecting data on selected indicators, and documentation reviews;
- Understanding the processes and methods of Goldwind in identifying and collecting feedbacks from stakeholders;

- Assessing whether the reporting approach of the Report has been conducted in line with the principles of Inclusivity, Materiality,
- Responsiveness and Impact as defined in the AA1000AS v3;
- Reviewing Goldwind's sustainable development management and conducting sampling of selected indicators to understand its management system:
- Conducting random sampling of selected indicator information, assess the reliability of data collection, and understand the management system used to ensure data quality;
- Assessing whether the statement in the Report is consistent with the conclusion;
- · Performing other procedures deemed considered necessary.

Assurance work was performed and the conclusions within were based upon the information and data provided by Goldwind to SWCS, and on assumptions that the information provided was complete and accurate.

#### **VI. Limitations**

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities.

#### **VII. Conclusions**

Based on the Report of Goldwind and information provided, nothing has come to our attention that causes us to believe that the Report is not prepared, in all material respects, in accordance with the four principles of AA1000AS v3.

Based on the procedures implemented and the evidences obtained, we have not found anything that put us in doubt of the reliability and accuracy of the selected performance indicators for the Assurance Engagement in the Report.

# **VIII. Key Observations**

SWCS summarizes key observations of the Report against the principles of Inclusivity, Materiality, Responsiveness and Impact of AA1000AS v3 as follows:

#### Inclusivity

Goldwind has identified key stakeholders, and identified the material issues as well as collected stakeholders' expectations and key concerns on material issues through questionnaire survey, and negotiated with parties that may be affected by Goldwind's operations. This Report has covered the environmental, social and governance aspects that Goldwind and its stakeholders are concerned about, and has collected views from key stakeholders to identify material issues. In our professional opinion, Goldwind adheres to the Principle of Inclusivity.

#### Materiality

Goldwind has conducted a materiality assessment to identify issues that are material to the company and stakeholders for the Report, and the result of the materiality assessment has been stated in the Report. In our professional opinion, Goldwind adheres to the Principle of Materiality.

#### Responsivenes

Goldwind has established channels for its stakeholders to collect their views on material issues, and has developed relevant mechanisms or measures to respond to material issues. In our professional opinion, Goldwind adheres to the Principle of Responsiveness.

#### Impact

Goldwind has identified its material impact on operations, and formulated relevant policies to mitigate its operational impacts on society and the environment through effective communication with stakeholders. In our professional opinion, Goldwind adheres to the Principle of Impact.



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